



Confronting resistance to change: German higher education in times of rapid transformation

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Abstract

This study analyzes resistance to change within the German higher education system during a time of rapid digital and fundamental transformation. Applying a qualitative case study design, data were collected through semi-structured interviews with four academic staff members who have a relationship with Johannes Gutenberg University. The findings indicate that resistance is partially driven by specific characteristics of change, such as its speed, obscurity and the perceived fear of the unknown. Furthermore, it is linked to dynamic types of change, including emergency transitions to distance education, legal reforms, excellence initiatives and demographic shifts. Eventually, these structural shifts trigger individual resistance to change, which stems from psychological effects, employment anxiety, altered habits, the generational digital gap, fear of losing socialization and a lack of control, all of which strengthen underlying beliefs in the negative aspects of change. When examined under the aegis of chaos theory, these findings suggest that even minor systemic shifts can bring about important organizational resistance if not conducted with adaptive leadership strategies. Rather than following linear transitions, leadership should focus on directing the nonlinear intricacies ingrained in modern academic culture.

Keywords: Chaos theory; Emergency remote teaching; German higher education; Resistance to change

1. Introduction

Jones (2013) explains the phenomenon of change as the evolution of a system, process, or environment from its current state to a different structure, whether planned or unplanned. Heraclitus' observation that "the only constant is change" takes on new meaning when considering the unprecedented pace of transformation experienced by today's world. In this context, higher education institutions are under pressure to rapidly transform their institutional structures owing to external factors such as technological determinism, globalization, and unexpected socioeconomic crises.

The COVID-19 pandemic, which began on a global scale at the beginning of 2020, is a striking reflection of this sudden and radical change. The World Health Organization [WHO] declared it a "PHEIC" on January 30, 2020, and then a "pandemic" on March 11, 2020, causing massive losses worldwide and disrupting established work and educational practices (World Health Organization, 2020). Flexible working models and online education practices, initiated to reduce the spread of the pandemic, have necessitated a paradigm shift, which has been emphasized as the "new normal" in social life.

From the perspective of chaos theory, the COVID-19 pandemic has disrupted existing systematic processes, caused dysfunction in institutional norms, and increased structural complexity. However, this chaotic uncertainty has also created a new term which can be defined as necessary for the establishment of a new order (emergent order). During the pandemic management process, attempts were made to restore balance to the system through measures such as quarantine and "emergency remote teaching." Remote education has emerged as the most viable method for institutions to ensure the sustainability of educational activities (Blankenberger & Williams, 2020).

In contrast, this mandatory and rapid transition to digitalization triggered various resistance mechanisms within organizational structures (Hodges et al., 2020). In this process, where the system evolves from order to chaos and then back to a search for a new order, it is evident that not

all changes are welcomed positively by the stakeholders. Conceptualized by Mullins (2005, p.914) as “attitudes and behaviors that are reluctant to accept or implement a desired organizational change,” resistance is fueled by increasing stress levels and uncertainty about the future.

Based on a focused qualitative sample of four Turcology scholars, this study sheds light on contextual behavioral dynamics in times of crisis, offering initial observations on the interplay between systemic structures and adaptive responses. . Focusing on Johannes Gutenberg University/Mainz as a key institutional case in Rhineland-Pfalz, the main problem of this study is to examine how academics—who currently hold or have previously held administrative roles—perceive this sudden transformation and to identify the nature of resistance to change among these academic leaders, and to identify the social or psychological origins of this resistance. In this context, this study analyzes the rapid transformation in German higher education based on chaos theory and seeks answers to the following research questions:

RQ 1) What types of changes have German scholars categorized?

RQ 2) What are the underlying concerns associated with resistance to change?

2. Literature Review

2.1. Emergency Remote Teaching and Digital Transformation in Higher Education

Distance education has evolved from correspondence-based teaching to teaching using web-based tools (Simonson et al., 2015). However, the COVID-19 pandemic has brought about a new phenomenon in higher education, conceptualized in the literature as “Emergency Remote Teaching” [ERT]. As emphasized by Hodges et al. (2020), unlike carefully designed online learning systems, ERT has emerged as a temporary and rapid solution to make education sustainable during crises.

The COVID-19 pandemic did not only change the methods used by higher education institutions but also forced a mandatory digital transformation. In this process, institutions have faced infrastructure inadequacies, digital literacy deficiencies and pedagogical adaptation issues. The weakness of traditional structures in the face of such sudden changes has disrupted the system balance. Thus, educational processes have also been pushed into a non-linear process.

