sciendo

Swiss Journal of Sociology, 49 (3), 2023, 541–566

Digitalisation as Distinction? Identity Articulation and Tacit Competition in the Swiss University Field, 2010–2020

Luca Tratschin*, Katja Rost**, and Christian Leder*

Abstract: This article examines how digitalisation is used for organisational distinction in the field of Swiss universities for the period 2010–2020. It shows that digitalisation does not fundamentally challenge the order of the Swiss university field but triggers competitive dynamics that are accompanied by different forms of identity articulation. The article concludes that the interplay of competition and identity articulation of actors is complex and must be analyzed in the context of relative field positions.

Keywords: Digitalisation, universities, positioning/distinction, competition, field

Digitalisierung als Distinktion? Identitätsartikulation und implizite Konkurrenz im Feld Schweizer Universitäten, 2010–2020

Zusammenfassung: Dieser Artikel untersucht, wie die Digitalisierung zur organisatorischen Distinktion im Bereich der Schweizer Hochschulen im Zeitraum 2010–2020 genutzt wird. Er zeigt, dass die Digitalisierung die Ordnung des Schweizer Hochschulfeldes nicht grundsätzlich in Frage stellt, sondern Konkurrenzdynamiken auslöst. Der Artikel zeigt, dass das Selbstverständnis als digitale Universität mit relativen Wettbewerbspositionen im Feld verbunden ist.

Schlüsselwörter: Digitalisierung, Universitäten, Positionierung/Distinktion, Wettbewerb, Feld

Numérisation comme distinction ? Articulation des identités et concurrence tacite dans le champ des universités suisses, 2010–2020

Résumé : Cet article examine comment la numérisation est utilisée pour la distinction organisationnelle dans le champ des universités suisses au cours de la période 2010–2020. Il montre que la numérisation ne remet pas fondamentalement en cause l'ordre du champ universitaire suisse, mais déclenche des dynamiques compétitives. L'article démontre que l'auto-conception en tant qu'université numérique est liée à des positions relatives dans le champ.

Mots-clés : Digitalisation, universités, positionnement/distinction, compétition, champ

* University of Zurich, CH-8032 Zurich, luca.tratschin@chess.uzh.ch, christian.leder@chess.uzh.ch.

** University of Zurich, CH-8050 Zurich, rost@soziologie.uzh.ch.

Seismo

DOI 10.2478/sjs-2023-0026

> *One of UZH's goals is to position itself (…) as a center of competence for reflection on digital transformation.* (University of Zurich 2019, 17)

> *With the advent and generalization of digital technology, the academic world is undergoing profound transformations. The Rectorate [of the University of Geneva] intends to play an active role in these transformations.* (University of Geneva 2016, 33)

> *With his work, [Frédéric Kaplan] contributes significantly to positioning EPFL as a leading institution in the field of digital humanities.* (EPFL 2019 online)

1 Introduction[1]

Digital transformation as an issue has taken hold in many areas of society, such as politics (Porcaro 2017), mass media (Santos et al. 2019), business (Ziyadin et al. 2020) and higher education (Benavides et al. 2020), and its implications have been discussed extensively using terms such as "fourth industrial revolution" (Schwab 2017), "big data" (Liu et al. 2020) or "artificial intelligence" (Bughin et al. 2017). While modern society has been using digital technology for many decades, the most distinctive feature of the present issue of digital transformation lies in the fact that society has begun to describe itself using the term "digital" (Schrape 2021, 81). Digital transformation, as a long-standing socio-technological process, has become reflexive, allowing members of society to make new sense of present challenges and opportunities in many fields of activity. This is also true for higher education and research, where digitalisation has become a major issue (cf. Bowen 2015; Barton et al. 2019; Henke and Pasternack 2020).

As the introductory quotes from the annual reports of Swiss universities illustrate, universities as core organisations of research and teaching are not just addressing digital transformation as an issue among many others. Rather, they view it as a key

1 The authors gratefully acknowledge support from the Swiss National Science Foundation (NRP 77 Digital Transformation, Project Number 197506). We are also indebted to the members of various colloquia for valuable feedback (namely the Research Colloquium on Sociological Theory and World Society; the Colloquium on Organization, Management, and Theories of the Firm and the Research Colloquium of the Department of Sociology at the University of Lucerne), the members of the Network for Research on Higher Education and Science in Switzerland (REHES) and the two reviewers.

arena in which they need to position themselves (cf. Getto and Kerres 2017). This is reflected in the ubiquitous aim of Swiss universities to take a position on this issue and develop a distinct profile. Taking this observation as a starting point, in this exploratory empirical analysis, we investigate the rise of digital transformation as an issue in the field of Swiss universities. In particular, we address the questions of how these universities have adopted this issue and how it affects their relational positions.

We adopt a field-theoretical perspective and are interested in the connection between actors' identity articulations and competition in organisational fields. In doing so, we also show that field-theoretical perspectives have so far been strongly characterised by two thrusts: one that focuses on isomorphism through cultural categorisation (following the early contributions of neo-institutionalism) and the other that focuses on explicit distinction through conflict (especially following Bourdieu). Following Simmelian perspectives, we argue for a greater focus on competition as a mechanism of differentiation in organisational fields, which should be distinguished more clearly from conflict.

2 Fields, Competition and Digitalisation

While digitalisation as an issue encompasses nearly all fields of society, its content and implications are shaped differently within societal fields such as the economy, politics or health. In the field of universities, it is mainly observed through the lens of its implications for universities' core activities, such as research and teaching. While digitalisation is a society-wide issue, it is being shaped in a specific way in different fields of activity. We conceptualise this observation with regard to higher education by arguing that the rise of the issue field of digitalisation can be witnessed within the organisational field of universities. Under fields, we understand social spaces that are marked by a "mutual awareness among participants in a set of organizations that they are involved in a common enterprise" (Martin 2003, 27). Therefore, membership in organisational fields is constructed through the interaction and mutual recognition of organisations (cf. Wruk et al. 2020, 136).

While organisational fields emerge around similar services and products and "constitute a recognized area of institutional life" (DiMaggio and Powell 1983, 148), issue fields are integrated by a common attention object and by different positionings of actors towards this issue (cf. Hoffman 1999, 351). While issue fields can potentially exist without a corresponding organisational field or can overlap several organisational fields, the emergence of an issue field within an organisational field is a possible scenario (cf. Furnari 2018). It is analytically expedient to distinguish between the organisational field of Swiss universities and the issue field of digitalisation because digitalisation constitutes a "game of position" (Fligstein 2013) between universities that are marked but not necessarily determined by already pre-established

relations. In this vein, Wruk et al. (2020, 135) pointed out that issue fields can dramatically change practices within an organisational field, thereby altering the relational positions of organisations within that field (Litrico and David 2017, 988). Digitalisation as an issue field is marked by heterogeneous activities, since the quest for research funds, relevant course offerings for students or the pursuit of organisational status creates different opportunities for positioning. These activities are then "pulled together" (Clark 1983, 32) in different university organisations as aspects of their general pursuit of digitalisation.

By investigating how the issue of digitalisation affects positions among universities in the Swiss field, we build on and contribute to two converging research streams within field theory that are marked by different core assumptions: the tradition of new institutionalism with a strong emphasis on mutual observation and a field-theoretical perspective with a stronger focus on contentious and direct interactions.

DiMaggio and Powell's (1983) field theory in the neo-institutional tradition has traditionally focused on isomorphic forces and their effects on organisations. While this literature distinguishes between different mechanisms of isomorphism (i. e. coercive, normative and mimetic), diffusion processes leading to isomorphism are thought to be driven strongly by cultural ties (i. e. mutual observations incited by common membership in a social category) rather than through relational linkages (i. e. direct interactions) (Strang and Meyer 1993). In addition to a focus on processes based on shared membership in a social category, field studies in the vein of the new institutionalist tradition tend not to focus on the entire field structure but usually investigate how organisations deal with isomorphic pressures (Baier 2017, 56). As a result, they traditionally focus more on the similarities rather than on the differences associated with the field structure (Baier and Schmitz 2012). To be fair, recent work has also investigated and shown how isomorphic mechanisms create differences instead of similarities within fields (Thornton and Ocasio 1999; Meyer et al. 2005; Reay and Hinings 2005; Wooten and Hoffman 2017). A main mechanism for the creation of differences and changes is identified in the fact that isomorphic forces in organisational fields may be contradictory, since organisations may be embedded in different contexts of mutual observation (i. e. in different fields). For example, Hüther and Krücken (2016) used the example of European universities to show that differences in orientation to local, national and global contexts of higher education can lead to differences among universities. Similarly, Kodeih and Greenwood (2014) showed how the competing logics of the Grande Ecole approach and the model of the International Business School created different responses and positionings in French business schools. Again, the mechanisms of differentiation are examined less against the background of a relational field structure and more against different contexts of observation. This plurality of observational contexts then leads to a situation in which universities are confronted with competing logics (e. g. different conceptions of appropriate organisational goals and forms). These

explanations illustrate precisely that the normal expectation in neo-institutionalism is that reciprocal observations in a single reference group of organisations tend to lead to isomorphism.

