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Abstract

The diffusion process of management reforms in the public sector has been a focal topic of political and administrative science research. Isomorphism has been widely used as a theoretical framework to describe why such trends penetrate whole organizational fields. However, research so far has neglected the temporal aspects of such diffusion processes and the organizational reasons underlying the introduction of new management tools. We argue that during reform waves the reasons for adopting the new tools differ over time. Using comparative data from two surveys on quality management in the field of higher education and the health sector, we show that early adopters are more likely to be motivated by instrumental reasons, such as improving quality, while late adopters will more likely be motivated by institutional reasons for carrying out reforms, e.g. coercion or professional norms. Furthermore, contextual factors within different organizational fields affect these motivations. Competition and professional autonomy also affect the reasons for reform significantly.

Understanding the fundamental processes underlying the diffusion of innovations has been a crucial aim of new-institutional theories. Why do organizations within a specific organizational field adopt similar configurations? Why do they tend to converge into similar organizations? The theory of isomorphism has introduced the crucial role of legitimacy in the organizational environment (Boxenbaum and Jonsson, 2017; DiMaggio and Powell, 1983). Scholars have determined different mechanisms and motivations, both functional and dysfunctional, for the actual introduction of new instruments, such as management reforms (Beck and Walgenbach, 2005; Oliver, 1988; Willems and van Dooren, 2011). However, the temporal aspect of this diffusion process within an organizational field remains understudied so far.

One of the tools that has been introduced in many different organizations is quality management. In this study, we show the temporal dynamics of the diffusion process for the introduction of quality

management from a comparative perspective. Quality management has spread across many different sectors all over the world. Currently, there is a growing body of literature about various topics concerning quality management, mostly focusing on its effects (Cameron and Whetten, 1996; Seyfried and Pohlenz, 2018) or impact (Bejan et al., 2015; Leiber, 2018; Makhoul, 2019). However, particularly organizational researchers have shown that the implicit assumptions about the impact of quality management require careful scrutiny (Stensaker and Leiber, 2015) due to several unintended consequences, such as formalization, standardization, and resistance (Overberg, 2019; Worthington and Hodgson, 2005). Unsurprisingly, research on quality management needs a broad evidence base starting at the initial implementation phase. The starting point of the introduction of those new management instruments, the underlying reasons, and temporal dynamics may lay the foundations for their functionality or dysfunctionality.

However, until now the vast majority of all studies have investigated the introduction of organizational reforms from a sector-specific perspective. In contrast, we provide a comparative approach considering the introduction of internal quality management in higher education institutions and hospitals in Germany. Researchers have highlighted the particular relevance of comparative studies for a better understanding of social phenomena (Bleiklie, 2014; Teichler, 1996). We aim to follow existing conceptions and research on isomorphism and diffusion (DiMaggio and Powell, 1983; Kennedy and Fiss, 2009; Tolbert and Zucker, 1983).

However, isomorphism and diffusion address two different questions for the investigation of organizational similarity. Isomorphism considers institutional reasons why organizations become homogenous. Diffusion explains how this process takes place over time. For our analysis we suggest an integration of diffusion theory and isomorphism. Therefore, this study points to different stages of isomorphism that may change over time, which is relevant to understand the causes of isomorphism. Hence, we ask the following research questions: How do management innovations diffuse in different areas of the public sector and how does the temporal aspect of this diffusion affect the reasons for introduction?

Therefore, we build on the two-stages model of diffusion conceptualized by Tolbert and Zucker in which they differentiate different motivations (instrumental and institutional) depending on the point in time at which organizations decide to adapt an organizational innovation. However, we agree with Kennedy and Fiss (2009) that this model has rarely been tested in the sense of investigating the explicit motivations of early compared to late adopters. Thus, our study provides insights into the differing motivations of these groups of organizations within specific organizational fields. Furthermore, we provide evidence for the dynamics of the diffusion process. Whereas Tolbert and Zucker (1983) assume a different speed of diffusion depending on the institutional pressure, we provide evidence challenging this assumption by using a unique cross-sector dataset.

Furthermore, we add to previous findings of Kennedy and Fiss (2009). We find no support for their model of complementary technical and social gains. We argue that this may be due to their implicit focus on the private sector with a functioning (private) market. Within imperfect markets or within the environment for public sector organizations images such as “market leaders” do not apply. Thus, decoupling and window-dressing are much more common and not only “rare cases” (Kennedy and Fiss, 2009: 899).