2.2. Resistance to Change and Uncertainty Management

This process leads to different perceptions and reactions among individuals and institutions. As Hofstede (1984) points out, the tendency to avoid uncertainty increases when people feel insecure; global crises, such as the pandemic, have also brought this uncertainty to its peak. The resistance displayed by academics and higher-education students to this sudden transition was not merely a technological obstacle. It has also been examined as a psychological and cultural response (Bond et al., 2021).

Current approaches do not view resistance as a “malfunction” (problem) that must be addressed. They see it as the system’s effort to maintain its own balance and as a “sense-making process” (Giangreco & Peccei, 2005). However, in the “chaotic” environment caused by the pandemic, these resistance mechanisms have sometimes slowed down the transformation of the system, while at other times, they have paved the way for the emergence of new, more flexible structures.

2.3. Chaos Theory: The Butterfly Effect and Disruption in Higher Education

Chaos theory posits that deterministic systems can produce unpredictable results because of their extreme sensitivity to initial conditions (Lorenz, 1963). This situation was conceptualized by Edward Lorenz as the “butterfly effect,” which states that a very small change in the system can lead to large and unpredictable results (Gleick, 2008).

The pandemic represents a “critical threshold” in this theory for higher education institutions. The emergence of a health problem in Wuhan (the initial parameter), which led to the closure of universities globally and permanently changed the education of millions, can be a typical example of the butterfly effect.

The transformation of higher education in the context of chaos theory can be explained by the following two fundamental dynamics:

- Nonlinear Change: While digitalization in education has been a slow process for nearly 10-15 years, the pandemic forced this process to be completed in a matter of weeks, disrupting the ratio between input and output (Hodges et al., 2020)
- The Lorenz Attractor: Chaotic systems tend to reveal a certain pattern even within Chaos. Amidst the chaos created by the pandemic, higher education institutions are searching for a new “equilibrium point” (attractor) between hybrid learning and flexible models (Cutright, 2021).

The discovery of Edward Lorenz, known as the Lorenz Attractor, is geometrically illustrated in Figure 1.

Figure 1

The Lorenz Attractor



Note. This figure is original work by the author.

3. Methods

3.1. Research Design

This study seeks to provide an in-depth examination of the factors driving change, with particular emphasis on German higher education institutions. Therefore, a qualitative research design was adopted, as understanding the uniqueness and contextual details of a situation was a priority. This case study examined the process of change in German higher education. Furthermore, as the research focused on a single organization, it was framed within a single-case design—one of the four primary case study designs conceptualized by Yin (2018), categorized based on the single/multiple case and holistic/embedded dimensions. A single-case study design was deliberately adopted around Johannes Gutenberg University [JGU], given that its Turcology Department represents the unique academic entity within the state's public higher education system. Choosing this specific institutional context provided a rich environment for in-depth analysis. In addition, offering a bilingual interview setting (Turkish and English) enabled participants to fully articulate complex academic and administrative dynamics without linguistic constraints.

3.2. Participants

In accordance with Patton's (2015) purposeful sampling framework, criterion sampling was employed to engage participants capable of providing rich and in-depth data regarding the phenomenon under investigation. To ensure sample suitability, a predetermined set of criteria was established. Specifically, interviewees were required to be scholars currently or previously affiliated with Johannes Gutenberg University who experienced the COVID-19 period and the transition to distance education. Furthermore, participants were expected to be active members of the Department of Turcology with comprehensive insight into recent structural changes in the German higher education system.

Table 1 presents the participants who were selected in accordance with these criteria. To ensure participant confidentiality, pseudonyms were assigned to all interviewees.

Table 1
Participants and Their Characteristics

<i>Participant</i>	<i>Gender</i>	<i>Age</i>	<i>Position</i>	<i>Department</i>
Jonas	Male	49	Professor	Turcology
Hans	Male	45	Professor	Turcology
Hanna	Female	43	Lecturer	Turcology
Noah	Male	50	Professor	Turcology

3.3. Data Collection Tools and Procedure

The principal instrument of data collection in this study was a semi-structured interview schedule created by the researchers to investigate change dynamics and resistance to institutional/academic changes in the German higher education system. The study's interview schedule was developed after a comprehensive review of the literature on higher education policy and institutional change. The draft questions were subjected to expert reviews to determine their content validity and clarity. The final version contained 11 open-ended questions designed to elicit in-depth professional reflections from the interviewees. The semi-structured interview provided researchers with the opportunity to use probing questions for clarification or to expand on unexpected themes that emerged during the interview process. The sample questions included the following:

- What is your opinion on the recent changes in the German higher education system regarding the COVID-19 pandemic?
- "In what ways, if any, have faculty members demonstrated resistance to these institutional shifts?"
- "How has the administrative transition affected your academic autonomy?"