A stronger interest in general field structures and the related differences can be seen in a tradition that draws more explicitly on Bourdieu's work. This stream of work emphasises more strongly that a key feature of social fields is that they create a differential structure of positions that is accompanied by "struggles" for positions within those fields (Martin 2003, 23). In this tradition, a field is marked by direct interactions between field members and fewer indirect observations. Bourdieu himself, for example, in "homo academicus", his study of the French academic field, was interested in the "contradictions and the conflicts of which the academic field is the site and which are at the very root of the ongoing changes through which it perpetuates itself" (Bourdieu and Wacquant 1992, 89). Within the framework of the more recently developed theory of strategic action fields, Fligstein and McAdam (2011, 16) discussed how a "bitter fight" enhanced the position of a dean within the university community, and Taylor (2016) studied the Mercer heresy trial "as part of a larger contest for the nature of academic work" (361), showcasing the strong focus on direct and conflictual interactions in fields. In times of field change, triggered by new issues, events or "exogenous shocks" (Fligstein and McAdam 2011), an overt fight between different field actors would be expected, eventually ending, at least temporarily, in a settlement (cf. Litrico and David 2017).

We contribute to this literature with our case of the issue of digitalisation because it does not fit these two standard perspectives. While we do see active positioning and the creation of differences between universities in our case, this is not based on direct interactions but rather on reciprocal observations informed by a sense of competition. Reciprocal observations in this case do not lead to isomorphism, as expected from the standard perspective of neo-institutionalism, but to difference, which – contrary to usual field perspectives – is not based on direct struggles in our case. While both research traditions are familiar with the concept of competition, neo-institutionalistic accounts do not put it at the centre of their research programmes (cf. Hasse and Krücken 2013), while the other tradition tends not to distinguish clearly between the two social forms of conflict and competition (cf. Karstein 2012, 266).

Following Simmel's sociological thought, we can more clearly differentiate between direct conflict and competition as an indirect form of social struggle (Simmel 1992, 325–339; Werron 2010). While, in conflict, actors engage directly with each other, competition is more strongly marked by a common orientation towards a desired object that is in the hands of a third party. This common orientation leads to strong dynamics of mutual observation and positioning to obtain the desired good. This strong mutual awareness without direct interactions is what distinguishes competition from direct forms of struggle, such as dyadic conflict.

Research has shown that university systems in general (cf. de Boer et al. 2007, 40), as well as in Switzerland in particular (Lepori and Fumasoli 2010, 812), have become much more competitive in the wake of new public management reforms that have led to the creation of quasi-markets by state actors (Enders et al. 2015). Almost all activities of universities are now imbued by a strong sense of competition – be it for students, third-party funds, placement in rankings or highly reputed researchers – leading to strong dynamics of mutual observation and positioning. While we are empirically interested in the way digitalisation is used for mutual positioning in the Swiss university field, we conceptually plead to integrate competition more strongly into field theory to understand the creation of differences. While one could distinguish conceptually between "fields" (marked by isomorphism or direct struggles) and "competitive arenas" (marked by indirect observations), as Christine Musselin did in a recent overview of the field of higher education studies (Musselin 2021), such a distinction is empirically not fruitful because field dynamics such as the creation of difference can be shaped by competing isomorphic forces, conflict and competitive positioning.

Based on such a strong focus on competition, we argue that the issue field of digitalisation is marked by "multiple competitions" (Krücken 2021) in which universities are constructed as key actors through relational activities. We show that this issue field is not disrupting pre-established relations within the Swiss university field, in which case conflict and an overt field crisis would have been expected. Rather, we are dealing with an issue that can largely be adopted to extant field logics within a field with well-protected borders, leading to a somewhat moderate shift in field dynamics. We are thus observing a game for positions which is marked by moves and countermoves producing incremental changes and different positionings. These different types of positionings that we uncover in our research can add nuance to the literature that asserts a close link between competition and organisational actorhood (Arora-Jonsson et al. 2020; Hasse and Krücken 2013). This literature argues that competition and organisational agency are closely linked because competition requires organisational capacities to act collectively, something that is – among other things – rooted in organisational identity (Brunsson and Sahlin-Andersson 2000) and calls to study the interplay between competition and actorhood more strongly (Hasse and Krücken 2013). According to Brunsson and Sahlin-Andersson, endowing an organisation with identity means "emphasizing its autonomy, and defining its boundaries and collective resources (…) [and] also involves *the idea of being special, of possessing special characteristics*, at the same time as being part of a highly general category, the organization" (2000, 724, our emphasis). Our case indicates that the generally plausible nexus of competition and enhanced reflexivity as actors endowed with an identity can materialise in complex ways in concrete competitions, as indicated above. While we find a broad recognition of digitalisation as a competitive issue within Swiss universities, we find different degrees and types of

representations of organisational actorhood. While the organisations that are highly competitive and those that are more niche players do not show much effort to strongly link digitalisation to their overall organisational identity, the group of universities in between these two poles tend to invest quite heavily in presenting themselves as digital universities (i. e. as universities that address digital transformation as a cross-sectoral issue), which are tackling this issue head on. Additionally, the extent of identity articulation depends on whether organisations have successfully repositioned themselves in the relational space of digitalisation relative to their general field position or whether they remain more or less in the same place. We interpret this observation to mean that a sense of actorhood through identity articulation in competition is not necessarily evenly distributed among competitors in a field but rather shaped by contingencies of competitive dynamics within the field itself.

3 Case, Data and Methods

3.1 Swiss Field of Universities

The case of Switzerland is particularly suitable for our investigation of positioning activities in the context of a relational field structure, as its smallness allows us to examine all field actors and their positionings in detail. In larger national fields with hundreds of universities, our exploratory approach (section 3.2) would be more difficult. The Swiss higher education system is mainly a publicly funded system, except for a few minor players. It has been a binary system since the mid-1990s and is differentiated into a university sector, comprising traditional research universities, and a non-university sector, comprising universities of applied sciences and those of teacher education. While there has been an ongoing political debate on academic drift on part of the non-university sector and vocational drift on part of the university sector (Böckelmann and Nagel 2018), the categorical differences between the two sectors are quite stable in many ways (Lepori et al. 2014). While there is an encompassing field of Swiss higher education institutions that includes universities of applied sciences and those of teacher education, we focus only on Swiss research universities, since they constitute a "recognized area of institutional life" (DiMaggio and Powell 1983, 148), as evidenced, for instance, by similar entrance requirements (a maturity certificate from a Gymnasium), a shared research mission (in contrast to universities of applied sciences and teacher education) and similar organisational forms (faculties/departments and chairs/professorships) that are shaped by scientific disciplines and traditional professions and not by vocational fields, as is the case with universities of applied sciences. Such commonalities, as well as arenas where university members meet regularly, lead to a constant flow of information between them. Based on these observations, we conceive of the Swiss university sector as an organisational field characterised by mutual awareness and

relative positioning. Of course, the Swiss university sector is, again, embedded in higher-level fields, such as the European field of universities or the global field of world universities. However, in the case of digital transformation, the national level is vital, as many incentives and pressures are created to adopt this topic in the Swiss context, such as Swiss government agencies, local labour markets and the national public. Therefore, we focus on Swiss universities in our study.

The Swiss field of universities comprises 12 universities, of which the two federal institutes of technology (ETH Zurich and EPFL) are funded by the Swiss federal government and remaining 10 universities are mainly funded and regulated by their cantonal governments. The latter consist of universities of different sizes (ranging from ~3000 to 30,000 students) with different profiles. While the older universities can be considered full universities that cover a wide range of disciplines, from humanities to natural sciences, the more recently founded universities, such as the University of Lucerne (UniLu) or the Università della Svizzera Italiana (USI), tend to focus on a few subject matters.