To answer our research questions, we investigate survey data from the German higher education and hospital sectors. A comparison between both sectors provides us with an opportunity to compare organizations that have traditionally been considered as strong professional bureaucracies (Mintzberg, 1979) and vital elements of public service provision in the fields of education and health. Yet, both sectors have been substantially changed by reforms in the tradition of New Public Management over the past 20 years. Specifically, quality management as a systemic management tool has been introduced and widely studied within their respective fields (Leiber, 2018; Lucas, 2014; Overberg, 2019; Short, 1995; Shortell, 1995; Wardhani et al., 2009). However, no study to the best of our knowledge, has provided comparative data to examine similarities and differences in the diffusion process of this

management tool. Hence, a comparison between both sectors offers unique insights into how structural features of organizations and organizational fields affect diffusion processes (Derlien, 1992; Pollitt, 2011).

Based on our data, we are able to show striking similarities in the diffusion between the sectors despite different starting conditions, legal requirements and market conditions. Furthermore, we give evidence that the temporal aspect of reform implementation is affecting the intra-organizational reasons and goals for introducing quality management systems. We confirm important insights from the existing literature and show that late adopters tend to follow isomorphic motivations and window-dressing behavior, while early adopters tend to introduce quality management systems in order to achieve quality improvements.

Our study contributes to the theory development in two ways: First, we show that isomorphism is not a static phenomenon that is ubiquitous during diffusion processes. Rather, it appears to be sequential and thus more relevant in the later stages of the diffusion process. Second, we give unique evidence from two different sectors showing similar patterns for the diffusion of quality management organizational fields. These results indicate that research on management tools – such as quality management – from other fields is not only applicable to the field of higher education and vice versa, but it also shows that more integrated research on how change processes take place and the reasons why these changes take place is necessary.

The article is structured as follows: The first section gives a contextual overview about quality management in higher education institutions (HEI) and hospitals (H) – especially in the German context – in order to understand the overall setting of the different organizational fields. Afterwards, we present our theoretical approach and its operationalization of the different forms of isomorphism to pose key assumptions. This is followed by the empirical analysis to examine the diffusion processes. In the final section, we discuss the implications of these results and draw our main conclusions.

Quality management in higher education institutions and hospitals in Germany

This section about quality management in higher education and hospitals aims for two different goals. Firstly, it briefly explains the German higher education and hospital systems, with a particular focus on the implementation of QM. The contextual information sharpens the analytical focus and highlights specific elements of our study. Secondly, it opens up the perspective for generalizable arguments we derive from the German case, as we think that they are relevant to understanding the implementation of quality assurance policies in different fields of public services in other countries.

In this paper, we refer to quality management as a management system that incorporates all the activities and tasks necessary to plan, achieve, and maintain the desired level of quality (International Organization for Standardization, 2015). Stemming originally from the private sector, it became a matter of public sector reform discussion worldwide (Rosenhoover and Kuhn, 1996; Swiss, 1992). However, even within specific fields like higher education or health care, quality management may be considered as a “slippery concept” (Harvey and Green, 1993: 10). This is not only related to the different interpretations of quality (for an overview, see Harvey and Green, 1993; Reeves and Bednar, 1994) it is also related to particular practices (Seyfried and Reith, 2020). Nevertheless, both practitioners and researchers associate various core elements with quality management, such as management leadership and commitment to quality, quality strategic planning, human resource training, participation, and support, information and data management, organizational coordination and structure that facilitates quality management throughout the organization, supplier management, and process management (Macinati, 2008). However, we use quality management holistically as all internal practices that contribute to quality control and enhancement, taking into account that in practice, terms such as quality assurance and quality management are often used interchangeably, despite its conceptual differences.

Quality management in German higher education

For a long time, the German higher education sector remained rather unaffected by the quality management reforms that started, for example, in US and UK already in the early 1980s (Lucas, 2014). Consequently, recent research has characterized Germany as being rather slow, reluctant and incremental to conceptualize and implement such reforms (Welsh, 2004). However, recent research has also described the reforms of the last decades as significant and considerable (Hüther and Krücken, 2018). The reform approaches followed the international trend towards New Public Management and managerialism, which was supposed to introduce new modes of management and governance (Bogumil et al., 2013). As a consequence, higher education regulations were adjusted and opened up for competitive elements, new forms of stakeholder involvement, changes in academic and managerial self-governance, etc. (Bogumil et al., 2013; Bogumil and Grohs, 2009; Kehm and Lanzendorf, 2007). These reforms led to a change in the role of the state, shifting towards supervision and rather indirect modes of context management (Ditzel, 2015, 2017; Enders, 2001).