Three participants were actively affiliated with Johannes Gutenberg University, while the fourth participant was based at Uppsala University at the time of data collection. However, the participant from Uppsala was purposefully included as they had previously held an administrative leadership role at JGU, thereby possessing critical institutional memory and first-hand experience relevant to the study's scope. Due to the geographic dispersion of the participants across different countries and mutual schedule constraints, interviews were conducted via video conferencing platforms (Skype, Microsoft Teams, and Zoom). To capture non-verbal cues (e.g., facial expressions, body language, and pauses) during these online sessions, high-definition video recording was utilized alongside active observational field notes taken by one of the researchers during and immediately after each 50–55 minute interview. . The following procedural steps were followed in this study.

First, ethical procedures: Participants were informed of the purpose of the research study and provided formal consent to participate and be audio recorded prior to the interview.

Next, the interviews were recorded: each interview participant's responses were recorded with a digital audio recorder to obtain an accurate verbatim transcription of each response. The researchers also recorded the participants' responses in writing with a set of notes, which comprised the non-verbal cues given by each participant (for example, the use of body language), vocal intonations, and immediate responses given by the participant, providing multiple sources of data.

Third, the Interviews: All conducted remotely from the participants' university offices to create a professional and comfortable interview setting and to facilitate open and honest discussions during each interview.

Finally, to verify and validate the findings obtained through the interviews, the researchers reviewed the official bulletins and/or policy and procedural documents provided on the university's website to provide context for the "events" and "changes" discussed by the participants.

3.4. Data Analysis

Following Braun and Clarke's (2006, 2019) guidelines for thematic analysis, the data were analyzed through a combined deductive-inductive approach. The theoretical framework of organizational change provided a priori conceptual structure (deductive reasoning); however, the coding process retained inductive flexibility, allowing newly emerging codes and contextual nuances to be captured without rigid theoretical constraints. The entire analytical process was performed manually to ensure close engagement and reflexivity throughout the four-stage analytical sequence. The analytical process involved the following four stages:

3.4.1. Transcription and familiarization

The first stage of the analysis involved transcribing all interviews verbatim to preserve the integrity of the participants' linguistic expressions. During this time, the researchers reread the transcripts several times to achieve familiarity with the data.

3.4.2. Coding and Categorization

The second stage involved the use of open coding to extract meaning from each data segment. After extracting meaningful segments from each transcript, the codes were mapped against the theoretical propositions of the study (deducing/literature approach), allowing new codes to emerge.

3.4.3. Thematic synthesis

After the first cycle of coding was completed, the researchers began to cluster codes by conceptual similarities to arrive at overarching themes and subthemes. The researchers continually moved back and forth between the raw data and established themes to ensure the internal consistency of the analysis.

3.4.4. Interpretive Integration

The authors developed an interpretive rather than a descriptive framework to reveal how academics view the transition in higher education in Germany. Under each thematic heading, the analysis contains numerous direct quotations from the study participants to provide transparency and a voice to the participants in the research report.

3.5. Reliability of the Study

The rigor and rigor-related procedures of this research were grounded in Lincoln and Guba's (1985) trustworthiness framework encompassing credibility, transferability, dependability, and confirmability. Credibility was achieved through member checking, where transcribed interview recordings were sent back to participants for validation, and peer review of themes. Transferability was ensured by providing a detailed, 'thick description' of the research context, participants, and analytical steps in the Methods section. Dependability was supported by involving a second qualitative expert to review the codes and themes for internal consistency. Finally, confirmability was established through an audit trail, keeping all raw data and process records available for external audit.

3.6. Ethical Considerations

Ethical procedures were strictly followed throughout the study. Prior to data collection, ethical approval was obtained from the Akdeniz University Ethics Committee on the 1st of February, 2024. Participants from the JGU were informed of the purpose and scope of the study, and their voluntary participation was ensured through written, informed consent. All data were anonymized to protect the confidentiality and privacy of the participants.

4. Findings and Discussion

This section elucidates the thematic analysis of scholars' perspectives regarding 'change,' with a primary focus on the implementation of emergency remote education during the COVID-19 pandemic in the state of Rhineland-Pfalz. The data were categorized into three overarching

themes: characteristics of change, types of institutional shifts, and the underlying mechanisms of resistance. The themes and subthemes are listed in Table 2.