While Swiss universities have traditionally been viewed as being roughly equal in the quality of education they offer, we can still see certain stratification, mainly (but not exclusively) in their reputation as research institutions. While the two federal institutes of technology have had special status as elite institutions in engineering and natural sciences for a long time, a sense of stronger stratification of positions in the Swiss field of universities may recently have been fostered by global trends in the university sector, such as the rise and proliferation of university rankings. Thus, while the Swiss university field has traditionally not been considered a strongly stratified system, such as higher education in the United States or France, there is still a hierarchy of positions that reflects the age, size, disciplinary orientation and global standing of universities.

3.2 Data and Methods

Our analytical interest was to make the field of digitisation visible in the case of Swiss universities. In particular, we were interested in the positioning of universities in this field. To do this, we proceeded in two subsequent steps. First, we collected annual reports of all Swiss universities published between 2010 and the beginning of 2020 and coded them inductively to understand the dynamics of the rise of the digital transformation issue and the way the universities translated it. Since the documents in general did not distinguish clearly among the concepts “digitisation ”, “digitalisation” and “digital transformation ”, we did not do it either. Furthermore, we did not explicitly include dynamics that additionally arose from the Covid-19 pandemic, since the question of how the pandemic influenced digitalisation at universities would have to be examined separately in more detail. The analysis of annual reports provided us with a comparative view of the importance and temporal dynamics of the uptake of the digitalisation issue. Since annual reports can be considered central

documents of both external and internal self-representation that follow a similar (i. e. annual) publication rhythm in all universities, we obtained a comparative view of the importance the universities placed on the digitalisation issue. In addition, we collected strategy documents and web content to obtain a more detailed picture of the way Swiss universities are implementing digital transformation. Similar to the annual reports, we examined and coded this material inductively, guided by the principles of qualitative social research (cf. Strauss 1987). Based on this analysis, we attempted to create an initial interpretation of the way the universities are positioning themselves in terms of digital transformation. Second, we built on this document analysis by using activities identified in these documents as central to the universities' digitalisation efforts as indicators of digitalisation. Concretely, we developed a set of indicators, collected data for these indicators and created a dataset based on this analysis. For instance, we identified the creation of digital officers as an indicator of digitalisation efforts by the universities and collected data on the creation of such positions by Swiss universities. The basic idea was to make visible whether and to what extent the universities are active with regard to the selected indicators. We then used this dataset to conduct a multiple correspondence analysis (MCA) of the selected variables (Roux and Rouanet 2010; Husson et al. 2017; Hjellbrekke 2018). This statistical method is suitable to model social spaces and the relative positioning of actors, as Pierre Bourdieu (1987; 1988) showed most prominently in his field analyses. The basic logic of the MCA method is that it reduces a large amount of categorical data to a few dimensions. These dimensions can then be used to create a social space in which individuals and variable values (i. e. categories) that are similar to each other are located close to each other, while dissimilar individuals and categories are located farther apart. This allowed us to visualise the multiple competitions for digitalisation that are pulled together in university organisations in a two-dimensional space. To contextualise this analysis, we also conducted an MCA based on general descriptors for the Swiss higher education sector (for a description of the data, see Table A1 in the Appendix).

4 Digital Transformation in the Field of Swiss Universities

4.1 Rise of the Digital Transformation Issue in the Swiss University Field

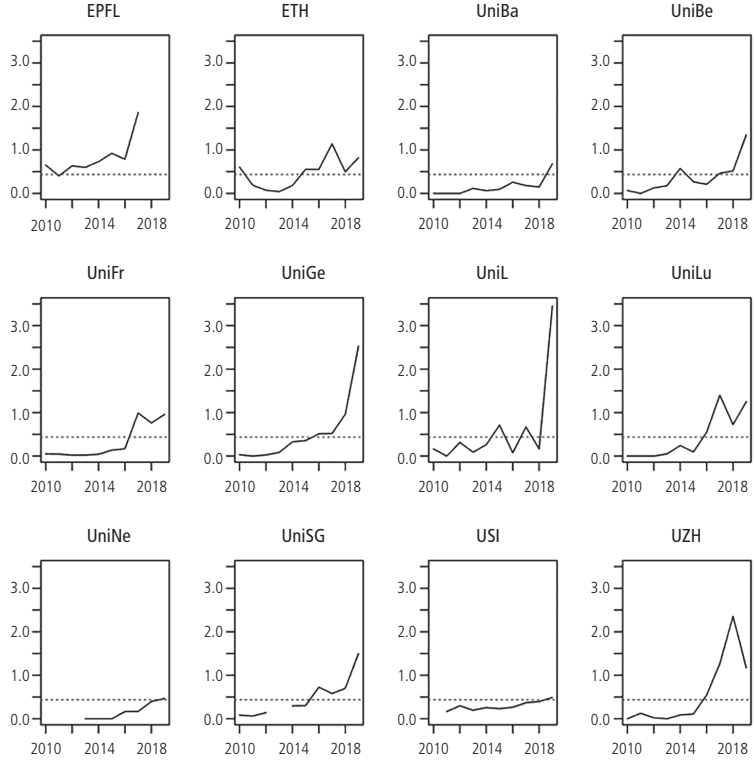
While a wide range of communication channels have certainly helped diffuse the issue of digital transfomation in the university sector, in publicly funded systems, such as the Swiss case, the political sector is assumed to act as a central conveyor belt of society-wide discourses towards the university field. This is because the state, as the primary sponsor, plays a decisive role in shaping the scope of action in such systems. In Switzerland, the federal government responded to the issue of digital transformation with several strategy papers that emphasised education and research

for the digital future of Switzerland (Swiss Confederation 2018; 2020). This translated to higher education policy through more specific state agencies, such as the State Secretariat for Education, Research and Innovation (2017), and intermediary organisations, such as the Swiss Science Council (2019). In 2014, the ETH Board (2014) declared big data and information technologies a priority in its strategic planning of 2017–2020 (50–51). The issue of digital transformation was not only adopted on a strategic level alone but was also connected to new funding schemes. A central funding tool of the Swiss government for the higher education sector, the so-called project-based contributions ("Projektgebundene Beiträge PgB"), dedicated two large programmes to digitalisation in university development: open science (P-5) and digital skills (P-8). The Swiss National Science Foundation (SNSF) created the funding scheme "digital lives" and dedicated a national research programme to the issue of big data (NRP 75) and one to the issue of digital transformation (NRP 77). Furthermore, the SNSF claimed to have funded more than a thousand research projects that deal with digitalisation by the end of 2019 (SNSF 2020). Additionally, below the level of the Swiss federation, state governments have dedicated large funds to digital initiatives in higher education in research, teaching and innovation. The parliament of the canton of Zurich, for instance, has earmarked over 300 million Swiss francs for the digital initiatives of its higher education institutions in the next decade (sda/tif 2019). The canton of St.Gallen mounted an IT educational offensive backed by 75 million Swiss francs to cope with digital transformation, including the creation of new study programmes in computer science at the University of St.Gallen (UniSG) (Hertler 2017). However, the universities did not just react to higher education and research policy; actors from the university sector themselves have played an active part in shaping higher education policy in the realm of digital transformation. If we look at the career of the digitalisation issue in the annual reports of Swiss universities, we notice that the word "digital" has risen in prominence since 2014, which means that universities did not only react to a political discourse that was already taking place (Figure 1). At least in some instances, such as the two national research programmes on big data (NRP 75) and digital transformation (NRP 77), one could even argue that there were successful attempts by academic actors to mobilise resources for their research interests. Digitalisation is strongly marked by entrepreneurial activities by members of higher education, expanding the activities of universities (cf. Kindel and Stevens 2021).

The issue of digitalisation has grown in importance since 2014, although the dynamics seem to differ from case to case. For instance, while the University of Neuchâtel (UniNe) or USI has experienced moderate growth, we can see a strong increase in the issue of digitalisation at the University of Geneva (UniGe) and University of Lausanne (UNIL) from 2018 onwards (Figure 1).

The assessment gained from the analysis of the annual reports that digitalisation gained momentum in 2014 can also be supported by the fact that the ETHs accepted

Figure 1 Rise of the term "digital" in annual reports of Swiss universities



Note: Relative prominence of the term "digital" in annual reports of Swiss universities in relation to entire word count (per thousand) (solid line) in comparison to average prominence of "digital" in all annual reports from 2010–2019 (dotted line).

the mandate from the federal government in 2014 to expand their competencies in the fields of big data and data science. Two of the most prestigious Swiss universities have taken up the issue of digitalisation and attributed great importance to it. For this reason, too, it can be argued that, in 2014, the topic of digitalisation appeared on the agenda of the university field. Already one year later, UZH's annual report mentions the establishment of a working group for a "Digital Society Initiative", which then led to the official start of this initiative in the subsequent year (University of Zurich 2015, 2016).