One of the dominant features of the German higher education system is the high level of autonomy higher education institutions enjoy. The strong autonomy goes back to the fundamentals of the basic law, which emphasizes the freedom of research and teaching. Even after the above-mentioned reforms, the “academic oligarchy” (Enders, 2001: 16) seemed to be unbroken although contested. Former conflicts between the state ministries and higher education institutions were now delegated within the organization. Internal management was strengthened and new management procedures – such as quality management – were introduced. Quality management and thus increased reporting (monitoring, evaluation, auditing, etc.) became the counterpart of this autonomy. This also relates to quality management with its various instruments for assuring and enhancing quality, such as surveys, evaluations, audits, etc. (Huber, 2013; Romainville, 1999).

Although internal hierarchies and higher education management were strengthened and, for example, the deans became important gate keepers, the academics were able to maintain a very powerful position within higher education institutions (Hüther and Krücken, 2018). Their influence on policy devel-

opment and decision making remains unbroken. More importantly, their agreement or resistance towards the implementation of reforms and organizational changes is fundamental. Hence, the introduced quality management mechanisms may also provoke formal compliance, which means that academics within higher education institutions pretend to comply with obligations only formally without really implementing the required changes (Kühl, 2014).

This underlines the relevance of the research questions presented above. The diffusion process of the introduction of quality management in teaching and learning and the reasons for higher education institutions to change their organizational structure informs our understanding of these management procedures and their intended and unintended effects. In order to investigate the effects, however, a deeper understanding of isomorphism and diffusion and the respective sequences is necessary.

Quality management in hospitals

At first glance, the organizational field of hospitals seems to have several parallels to the field of higher education institutions. During the mid-90s, a wave of global reforms hit the public health sectors in general and the hospital sector in particular (Ferlie and Shortell, 2001). These reforms followed three distinct trends: rescaling hospitals' sizes, privatization, and managerialization (Pavolini and Guillén, 2013: 9). Reforms in the hospital sector were especially focused on marketization and managerialization strategies, which took different forms. The set of instruments introduced consisted of strong elements of competition, a focus on efficiency (e.g. via reimbursement with diagnosis-related groups), and a general shift in the role of patients into clients or customers (Hassenteufel and Klenk, 2013).

Historically, the German hospital system has been diverse. Providers have been either private enterprises, public institutions (often municipalities), or non-profit organizations, the latter being especially Christian organizations (Bode, 2013). During recent decades, the share of private hospitals increased gradually due to privatization efforts (Klenk, 2011). For funding as well as regulation, hospitals are dependent on both the federal and state levels. This is in contrast to the field of higher education

institutions, which is primarily regulated by federal regulations only. The states play only a minor role in providing budgets for investments. Due to the corporatist nature of the German health system, hospitals are involved in policymaking via the Federal Joint Committee (FJC), often referred to as the “Little Legislator.” While the Ministry for Health proposes laws on hospital issues, those are often more general frameworks. Details and concrete standards are developed and decided by the FJC. In 2000, the Reform of the Statutory Health Insurance legally obliged hospitals to introduce an organization-wide quality management system. The formulation of standards and concretizations was delegated to the FJC, which passed a directive in 2005 on the definition of QMS in the hospital context, its function, elements, and goals. While the directive is heavily influenced by the QM concept of the DIN EN ISO 9000 standard, it remains rather general concerning specific instruments. This directive was later updated in 2016, which harmonized rules and standards for other service providers such as practitioners and psychotherapeutic facilities. This update also introduced a list of compulsory instruments and methods that hospitals needed to introduce. Simultaneously, measures were undertaken to further develop the mandatory quality assurance activities regulated at the federal level (Busse et al., 2009).

As hospitals are traditionally characterized by strong professions (physicians and nurses), the rise of management concepts introduced increasing tensions between the professional staff and the growing management departments (Mcgivern et al., 2015; Noordegraaf, 2015). Glouberman and Mintzberg (2001) describe this setting of different professional logics as the four worlds of the hospital: physicians, nurses, management, and community. Each of these worlds follows a different perspective with respect to daily operations and the focus on personal development throughout the individual career paths. The rise of quality management plays an ambiguous role in this setting. While some scholars refer to QM as another strategy by management to impose guidelines and control over professional experts (Waring and Currie, 2009), others are less pessimistic (Bolton, 2004) and even see the potential of QM to bridge these different worlds (Offermanns, 2011).