Table 2

Categorizing Themes and Subthemes of Change

<i>Main theme and sub-theme</i>	<i>Participants</i>
Characteristics of Change	
Obscurity of change	Jonas, Noah
Speed of Change	Hans, Noah
Lack of control	Hanna
Types of Change	
Excellence Initiatives	Hans
Demographic Shifts	Hans
Emergency Transitions to DE	Jonas, Hanna
Legal Reforms	Noah
Resistance to Change	
Fear of the Unknown	Jonas, Noah
Employment Anxiety	Hanna
Psychological Effect	Hans, Noah
Fear of Losing Socialization	Jonas
Alteration of Habits	Hanna, Noah
Generational Digital Gap	Noah

4.1. Findings Regarding the Characteristics of Change

4.1.1. *The obscurity (unpredictability) of change*

Participants conceptualized change as an enigmatic trajectory leading away from established norms toward a state of pervasive uncertainty. Within the German academic landscape, this obscurity frequently manifests through precarious employment structures and the “limbo” of temporary contracts, fostering a climate of professional apprehension. Rather than a planned transition, change is perceived as a destabilizing force that obscures the horizon of career longevity and is often resisted.

Change... that is... I can say that it is a journey away from the usual situations to new realms in the unknown. For example, Turcology is a very narrow field in Germany, and I was in a constant state of flux until I reached the professorship. Temporary staff, scholarships, and uncertainties are fear-inducing situations, and they have troubling aspects. (Jonas)

This inherent uncertainty, amplified by unexpected global crises, heightens anxiety and professional vulnerability among academics while directly disrupting their long-standing work routines and teaching practices (Leal Filho et al., 2021; Watermeyer et al., 2021). This propensity for resistance is further amplified when faculty members are pressured to adopt digital transformations, particularly when the perceived burden of change outweighs the perceived benefits or when there is a lack of adequate support and resources (Gkrimpizi et al., 2023).

Jonas’s account reflects what contemporary literature terms “academic precarity.”. Noah also demonstrates that he shares a similar perspective and states the obscurity of change by using the word ‘uncertainty’ and the example of staffing:

Uncertainty brings its own set of challenges; for example, Turcology is a new and comprehensive field of area in Germany including literature, religion, culture and more. We focus on not only Türkiye but also The Turkic Republics of Central Asia like Kazakhstan.... Such a wide field can bring uncertainties as well (Noah).

4.1.2. *The speed of change*

The ‘velocity of change’ emerged as a critical sub-theme, with scholars conceptualizing organizational reality as being in a state of ceaseless and rapid flux. Grounded in Process Ontology (Tsoukas & Chia, 2002), this perspective views change not as an episodic event, but as an ongoing,

dynamic process of becoming. Likewise, the convergence of global crises, such as the climate emergency, and the meteoric rise of Artificial Intelligence have created a tempo of transformation that challenges the adaptive capacity of both individuals and rigid institutional frameworks.

The world and universe are changing rapidly. It flows continuously like a river and does not stop. For example, there are climate crises, digitalization, and artificial intelligence. The world around us is changing at a very fast pace, and it is very difficult to keep up with it (Noah).

The items featured by Noah—such as the climate crisis, digitalization, and artificial intelligence—draw parallels with Rosa’s (2013) theory of “social acceleration.” In this context, technological acceleration is transforming not only the physical environment but also individuals’ perception of time. These findings align with Vostal’s (2016) conceptualization of accelerated academia, suggesting that curricula and academic processes experience heightened temporal pressure under relentless technological momentum. This situation gives rise to the phenomenon of “temporal decoupling,” which causes academic time to become disconnected from biological and reflective time. Besides, digital transformation makes it inevitable that the system is being flung from one “attractor” point to another, creating a sense of uncertainty and loss of control among individuals and institutions (like universities). The metaphorical description by Noah (time flows like a river) supports Prigogine and Stengers’ (1984) theory of the transition “order out of chaos.” Universities must move beyond being static mechanisms for transmitting knowledge and reposition themselves as complex adaptive systems that operate within chaos. Otherwise, the gap between the pace of change and institutional adaptation will continue to widen, and “temporal alienation” will become inevitable. Another participant, Hans, also emphasized the inevitability of change, stating that “as time flies by and technology advances, change becomes inevitable.”