While the visibility of digitalisation at UniSG's annual reports has been increasing since 2014, in 2015, the university set up a special thematic focus on digitalisation on its website, consisting mainly of video interviews with faculty members on the

subject, as well as texts describing research projects that in one way or another address the issue of digital transformation. While UniSG has since increasingly discussed digital transformation in its research, teaching and administration, the topic gained another boost in 2019 when the university announced the appointment of three new professors with a denomination for digital transformation. That year, it also became clear that the canton of St. Gallen would fund an IT education initiative that led to the establishment of a new department of computer science at UniSG.

In 2017, an increased prominence of the topic of digital transformation was observed in the annual reports of the University of Fribourg (UniFr) and UniLu. UniFr described itself as a "université numérique" and showcased how it is responding to digital transformation in the realms of research, study programmes and administration. In the same year, UniLu acknowledged that digital transformation was an important competitive issue in higher education and concluded that its strong profile in the social sciences and humanities equipped it to address this issue. Both universities later proceeded to take up digitalisation more strongly, with selected measures. For example, UniFr appointed a vice rector for international relations, digital transformation and interdisciplinarity, while UniLu offered a master's programme in computational social sciences at the Faculty of Humanities and Social Sciences in 2019 and focused on digitalisation in the area of teaching. Although UniNe did not show a comparable increase in the coverage of digital transformation in the 2017 annual report to the universities mentioned, this was an important year in terms of digital self-expression. This year, UniNe responded to digital transformation in its organisational strategy by calling for the development of a "digital campus" and the consolidation of its competencies in the field of big data, as well as the development of "Culture 4.0 ", "Literacy 4.0" and "Work 4.0" themes. It was these smaller and more niche-oriented universities that took up the topic of digital transformation rather quickly after the agenda was set by large, research-intensive universities.

While the other large Swiss full universities Basel, Bern, Geneva and Lausanne also started to address digital transformation in their annual reports from 2014 onwards, they reacted strongly to this topic from 2018 onwards, leading to a significant increase in the prominence of the topic, as can be seen particularly impressively in the case of Lausanne and Geneva (Figure 1). This boost in the importance of digital transformation in the annual reports of these universities and, to a more moderate degree, in the reports of Basel and Bern was accompanied by a new approach to this issue. Now, digital transformation is seen as a key aspect of the universities' identities, as evidenced by stand-alone strategy papers on digital transformation. Digital transformation has already appeared in public strategy papers of Fribourg, Neuchâtel and the ETH Zurich. However, there is a shift in the way the topic is discussed in that it first gains considerable prominence by being visible not only in the annual reports but also in specific strategy documents. Second, these documents now address digital transformation as an issue much more systematically and in detail.

Third, digital transformation is being addressed as a cross-cutting issue pertaining to and connecting, at the same time, all areas of activity within the universities (i. e. the organisation and its administration itself), as well as activities in research, teaching and the third mission. While they do not inherently develop new ideas on digital transformation, they do bring together the multitude of subtopics related to digitalisation that one finds selectively realised and often somewhat disconnected in other universities and attempt to weave a coherent and holistic fabric of digital transformation. As relatively latecomers, they can now tap into a multi-faceted repertoire of digital transformation collectively elaborated by the earlier adopters and connect them in an organisational strategy, thereby articulating a digital identity.

Based on our analysis, we find that universities portray their positional activities against the backdrop of a general perspective on higher education as a competitive setting. Digitalisation seems to be mostly relevant because it allows universities to mobilise relevant resources through this topic, such as additional research funds, students or public attention (i. e. to secure competitive advantages through skillful positioning on the topic). It thus sparks multiple competitions in which Swiss universities act as key competitors. Universities explicitly define digitalisation as a realm of competition, for instance, in UniLu's (2017, 38) statement that "today, digital educational offerings are an important element in educational competition" (own translation) or in the UniBa (2015, 27) aim to modernise its IT infrastructure to "increase the competitiveness of research and teaching increasingly based on digital information" (own translation). These self-descriptions of the universities indicate that digitalisation not only creates newly perceived opportunities but also necessitates for universities to position themselves towards this emerging issue. They might want to generally advance their status as research institutions, to attract students who want to study topically relevant subject matters or to vie for public visibility as relevant actors in the field of digitalisation.

While, on a very general level, these digitalisation activities share some similarities, we find that the universities "translate" (Czarniawska and Sevón 2011) these activities differently with regard to their position in the field structure. Instead of copying each other directly, they tap into a common repertoire of digitalisation to create strategic differences. We, therefore, see the creation of considerable differences and not isomorphism, as neo-institutionalist accounts of field dynamics would usually argue. The definition of the situation as competition and the mutual observation motivated by it forms incentives to systematically create differences with regard to other universities and not to copy them directly to conform to general organisational myths (cf. Meyer and Rowan 1977). Thus, the universities present themselves as organisations and not as local instantiations of a university as an institution (cf. Frank and Meyer 2020). While universities create differences and try to position themselves differently from other universities, they do not do this by entering into contentious interactions with other universities. It does, therefore, not fit neatly to

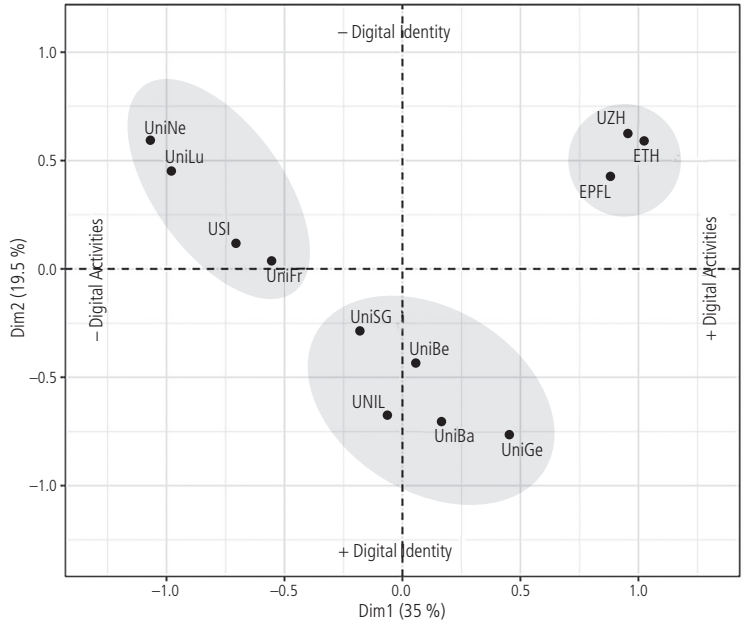
typical accounts of field theories with a strong focus on conflict (i. e. the Bourdieu-inspired strand of literature). Swiss universities do not contest other positionings and interpretations of digitalisation but do compete rather "tacitly" to find their niches in this issue field. A plausible explanation is that the field of universities is already consolidated and access to this field is strongly protected, for instance, by accreditation. So far, Swiss universities have hardly had to fear new players who fundamentally threaten the order of the field. Although there are alternative educational offerings, such as Google's Data Analytics Certificate, this does not yet pose a threat to university educational offerings in Switzerland as a whole – at least we did not find any evidence of this. However, on other issues where new players are actually claiming a stake in the field, we note much more contentious behaviour, such as the response of universities to the demand of universities of applied sciences to be allowed to offer doctoral degrees (cf. Gächter 2011). In addition to the fact that digital transformation leaves field boundaries rather intact, an additional factor creating a disincentive for struggling directly over the issue may be that universities regularly need each other as cooperation partners in national programmes (e. g. in the NCCR programmes of the State Secretariate for Education, Research and Innovation). Thus, it is not a very attractive option to act antagonistically towards each other, especially since the field is so small and there is not a large choice of potential partners. We therefore expect that digitalisation will create more contention in university fields that are less protected from newcomers and that are larger, thereby reducing the social cost of selective antagonisms. Based on these considerations, we expect that whether we see direct conflict in fields or rather indirect competition and corresponding positioning activities depends on scope conditions such as the ones mentioned above.

4.2 Positional Shifts From the Organisational Field to the Issue Field of Digitalisation

While the above analysis primarily examined the explicit communicative positionings of Swiss universities based on a document analysis, this section additionally focuses on the structural aspects of digital transformation in the field of Swiss universities. As described in the section on data and methods, we used a document analysis to identify meaningful variables to capture digital transformation in the areas of research, teaching, third mission and organisation within universities. In the area of research, for example, we identified research projects that claim to address the topic of digitalisation. In the area of teaching, we identified, among other things, study programmes that deal with digital transformation. For the third mission, we used indicators such as partnerships with Swiss Digital Days or the media presence of a university on the topic of digital transformation. In the area of organisation, we identified, for example, whether a university has published a digitalisation strategy, whether it has created specific units or positions explicitly related to digitalisation or whether the university offers a campus app (for a complete list of variables, see

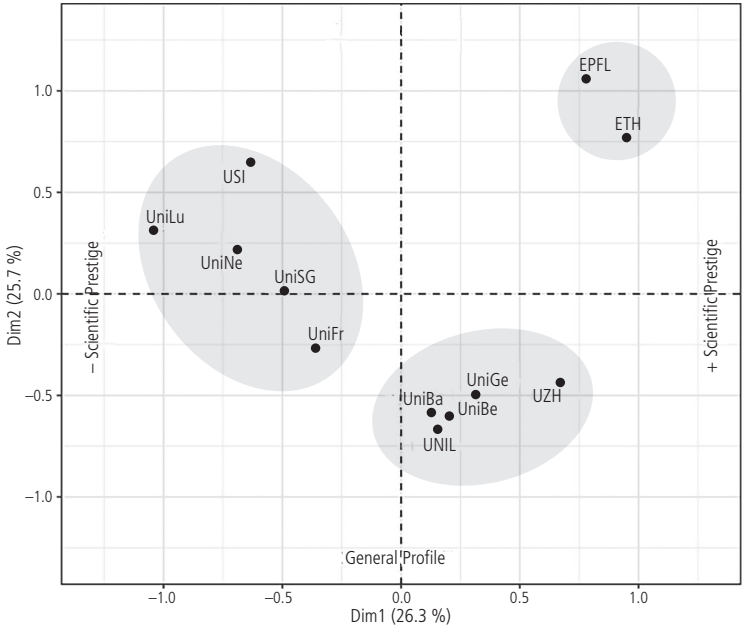
Table A1). Figure 2 presents the cloud of universities created by an MCA of these variables, showing which universities are similar (shorter distances) and which ones are rather different (larger distances). An interpretation of the distribution of variables within this space indicates that the horizontal dimension creates a continuum between universities that are less active in digitalisation activities in all areas (i. e. organisation, research, teaching and third mission) and those that are very active in all areas (Figure 2 from left to right). The most distinctive contribution to the vertical dimension is the variable "digitalisation strategy". This means that universities that have a dedicated digitalisation strategy tend to be situated in the lower half of the field, and those that do not have such a strategy are found in the upper half. This signifies that universities in the lower half relate digitalisation to all areas of activity and systematically link them with one another. Thus, they reconceptualise their overall organisational identity in the mirror of digitalisation. In contrast, the digitalisation activities at universities in the upper half are more focused and not as strongly related to each other and organisational identity. An additional cluster analysis supports the MCA results and reinforces the visual impression that closely situated universities can also be statistically interpreted as belonging to separate groups. At the left end

Figure 2 Issue field of digitalisation



Note: multiple correspondence analysis with results of cluster analysis superimposed.

Figure 3 Organizational field of Swiss universities



Note: multiple correspondence analysis with results of cluster analysis superimposed.

of the field, we can identify universities that have only a relatively low weight in the issue field of digitalisation and do not strongly link their organisational identity to digitisation (UniNe, UniLu, USI and UniFr). At the right end of the field, we see universities that have the greatest weight in this issue field but also only link this issue, to a limited extent, to their organisational identity (EPFL, ETH and UZH). In the midfield, however, we find universities that articulate their digital identities more strongly (UniSG, UniBe, UNIL, UniBa and UniGe).

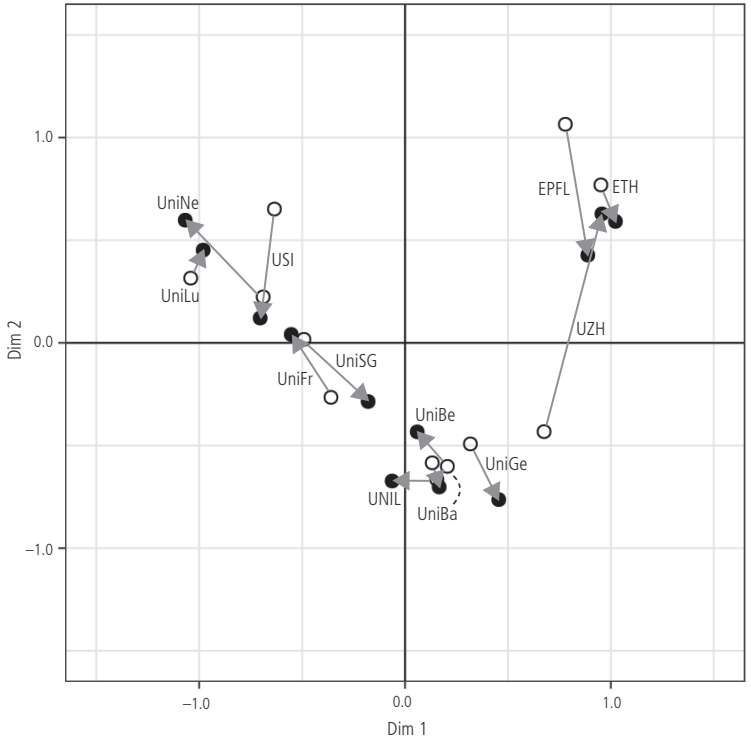
To relate these positions in the issue field of digitisation to the positions in the organisational field of Swiss universities, we made the latter visible using a multiple correspondence analysis with recourse to suitable variables such as age, size, funding, Nobel Prize winners associated with the university or the presence of different faculties (for the complete list, see Table A1).[2] In the general organisational field, we see an ordering of space that distinguishes between universities with lower scientific prestige (from left to right) and those with higher scientific prestige. In contrast, the vertical logic distinguishes universities with a specialised profile (top)

2 For a comparable modelling strategy for the German field of universities, see Baier and Schmitz (2012).

from those with a more general profile (bottom) (Figure 3). Again, an additional cluster analysis provides statistical plausibility for distinguishing the three groups of universities that emerge in the MCA. Thus, we find a group comprising smaller niche universities (USI, UniLu and UniSG) and some full universities (UniNe and UniFr) (far left), a group of larger cantonal full universities in the lower half (UniBa, UniBe, UniGe, UNIL and UZH) and the two federal institutes of technology (EPFL and ETH) in a separate cluster in the upper right.

To examine the direction and extent of the universities' positional shifts from the organisational field to the issue field of digitalisation, we superimpose the cloud of universities from the two MCAs (Figures 2 and 3) and connect their respective positions with arrows, using their positions in the organisational field as the starting point and that in the topic field as the end point (Figure 4). The comparability of

Figure 4 Universities' positional shifts from the organizational field to the issue field of digital transformation



Note: We did not interpret Dim 1 and Dim 2 because the representation is based on the superimposition of two different fields.

the two spaces is somewhat limited because they are based on different variables. The mere fact that we observe changes in the positions of universities from the organisational field (Figure 3) and the issue field (Figure 2) would not tell us much since we would not expect them to have the same coordinates in the two spaces in the first place. If the directions and distances of the shifts of universities between the two fields are largely identical, it would not make sense to argue that there are actual positional shifts of universities, since in that case, the entire field would have changed in the same way, and the difference would only be an effect of the different variables that created the two spaces. In this case, we would have to argue that the two fields are structurally identical. However, if we find different directions and distances between the universities' positions, we could argue that the field structure has indeed changed because the universities would have changed their positions relative to each other to different degrees and in different directions.

Figure 4 shows that the universities have changed their positions in dissimilar ways from the organisational field to the issue field of digital transformation; they have travelled different distances in various directions. In this figure, we can identify a group of universities that have made positional gains in the issue field of digitalisation with respect to the general organisational field (USI, UniSG, UniBa, UniGe and UZH). However, only UniSG and UZH have actually changed their group affiliation, with the latter showing the most striking positional gain. A second group consists of universities that have moved from the right to left, which in some sense indicates positional losses (EPFL, ETH, UniBe, UNIL, UniFr, UniNe and UniLu). In this group, however, no university has changed its group belonging. Thus, when it comes to group membership, we can argue that there are, so far, only "winners" in the issue field of digitalisation (UniSG and UZH). However, we must also recognise that not making positional gains could mean "losing" for the universities remaining in their old peer groups.