4.1.3. *The lack of control*

Change is an autonomous force that operates independently of human agency or intervention. This perceived lack of control fosters a sense of fatalism, wherein academics view themselves as subjects to change rather than managers. Life is viewed as a sequence of “moments within moments” that progress forward regardless of personal or collective resistance.

In other words, time is made up of moments, and we are constantly creating new moments within moments. In other words, life is very independent of us, and change may be a process that we cannot control... (Hanna).

Hanna’s quote (life is independent of us) provides an ontological foundation for current debates in the academic world concerning the erosion of professional autonomy (Watermeyer et al., 2023). The principle of “indeterminacy” in chaotic systems leads institutions to adopt a reflexive and reactive stance during crises rather than developing proactive strategies. This reactive stance causes academics to lose control over their work and observe change as an uncontrollable natural phenomenon. Furthermore, Hanna’s statements align with the philosophy of “The End of Certainty” (Prigogine, 1997); here, time is an irreversible arrow, and systems are structures that constantly move away from equilibrium. Consequently, the sense of lost autonomy felt in the modern academic atmosphere is not only an administrative issue but also an outcome of the effort to adapt to the temporal and structural flow of a chaotic universe.

4.2. Findings Regarding Types of Change

4.2.1. *Excellence initiatives*

Scholars have identified “Excellence Initiatives” as a structural pivot toward a market-driven, competitive model reminiscent of American higher education. This shift has recalibrated academic priorities, often prioritizing the acquisition of external funding over the intrinsic value of scientific inquiry, thereby creating a high-pressure environment centered on measurable performance.

An initiative (or strategy) for excellence has been launched in Germany[...] For example, in tenure-track evaluations, the first question asked of non-tenured professors is how much external funding they have brought into the university. In this case, as a professor, you must prepare your projects accordingly...(Hans).

Hans's statement that the "requirement to prepare projects according to funding criteria" reflects the "Academic Capitalism" regime conceptualized by Cantwell and Kauppinen (2014): field studies on this topic emphasize that Germany's Excellence Strategy has redefined universities, and in this process, external funding has become not only a resource but also the sole measure of academic prestige (Hartmann, 2006). This situation has led to a shift toward market-driven research, prioritizing projects with market value over the intrinsic value of academic production.

Fleming (2021) notes that these processes create new hierarchies within universities; while fields that can attract funding (such as STEM) are rewarded, traditional humanities are marginalized.

4.2.2. *Demographic shifts*

The shrinking student population, driven by declining birth rates, has been cited as transformative demographic pressure. This shift has led to the "emptying" of universities, particularly in smaller regions, and the subsequent closure of niche departments, as students increasingly cluster in major urban educational hubs (Hüther & Krücken, 2018).

Generations with fewer children are now emerging. What does that mean? Universities are losing students... As a result of demographic changes, universities are becoming empty. [...] For instance, in Germany, some departments have no students at all and are shutting down. Students choose which city is better. Smaller places are left empty (Hans).

Moreover, Machado-Taylor et al. (2017) note that the contraction in the academic workforce represents not only a quantitative reduction but also a qualitative shift in faculty dynamics. While departmental mergers executed under the banner of 'rationalization' have led to the establishment of interdisciplinary departments, the reality of 'vacant departments'—as highlighted by Hans, one of the study's participants (pseudonym)—poses a significant risk to localized academic development.

4.2.3. *Emergency transitions to distance education*

Participants emphasized that the transition involved more than simply digitalizing lectures; it required a complete overhaul of administrative protocols and blurred the boundaries between professional and personal spaces, often without adequate supporting infrastructure. Reflecting on the abruptness and emotional impact of this transition, Jonas stated, "This occurred suddenly. No one was prepared. It completely caught us off-guard... For me, it is like a black hole. I am trying to forget it."

Empirical evidence indicates that the high cognitive load experienced by academics during acute crisis transitions generates a severe 'psychological disconnect' and burnout, irrespective of an institution's technological infrastructure (Rapanta et al., 2020; Watermeyer et al., 2021). While change management and systems approaches often frame chaotic disruptions as necessary opportunities for organizational 'evolution' (Tetenbaum, 1998), this perspective frequently overlooks the human toll of such transitions—specifically, emotional trauma, cognitive fatigue, and a desire to disengage. Highlighting this systemic unpreparedness and institutional vulnerability, Noah reflected, "There was a lull after the first wave... but yes, we were caught unprepared for the first wave..." Lastly, Hanna expresses a similar view at the outset of the transformation process, citing the "lack of digital infrastructure." She states her view as "When it came to conducting classes digitally during the COVID-19 pandemic, the situation here was different—in other words, there was no digital infrastructure in place when the process began..."

4.2.4. *Legal reforms*

A major source of faculty frustration was the top-down implementation of legislative reforms, specifically the removal of mandatory class attendance through state higher education regulations (e.g., Hochschulgesetz, 2020). Enacted without consultation with academic staff, this regulatory shift disrupted pedagogical continuity, particularly in courses reliant on synchronous interaction and physical presence. Jonas (a study participant) highlights this structural disruption:

The state parliament changed the law without even consulting the universities, as follows: 'Students are no longer required to attend classes.' [...] Undoubtedly, this has affected concrete learning that takes place in the classroom. It is very difficult to carry out this process digitally with such students.

Jonas's emphasis on the 'effect on concrete learning' illustrates how macro-level policy changes directly alter micro-level classroom interactions and student engagement.

In traditional educational structures, physical classroom presence functions conceptually as a 'strange attractor' - a stabilizing force within a complex system- that anchors student to academic routines. The legislative removal of mandatory attendance effectively weakens this boundary. Without the regulatory structure provided by the physical classroom, students are more prone to drifting into academic disengagement and fragmented learning behaviors during digital transitions. In this context, Jonas's accounts regarding the friction of sustaining instruction online illustrate how the loss of this physical attractor destabilizes student engagement and weakens micro-level pedagogical continuity.

4.3. Findings Regarding Resistance to Change

4.3.1. Fear of the unknown

The ambiguity associated with change can trigger profound psychological distress. Participants noted that leaving one's "comfort zone" and uncertainty about their ability to adapt to a new system created a pervasive "fear of the unknown," which could manifest as resistance (Hubbart, 2023). Reflecting on this uncertainty, Noah explained, "Change seems dangerous. We do not know what will happen or how it will happen during changes... It is like the 'fear of the unknown'."

As conceptualized by Dilekçi et al. (2025), 'change fatigue' emerges when perpetual organizational restructuring exhausts individuals' adaptive capacity. Under conditions of relentless change, institutional updates lose their potential as growth opportunities and are instead categorized as operational barriers. Consequently, this cognitive shift activates psychological defense mechanisms that promote active or passive employee resistance. The definition of "psychological safety" outlined in the study by Edmondson (1999) serves as an answer to Noah's lament that "we don't know what will happen." If there is no psychological safety within an institution—that is, if employees believe they will be punished for making mistakes or due to uncertainty—resistance becomes a "survival" strategy for employees. At this point, resistance is not, as the participant put it, a hatred of change but rather an effort to protect one's safe space.

Finally, empirical evidence demonstrates that 'fear of the unknown' is a phenomenon that transcends borders and cultures (Oreg, 2003; Oreg et al., 2011). Noah's observation—'We don't know how it will turn out'—is directly underpinned by findings that link resistance to a lack of operational information and a loss of predictability. Jonas expressed a similar concern, linking institutional fear to persistent uncertainty: "Temporary staff, scholarships, and uncertainties are fear-inducing situations." Together, these accounts suggest that systemic ambiguity and perceived job insecurity may contribute to psychological resistance among academic staff.

4.3.2. Employment anxiety

In chaos theory, a bifurcation appears when a system reaches a critical point and needs to shift into a new state (Cutright, 2001). During the interview in this research, Hanna's statements explicitly illustrate this bifurcation threshold triggered by technological transformation:

Yes, the shift to technology has created a reaction...because many scholars here have been working in the same way for nearly 30–40 years. So, such a fear is not unusual, and I can understand the situation since it is related to fear of losing jobs...

Hanna's expression, "fear of losing jobs," aligns directly with the established literature on job insecurity, defined as the perceived powerlessness to maintain desired continuity in a threatened job situation (Ashford et al., 1989; Sverke et al., 2002). Within the framework of complex dynamic systems (Bright & Pryor, 2011), this perceived job insecurity serves as a critical mechanism linking micro-level psychological anxiety to macro-level systemic disruption. Specifically, technological intervention alters the initial parameters of the academic structure; scholars' fear of job loss then

triggers a "butterfly effect," where small initial anxieties regarding skill obsolescence amplify across the organizational climate, destabilizing the entire career environment.

As De Witte (2005) notes, job insecurity acts as a chronic stressor that impairs long-term psychological well-being and organizational functioning. In this context, the fear of job loss operates not only as an acute emotional reaction, but also as a systemic "attractor" – a stable pattern of uncertainty around which academics' perceptions, attitudes, and career decisions coalesce. Consequently, academics face the risk of losing not only their immediate positions but also their institutional footing within the broader academic system, making their employment anxiety a fundamental ontological response to systemic unpredictability.