An interesting observation can be made in the group of full universities with medium scientific prestige (UniBe, UniBa, UNIL and UniGe). While the other groups show different types of positional shifts, here, all universities cover only short distances from their general field position to their position in the thematic field of digitisation. This is remarkable considering that it is these universities that invest the most in digital identity articulation; that is, they are the ones talking most actively and publicly about digital activities as a cross-cutting issue that affects the entire university. Because of this public affirmation of the issue of digitisation, one might assume that they would travel the greatest distances from their positions in the organisational field to those in the issue field of digitisation, when, in reality, they are the most inert.

One explanation is that the issue of identity is of greater importance for full universities since they are organisational brackets for a greater variety of disciplinary and professional activities than universities with a more specialised profile (at the top right and the top left of the field of universities). This explanation is supported

by the observation that digitalisation represents a boundary object for universities that allows them to relate heterogeneous activities to one another (Tratschin 2022). According to this interpretation, digitalisation should be particularly attractive for highly heterogeneous universities (e. g. full universities). However, based on this explanation alone, we would also expect UniNe, UniFr and UZH to display similar behaviours. While they also talk publicly about their position in digital transformation, they do not connect this issue so strongly with that of organisational identity by crafting and publishing digital strategies.

A more complete explanation also takes into account that this identity talk is aspirational in that it tries to bridge a gap between the present situation, marked by modest responses to digitalisation, and a desired organisational state through enhanced identity articulation towards digitalisation. While universities with more pronounced positional gains (i. e. UniSG and UZH) may generally feel no strong need for public digital identity articulation, those with larger positional losses (e. g. UniFr and UniNe) might be discouraged from strongly emphasising their digital identity in the public. In contrast, actors in the middle of the field who remained somewhat static in the game for positions may feel compelled to address this issue head-on and emphasise their agency in this issue more strongly for both internal and external audiences.

One could argue that this strong identity articulation is a case of inconsequential organisational talk that tries to compensate for the low activity. While these dynamics cannot be completely dismissed, decoupling is usually not a permanent solution (Hasse and Krücken 2013) and "aspirational talk" is consequential for organisational dynamics (Christensen et al. 2013). This is attributable to the fact that organisational self-representations generate corresponding expectations among organisational members as well as external audiences (cf. Stichweh 2014, 231). Thus, while one could interpret identity articulation as mere window dressing, we prefer to interpret it as aspirational identities that may make a difference by at least partially reshaping the activities within the organisation. This interpretation is clearly supported by activities that could be observed at the respective universities in connection with digitalisation strategies.

5 Conclusion

This article shows that digitalisation partially reconfigures the relations among Swiss universities. Although the field structure itself has not changed radically, according to our MCA, some universities have repositioned themselves and, in some cases, have even changed their group membership in the positional space we reconstructed. Furthermore, different types of self-representations as organisational actors are associated with digitalisation activities. While both the most dominant and the weakest players in the digitalisation field are comparatively reticent in terms of talking about

their digital identity, we see a pronounced identity articulation among the organisations in the midfield, which, according to our analysis of the annual reports, were also the latest to address the topic. In future research, it would be interesting to give more nuance to the relation between competition and organisational actorhood and to ask, for example, in what sense and in what way actors and their identities are constructed in competition and how competitive structures feedback on the identity of actors in other cases. Our study only sheds light on one possibility of how competitional dynamics and structures affect the efforts of organisations to enhance their status as organisational actors differentially.

Our study also suggests that it is important to examine more closely under which conditions organisations adopt issues similarly, leading to isomorphism, and under which conditions they create differences through conflictive or competitive positioning within fields. A stronger integration of existing field perspectives and related explanatory approaches would contribute to a more comprehensive theoretical framework and thus facilitate a more nuanced understanding of different interorganisational dynamics. For instance, we would expect conflictive field activities to occur, especially in the early stages of a newly developing field or when a fundamental change occurs in pre-existing fields (e. g. when new actors enter a field). In contrast, we would expect more "tacit" competition to occur in mature fields when its boundaries remain relatively stable and central field logics are not questioned.

There are certainly some limitations of our exploratory study that result from our case selection. One limitation relates to the specificities of our case. First, we cannot expect digitalisation to be taken up in the same way in other university systems. For instance, we hypothesised that this issue can be taken up more controversially in national contexts with less strongly protected field boundaries, especially when new actors threaten the positions of established field actors. Similarly, it can be assumed that, in larger systems, where not all universities have to be considered cooperation partners simultaneously, more overt conflict and less "silent" competition could be observed.

Another potential limitation relates to the contextualisation of our case. We focused on the context of Switzerland and did not consider the embeddedness of the Swiss university field in the European or international field. While these contexts also constitute a relevant observation space for Swiss universities, we assumed that the national field is the most relevant context in this case – especially as this is a relevant governance context and as most resources for digitalisation flow from the national level (e. g. funding by governance agencies, attention of the national public and prospective students).

Against the background of the empirical limitations of our study, comparative studies on the realisation of digitalisation in different national university fields, as well as studies that investigate dynamics in transnational fields of higher education, would be particularly promising. Additionally, it would be interesting to investigate

whether other issues trigger similar dynamics in university fields – particularly the issue of sustainability, which we consider to have similarities with the issue of digitalisation since it is also strongly addressed by Swiss universities, is attributed a high social relevance and is a highly malleable issue that can be related to all areas of universities' activities.

6 References

Arora-Jonsson, Stefan, Nils Brunsson, and Raimund Hasse. 2020. Where Does Competition Come From? The Role of Organization. *Organization Theory* 1(1): 1–24. https://doi.org/10.1177/2631787719889977.

Baier, Christian. 2017. *Reformen in Wissenschaft und Universität aus feldtheoretischer Perspektive: Universitäten als Akteure zwischen Drittmittelwettbewerb, Exzellenzinitiative und akademischem Kapitalismus*. Köln: Herbert von Halem Verlag.

Baier, Christian, and Andreas Schmitz. 2012. Organisationen als Akteure in sozialen Feldern – Eine Modellierungsstrategie am Beispiel deutscher Hochschulen. Pp. 191–220 in *Feldanalyse als Forschungsprogramm 1: Der programmatische Kern*, edited by Stefan Bernhard and Christian Schmidt-Wellenburg. Wiesbaden: VS Verlag für Sozialwissenschaften.

Barton, Thomas, Christian Müller, and Christian Seel (eds). 2019. *Hochschulen in Zeiten Der Digitalisierung. Lehre, Forschung und Organisation*. Wiesbaden: Springer Vieweg.

Benavides, Lina María Castro, Johnny Alexander Tamayo Arias, Martín Darío Arango Serna, John William Branch Bedoya, and Daniel Burgos. 2020. Digital Transformation in Higher Education Institutions: A Systematic Literature Review. *Sensors* 20(11): 1–22. https://doi.org/10.3390/s20113291.

Böckelmann, Christine, and Erik Nagel. 2018. Increasingly Identical: Convergence Factors in the Tertiary Sector of Switzerland's Education System. *Zeitschrift für Hochschulentwicklung* 13(3): 29–50. https://doi.org/10.3217/ZFHE-13-03/03.

de Boer, Harry F., Jürgen Enders, and Uwe Schimank. 2007. Comparing Higher Education Governance Systems in Four European Countries. Pp. 35–54 in *Governance and Performance of Education Systems*, edited by Nils C. Soguel and Pierre Jaccard. Dordrecht: Springer Netherlands.

Bourdieu, Pierre. 1987. *Distinction: A Social Critique of the Judgement of Taste*. Cambridge, Massachusetts: Harvard University Press.

Bourdieu, Pierre. 1988. *Homo Academicus*. Stanford, California: Stanford University Press.

Bourdieu, Pierre, and Loïc J. D. Wacquant. 1992. *An Invitation to Reflexive Sociology*. Cambridge: Polity Press.

Bowen, William G. 2015. *Higher Education in the Digital Age: Updated Edition*. Princeton: Princeton University Press.

Brunsson, Nils, and Kerstin Sahlin-Andersson. 2000. Constructing Organizations: The Example of Public Sector Reform. *Organization Studies* 21(4): 721–746. https://doi.org/10.1177/0170840600214003.

Bughin, Jacques, Eric Hazan, Sree Ramaswamy, Michael Chui, Tera Allas, Peter Dahlstrom, Nicolaus Henke, and Monica Trench. 2017. Artificial Intelligence: The Next Digital Frontier? Discussion Paper. McKinsey Global Institute.

Christensen, Lars Thøger, Mette Morsing, and Ole Thyssen. 2013. CSR as Aspirational Talk. *Organization* 20(3): 372–393. https://doi.org/10.1177/1350508413478310.

Clark, Burton R. 1983. *The Higher Education System: Academic Organization in Cross-National Perspective*. Berkeley and Los Angeles: University of California Press.

Czarniawska, Barbara, and Guje Sevón. 2011. *Translating Organizational Change*. Berlin: Walter de Gruyter.

DiMaggio, Paul J., and Walter W. Powell. 1983. The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review* 48(2): 147–160. https://doi.org/10.2307/2095101.

Enders, Jürgen, Barbara M. Kehm, and Uwe Schimank. 2015. Turning Universities into Actors on Quasi-Markets: How New Public Management Reforms Affect Academic Research. Pp. 89–103 in *The Changing Governance of Higher Education and Research: Multilevel Perspectives, Higher Education Dynamics,* edited by Dorothea Jansen and Insa Pruisken. Cham: Springer International Publishing.

EPFL. 2019. *Annual Report 2019.* https://rapport-annuel.epfl.ch/en/ (03.06.2022).

ETH Board. 2014. *Strategische Planung 2017–2020 des ETH-Rats für den ETH-Bereich.* Zürich: ETH-Rat.

Fligstein, Neil. 2013. Understanding Stability and Change in Fields. *Research in Organizational Behavior* 33: 39–51. https://doi.org/10.1016/j.riob.2013.10.005.

Fligstein, Neil, and Doug McAdam. 2011. Toward a General Theory of Strategic Action Fields. *Sociological Theory* 29(1): 1–26. https://doi.org/10.1111/j.1467-9558.2010.01385.x.

Frank, David John, and John W. Meyer. 2020. *The University and the Global Knowledge Society.* Princeton: Princeton University Press.

Furnari, Santi. 2018. When Does an Issue Trigger Change in a Field? A Comparative Approach to Issue Frames, Field Structures and Types of Field Change. *Human Relations* 71(3): 321–348. https://doi.org/10.1177/0018726717726861.

Gächter, Thomas. 2011. Das Doktorat gehört zum Profil der Universität. Neue Zürcher Zeitung, April 12, https://www.nzz.ch/das_doktorat_gehoert_zum_profil_der_universitaet-ld.576062 (14.01.2023).

Getto, Barbara, and Michael Kerres. 2017. Akteurinnen/Akteure der Digitalisierung im Hochschulsystem: Modernisierung oder Profilierung? *Zeitschrift für Hochschulentwicklung* 12(1): 123–142.

Hasse, Raimund, and Georg Krücken. 2013. Competition and Actorhood: A Further Expansion of the Neo-Institutional Agenda. *Sociologia Internationalis* 51(2):181–205. https://doi.org/10.3790/sint.51.2.181.

Henke, Justus, and Peer Pasternack (eds). 2020. *Wie die Hochschulen durch das Zeitalter des Frühdigitalismus kommen: Basiswissen für die avancierte Organisationsgestaltung in 94 Fragen und Antworten*. Wiesbaden: Springer Fachmedien Wiesbaden.

Hertler, Roman. 2017. IT-Offensive wird teurer. *St.Galler Tagblatt,* https://www.tagblatt.ch/ostschweiz/kanton-stgallen-it-offensive-wird-teurer-ld.1012026 (03.06.2022).

Hjellbrekke, Johs. 2018. *Multiple Correspondence Analysis for the Social Sciences*. London: Routledge.

Hoffman, Andrew J. 1999. Institutional Evolution and Change: Environmentalism and the U. S. Chemical Industry. *Academy of Management Journal* 42(4): 351–371. https://doi.org/10.5465/257008.

Husson, Francois, Sebastien Le, and Jérôme Pagès. 2017. *Exploratory Multivariate Analysis by Example Using R.* Boca Raton, Florida: CRC Press.

Hüther, Otto, and Georg Krücken. 2016. Nested Organizational Fields: Isomorphism and Differentiation Among European Universities. Pp. 53–83 in *The University Under Pressure*. Vol. 46, *Research in the Sociology of Organizations*. Emerald Group Publishing Limited.

Karstein, Uta. 2012. Auseinandersetzungen in und zwischen Feldern. Vorschläge zur Spezifizierung des Bourdieu'schen Begriffs sozialer Kämpfe am Beispiel des Staat-Kirche-Konfliktes in der DDR. Pp. 257–279 in *Feldanalyse als Forschungsprogramm 2: Gegenstandsbezogene Theoriebildung*, edited by Stefan Bernhard and Christian Schmidt-Wellenburg. Wiesbaden: VS Verlag für Sozialwissenschaften.

Kindel, Alexander T., and Mitchell L. Stevens. 2021. What Is Educational Entrepreneurship? Strategic Action, Temporality, and the Expansion of US Higher Education. *Theory and Society* 50(4): 577–605. https://doi.org/10.1007/s11186-021-09443-3.

Kodeih, Farah, and Royston Greenwood. 2014. Responding to Institutional Complexity: The Role of Identity. *Organization Studies* 35(1): 7–39. https://doi.org/10.1177/0170840613495333.

Krücken, Georg. 2021. Multiple Competitions in Higher Education: A Conceptual Approach. *Innovation* 23(2): 163–181. https://doi.org/10.1080/14479338.2019.1684652.

Lepori, Benedetto, and Tatiana Fumasoli. 2010. Reshaping the Swiss Higher Education System: Governance Reforms and Fields Reconfigurations. *Swiss Political Science Review* 16(4): 811–814. https://doi.org/10.1002/j.1662-6370.2010.tb00452.x.

Lepori, Benedetto, Jeroen Huisman, and Marco Seeber. 2014. Convergence and Differentiation Processes in Swiss Higher Education: An Empirical Analysis. *Studies in Higher Education* 39(2): 197–218. https://doi.org/10.1080/03075079.2011.647765.

Litrico, Jean-Baptiste, and Robert J. David. 2017. The Evolution of Issue Interpretation within Organizational Fields: Actor Positions, Framing Trajectories, and Field Settlement. *Academy of Management Journal* 60(3): 986–1015. https://doi.org/10.5465/amj.2013.0156.

Liu, Yi, Wei Wang, and Zuopeng (Justin) Zhang. 2020. The Dual Drivetrain Model of Digital Transformation: Role of Industrial Big-Data-Based Affordance. *Management Decision* 60(2): 344–367. https://doi.org/10.1108/MD-12-2019-1664.

Martin, John Levi. 2003. What Is Field Theory? *American Journal of Sociology* 109(1): 1–49. https://doi.org/10.1086/375201.

Meyer, Alan D., Vibha Gaba, and Kenneth A. Colwell. 2005. Organizing Far from Equilibrium: Nonlinear Change in Organizational Fields. *Organization Science* 16(5): 456–473. https://doi.org/10.1287/orsc.1050.0135.

Meyer, John W., and Brian Rowan. 1977. Institutionalized Organizations: Formal Structure as Myth and Ceremony. *American Journal of Sociology* 83(2): 340–363.

Musselin, Christine. 2021. University Governance in Meso and Macro Perspectives. *Annual Review of Sociology* 47(1): 305–325. https://doi.org/10.1146/annurev-soc-090320-012708.

Porcaro, Giuseppe. 2017. Policy and Politics in the Era of the Industrial Internet: How the Digital Transformation Will Change the Political Arena. Pp 49–63 in *Out-thinking Organizational Communications*, edited by Joachim Klewes, Dirk Popp, and Manuela Rost-Hein. Cham: Springer. https://doi.org/10.1007/978-3-319-41845-2_4.

Reay, Trish, and C. R. (Bob) Hinings. 2005. The Recomposition of an Organizational Field: Health Care in Alberta. *Organization Studies* 26(3): 351–384. https://doi.org/10.1177/0170840605050872.

Roux, Brigitte Le, and Henry Rouanet. 2010. *Multiple Correspondence Analysis*. Thousand Oaks, California: SAGE.

Santos, Tiago, Jorge Louçã, and Helder Coelho. 2019. The Digital Transformation of the Public Sphere. *Systems Research and Behavioral Science* 36(6): 778–788. https://doi.org/10.1002/sres.2644.