4.3.3. *Psychological effect*

Most of the participants in this study emphasized that the reaction to organizational change entails a significant psychological dimension. In articulating this nuance, Hans employed the German term "*Herausforderung*," which literally translates to a "challenge" or "demanding task." However, Hans explicitly contextualized this challenge not as a detrimental threat, but rather as a constructive and positive trial—a dynamic that introduces new professional expectations following institutional change.

A German term just came to mind... The English word is "challenge," and the German word is "*herausforderung*"... It's something like new expectations arising for you and you trying to cope with them... Don't think of it as an entirely negative situation – it can also be an exciting one...

Rather than signaling passive resistance, Hans's framing of change as a positive *Herausforderung* indicates that while the restructuring introduces demanding requirements that inevitably alter academics' traditional autonomy and freedom of choice, it is simultaneously perceived as an invitation for professional adaptation and growth. Thus, the psychological response to change emerges not merely as a defensive reaction to lost autonomy, but as a complex cognitive appraisal where demanding structural shifts are re-evaluated as manageable, growth-oriented expectations. According to Hastall and Scherenberg (2023), when individuals feel that their freedoms or spheres of control are being restricted, it triggers a resistance—known as reactance—that develops automatically and unconsciously. Hans and Noah's characterization of this process as "a situation that must be managed" indicates that the change imposes not only a cognitive but also an emotional burden. From the perspective of chaos theory, a small "new expectation" within the system can create a sensitive starting point that leads to unpredictable outcomes. This state of uncertainty triggers psychological reactance by threatening the individual's need for autonomy; when people feel that their freedom of choice is restricted, they develop an automatic and defensive response to this situation (Hastall & Scherenberg, 2023).

4.3.4. *Fear of losing socialization*

The fourth pillar of resistance was the perceived erosion of the university's social structures. Scholars have argued that the "Zoom-ification" of education eliminated the serendipitous encounters and coffee-break dialogues that drive creativity, reducing the university to a sterile digital medium.

The second underlying reason for resistance was the fear of losing their social environment. For example, we used to have coffee with other instructors after class and discuss various topics. This atmosphere encourages creativity. It disappeared, and the stress it caused emerged (Jonas).

Coffee breaks, described by Jonas as an "environment that fosters creativity," represent essential informal spaces that facilitate social interaction and spontaneous knowledge sharing among academics. Rather than structured academic meetings, these informal venues serve as dynamic arenas where "Communities of Practice" (Lave & Wenger, 1991) organically thrive. According to Lave and Wenger's (1991) situated learning theory, learning and innovation occur through social participation within these shared practice domains.

Within these informal spaces, academics engage in unstructured dialogue that allows for the exchange of "tacit knowledge" – the non-codified, experiential insight that Polanyi (1966) identifies

as the primary driver of creative problem-solving and academic innovation. When organizational changes or spatial disruptions diminish these informal interaction hubs, the natural flow of tacit knowledge across the community of practice is severely impaired. In this context, the resistance expressed by academics stems not merely from a dislike of structural change, but from a legitimate concern over the erosion of the informal collaborative ecosystems that sustain institutional productivity and collective creativity.

Informal networks within university settings serve as vital arteries for spontaneous knowledge sharing and peer collaboration. As Jonas explicitly noted during his interview, the sudden erosion of these informal channels leaves academic staff culturally and academically isolated. This isolation directly undermines their collective ability to adapt to the heavy workload accompanying technological innovation. Without these casual spaces to unpack stress and share informal insights, the psychological burden of new institutional expectations escalates rapidly.

Navigating such shifts successfully demands that academic leaders look beyond technical implementation and actively manage the human, relational dynamics at play. When institutional changes fracture established social bonds, employees inevitably manifest cognitive and emotional resistance—a reaction that can derail even the most carefully planned innovations (Bovey & Hede, 2001; Piderit, 2000). Ultimately, if leadership fails to sustain these supportive social ecosystems, structural reforms risk collapsing under the weight of widespread affective resistance and professional isolation.

4.3.5. *Alteration of habits*

Research findings indicate the existence of resistance among academics during technological transformation and innovative change processes and suggest that one of the reasons for this is the “generation gap.” The statements by participants named Hanna and Noah—“especially the older professors complained a lot... actually, this is somewhat tied to a generational gap”—illustrate how individual characteristics can translate into resistance during the chaotic environment created by digital transformation in academic institutions.