Schrape, Jan-Felix. 2021. *Digitale Transformation*. Stuttgart: UTB.

Schwab, Klaus. 2017. *The Fourth Industrial Revolution*. New York: Crown.

sda/tif. 2019. 300 Millionen für einen «Sondereffort». *Tages-Anzeiger*, March 8, https://www.tagesanzeiger.ch/300-millionen-fuer-einen-sondereffort-794099716437 (14.01.2023).

Simmel, Georg. 1992. *Soziologie. Untersuchungen über die Formen der Vergesellschaftung*. Frankfurt am Main: Suhrkamp.

State Secretariat for Research, Education and Innovation (SERI). 2017. *Herausforderungen der Digitalisierung für Bildung und Forschung in der Schweiz*. Bern: Swiss Confederation.

State Secretariat for Education, Research and Innovation (SERI). 2017. *Aktionsplan Digitalisierung im BFI-Bereich in den Jahren 2019 und 2020*. Bern: Swiss Confederation.

Stichweh, Rudolf. 2014. Die Form der Universität. Pp. 215–244 in *Wissenschaft, Universität, Professionen. Soziologische Analysen,* edited by Rudolf Stichweh. Bielefeld: transcript.

Strang, David, and John W. Meyer. 1993. Institutional Conditions for Diffusion. *Theory and Society* 22: 487–511.

Strauss, Anselm L. 1987. *Qualitative Analysis for Social Scientists*. Cambridge University Press.

Swiss Confederation. 2018. *Aktionsplan Digitale Schweiz*. Bern: Swiss Confederation.

Swiss Confederation. 2020. *Strategie Digitale Schweiz*. Bern: Swiss Confederation.

Swiss National Science Foundation SNSF. 2020. SNF fördert 1000 Projekte zur Digitalisierung. *Schweizerischer Nationalfonds (SNF),* https://www.snf.ch/de/lpMUvQXnwRKWh1jJ/news/undefined/de/lpMUvQXnwRKWh1jJ/news/ (03.06.2022).

Swiss Science Council (SSC). 2019. *Empfehlungen des Schweizerischen Wissenschaftsrates SWR für die BFI-Botschaft 2021–2024*. Bern: Swiss Confederation.

Taylor, Barrett J. 2016. Strategic Action Fields in US Higher Education: The 1939 Mercer University Heresy Trial. *Journal of Historical Sociology* 29(3): 359–384. https://doi.org/10.1111/johs.12084.

Thornton, Patricia H., and William Ocasio. 1999. Institutional Logics and the Historical Contingency of Power in Organizations: Executive Succession in the Higher Education Publishing Industry, 1958–1990. *American Journal of Sociology* 105(3): 801–843.

Tratschin, Luca. 2022. Post-NPM-Governance und Grenzobjekte. Zur organisationalen Funktion des Digitalisierungsdiskurses an Universitäten. *Soziale Systeme* 26(1-2): 285–312. https://doi.org/10.1515/sosys-2021-0011.

University of Basel. 2015. Jahresbericht 2015. Basel: Universität Basel.

University of Geneva. 2016. *Rapport de Gestion 2016*. Geneva: University of Geneva.

University of Lucerne. 2017. *Jahresbericht 2017.* Luzern: Universität Luzern

University of Zurich. 2015. *Jahresbericht 201*5. Zürich: Universität Zürich.

University of Zurich. 2016. *Jahresbericht 2016*. Zürich: Universität Zürich.

University of Zurich. 2019. *Jahresbericht 2019*. Zürich: Universität Zürich.

Werron, Tobias. 2010. Direct Conflict, Indirect Competition: Differentiation and Comparison of Two Forms of Struggle. *Zeitschrift für Soziologie* 39(4): 302–318. https://doi.org/10.1515/zfsoz-2010-0403.

Wooten, Melissa, and Andrew J. Hoffman. 2017. Organizational Fields: Past, Present and Future. Pp. 55–74 in *The SAGE Handbook of Organizational Institutionalism*, edited by Royston Greenwood, Christine Oliver, Thomas B. Lawrence, and Renate E. Meyer. Thousand Oaks, California: SAGE.

Wruk, Dominika, Tino Schöllhorn, and Achim Oberg. 2020. Is the Sharing Economy a Field? How a Disruptive Field Nurtures Sharing Economy Organizations. Pp. 131–162 in *Theorizing the Sharing Economy: Variety and Trajectories of New Forms of Organizing*. *Research in the Sociology of Organizations*, Vol. 66, edited by Indre Maurer, Johanna Mair, and Achim Oberg. Emerald Publishing Limited.

Ziyadin, Sayabek, Saltanat Suieubayeva, and A. Utegenova. 2020. Digital Transformation in Business. Pp. 408–415 in *Digital Age: Chances, Challenges and Future*, *Lecture Notes in Networks and Systems*, edited by Svetlana I. Ashmarina, Marek Vochozka, and Valentina V. Mantulenko. Cham: Springer International Publishing.

Appendix

Note: All statistical analyses were implemented with R. In addition to R base functions, we used the FactoMineR package for the multiple correspondence analysis and cluster analysis. For visualisation, we additionally used the functions of the Factoextra and ggplot2 packages.

Table A1 Variables of Digital Transformation in Swiss Universities

Variable	Data source
General	
Year of foundation	Self-description of universities
Number of students	Federal Office for Statistics
University sponsor (federal, cantonal)	Self-description of universities
Funding in Swiss francs	Federal Office for Statistics
Nobel Prize winners associated with university (yes / no)	Own research based on the official website of the Nobel Prize
Winners of Marcel Benoist Prize associated with university (yes / no)	Own research based on the website of the Marcel Benoist Foundation
Business school ranked in financial times (yes/no)	Financial Times Ranking
Number of startups (2010–2020)	Startup-Monitor Switzerland (startup.ch)
Number of patents (2010–2020)	European Patent Office (espacenet database)
Media visibility in leading Swiss newspapers (number of articles in leading Swiss newspapers) (2010–2020)	Swissdox.ch (online database)
Faculty for humanities and social sciences (yes / no)	Organisation charts of universities
Faculty of law (yes / no)	Organisation charts of universities
Faculty of economics (yes / no)	Organisation charts of universities
Faculty of natural sciences (yes / no)	Organisation charts of universities
Faculty of medicine (yes / no)	Organisation charts of universities
Faculty for engineering (yes / no)	Organisation charts of universities
Research (digital)	
Number of research projects in NRP 75 or 77	P3 database of SNSF
Number of basic research projects funded by SNSF with focus on digital transformation	P3 database of SNSF0
Teaching (digital)	
Number of B.A. study programmes dedicated to digital transformation according to self-description	Own research (based on universities' websites and survey)
Number of M.A. study programmes dedicated to digital transformation according to self-description	Own research (based on universities' websites and survey)
Participation in PgB P-8 "digital skills" (Leading House / Partner)	Own research (based on universities' websites and survey)
Number of continuing education programmes related to digital transformation: certificate of advanced studies	Own research (based on universities' websites and survey)
Number of continuing education programmes related to digital transformation: master of advanced studies	Own research (based on universities' websites and survey)
Third Mission (digital)	
Teaching (digital)	
MOOCs (Yes / No)	Universities' websites and relevant platform providers (edX, Courseara, Future Learn, Swissmoocs)

Continuation of Table A1 on the following page.

Continuation of Table A1.

Variable	Data source
Number of startups on big data or machine learning (2010–2020)	Startup-Monitor Switzerland (startup.ch)
Partner of Swiss Digital Day (Partner/no Partner)	Data provided by Swiss Digital Day
Media visibility in leading Swiss newspapers (number of articles related to digitalisation) (2010–2020)	Swissdox.ch (online database)
Organisation (digital)	
Published digital strategy (Yes/No) (2010–2020)	Own research
Digital transformation as an issue in organisational strategy (Yes / No) (2010–2020)	Own research (document analysis)
Presence of positions dedicated to digital transformation in the administration (Yes / No)	Own research (based on organisational charts and annual reports)
Presence of university centres dedicated to digital transformation (Yes / No)	Own research (based on organisational charts and annual reports)
Availability of a Campus app (Yes / No) (2020)	App stores (Apple and Google)
Presence on social media channels (LinkedIn, Twitter, Instagram, YouTube and Facebook. Values from 0 to 5, where 0 = no channels and 5 = all channels) (2010–2020)	Own research on social media channels

Source: own compilation.