From the perspective of chaos theory, external shocks such as the pandemic abruptly disrupted the education system’s traditional state of equilibrium, pushing institutional practices into a nonlinear trajectory. In this fluid environment, the rapid breakdown of established routines triggered deep psychological uncertainty across academic staff. Conventional, top-down instructional paradigms long embedded in higher education proved ill-equipped to handle this sudden instability, generating acute pedagogical challenges for faculty accustomed to structured delivery models (Knight & Yorke, 2003; Mason, 2008).

The frustration voiced by senior academics directly reflects this structural shock to the system. Rather than stemming merely from a lack of technical proficiency, the generational friction highlighted by Hanna and Noah underscores a deeper reliance on entrenched habits. As organizational behavior research demonstrates, long-tenured employees who have operated within fixed routines for decades develop strong cognitive inertia, making them particularly resistant to unlearning established professional practices (Gersick, 1991; Rumelt, 1995).

4.3.6. *The generational digital gap*

Beyond general organizational inertia and structural habit persistence, resistance during technological transitions manifests specifically as a generational digital divide—a friction frequently driven by the “tyranny of tradition” and uneven technical confidence among senior faculty. Noah captured this operational tension vividly when reflecting on his colleagues’ reactions:

...I think it is more related to not knowing the technical side or the technology and being unable to cope with sudden changes...There were lecturers who said things like, ‘What’s with the camera?’ Maybe because of a generational difference, it was a more difficult process for them... (Noah)

Rather than a superficial reluctance to learn new software, Noah’s narrative illustrates how forced technical adaptation threatens the very nature of academic practice. When digital tools are

abruptly inserted into the classroom, senior academics often experience a profound sense of pedagogical alienation, feeling that technology mediates and degrades the immediate human encounter of teaching (Selwyn, 2016).

This discomfort reflects what Biesta (2012, 2013) conceptualizes as a defense against the "disappearance of the teacher." From this perspective, the skepticism expressed through remarks like "What's with the camera?" is not only an age-related technical deficit. Instead, it represents an existential concern over the erosion of the teacher's presence and authority, as transactional digital interfaces replace relational pedagogy. Consequently, this generational divide functions on two distinct levels: an immediate gap in technical fluency and a fundamental resistance to the perceived reduction of teaching into automated, instrumentally driven delivery.

5. Conclusion and Suggestions

This study explores the varied nature of resistance to change within German higher education, focusing specifically on the internal strains and systemic shifts triggered by policy mandates and unforeseen crises. By examining the connection between institutional pressures, such as the Excellence Initiative, and individual responses, this study provides a deeper understanding of why transformation in higher education remains an extremely complicated and non-linear process. The findings reveal that resistance is not only a product of individual obstinacy; rather, it is a reaction to the perceived unpredictability and uncontrollable nature of change. This study contributes to the field by highlighting that academic resistance is tied to "ontological security," which refers to a sense of stability. When tradition-bound academic cultures suddenly encounter rapid digitalization or parliamentary shift that abrades professional autonomy, the resulting fear and insecurity are regarded as systemic friction. This study synthesizes the psychological impacts of sudden changes in German higher education by drawing a picture with a pandemic sample.

The study emphasizes that successful institutional change management must go beyond a framework plan. The findings claim that "the human element," which consists of academic culture and socialization, remains the most vulnerable aspect. Institutional leaders should adopt a more "human-centered" approach to digital transformation. In order to foster socialization, change strategies must provide collaborative and creative social environments that define academic life, ensuring that digital tools facilitate interaction rather than restraining it.

6. Limitations and Future Research

Several methodological limitations warrant consideration when interpreting these findings. First, the empirical scope of this study is bounded by a small, highly targeted sample of four scholars from a single academic department in Germany. Additionally, one participant has since transitioned to a different institution, offering a retrospective rather than an embedded perspective on the localized department dynamics. Consequently, these findings should be read as context-rich, localized insights rather than broad generalizations applicable across all institutional settings.

Despite these contextual boundaries, this qualitative exploration offers a foundation for future inquiry into how recent policy and governance shifts alter long-term academic productivity. Subsequent comparative research across diverse national university systems could further illuminate how distinct cultural and institutional traditions moderate resistance to digital transformation. Ultimately, unpacking the evolving psychological contract between academics and their institutions remains a critical frontier for building resilient, adaptive higher education environments.

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