Despite these intra-organizational conflicts, quality management soon became a ubiquitous toolset throughout the organizational field of hospitals, not least because of the regulatory requirements.

Hospitals substantially differ with respect to the scope, resources, and role assigned to quality management. The competitive nature of the hospital sector offers a first explanation, as hospitals may expect competitive advantages from (total) quality management systems (Douglas and Judge, 2001). Although the effectiveness of quality management measures in the hospital sector remains somewhat under-researched, there is some evidence for its positive effects in Germany (Nimptsch and Mansky, 2013). Early adopters of these innovations may exploit these advantages to their highest extent. Likewise, late adopters may benefit from copying best-practices, as studies on organizational learning, knowledge management theories, and research on the adoption and translation of best-practice examples imply (Guzman et al., 2015).

Theory

Research on organizational innovation is extensively covering the complex interplay of various related issues. Consequently, the extensive literature, which reports and discusses diffusion processes and isomorphism, offers multiple perspectives to frame the research objective. Firstly, management related studies focus on a rationalistic approach of introducing quality management to health care or educational organizations incorporating topics, such as strategic management, change management or leadership (Papadimitriou and Westerheijden, 2011; Short, 1995). Secondly, organizational research aims at understanding (successful) organizational change, organizational innovation or organizational learning (Li and Chung, 2020; Wardhani et al., 2009). Thirdly, research on institutional entrepreneurs and leadership addresses the particular roles of actors within organizational fields (Seyfried et al., 2019). And fourthly, institutional literatures who are interested in the cognitive, normative and regulative aspects of institutions and their contexts (Dacin, 1997). This study contributes to the field of organizational innovation by incorporating an institutional perspective. Thus, our research focuses on the institutional context of organizations and how this affects the diffusion process of quality management as an organizational innovation.

The literature on the adoption and diffusion of organizational innovations has identified two different reasons why organizations change. On the one hand, organizations may change to increase efficiency and competitiveness. On the other hand, they may change for reasons of legitimacy (Kennedy and Fiss, 2009; Li and Chung, 2020; Tolbert and Zucker, 1983; Yang et al., 2021). Both seem to be distinctive at first glance. While the former strives for competitive advantages through strategic decisions in positioning among other organizations and competitors, the latter tries to gain, for example, client or customer support with their actions, which do not necessarily aim to be strategic or efficiency-oriented. However, research has shown that both reasons represent different forms of legitimacy that need to be managed (Suchman, 1995). These considerations are helpful in combining and emphasizing the roles of agency, strategic decisions, and interests within the theoretical framework of new institutionalism (Beckert, 1999). For this purpose, we distinguish between reasons related to functional-instrumental and institutional sources of legitimacy.

The functional-instrumental perspective assumes that organizations conduct top-down management as the expression of rational thoughts and consistent preferences in order to mechanically fulfill their goals under continuous scrutiny and self-optimization (Dahler-Larsen, 2012; Neave, 1988; Tsai and Beverton, 2007). As a consequence, homogenization of organizations follows from the insight or assumption that certain structures and procedures are superior to others and lead to comparative advantages. Consequently, organizations will adjust to their competitors who have implemented successful changes, resulting in survival (Allison, 1979). Homogenization is the result of adaptation processes towards organizations that have proven to provide their services at the lowest cost and/or best quality to ensure their survival. These views are theoretically supported by, for example, rational choice theory, leading to idealized strategic management practices assuming not only close connections between organizational goals, functions, and output (Andrews et al., 2011), but also that organizations can be deliberately transformed at will and without friction. In this sense, it is economic efficiency, effectiveness, and production which legitimize the existence of organizations (Suchman, 1995).

The institutional perspective provides a counter-concept, which allows for uncertainty, ambiguity, and other contextual influences. Apart from pressures for organizational homogenization like competition, efficiency, and optimization, organizations are dependent on their environment, the surrounding expectations, norms, rules, and values (Kraatz and Zajac, 1996). In sum, organizations strive for legitimacy as a core element of their survival, but this legitimacy is not necessarily related to output and products. It is also related to what organizations pretend to do or not do in relation to social expectations determined by institutions (Meyer and Rowan, 1977). Hence, legitimacy is to a large extent generated by conformity with these external expectations. Various sources for these expectations may be differentiated, such as the organizational field, professional networks, political actors, or the general public. Public attitudes and public opinions about the respective organization become essential because they are directly linked to its acceptance (Deephouse, 1996). This sets the frame for the institutional concept of isomorphism which goes back to the seminal work of DiMaggio and Powell. DiMaggio and Powell defined three forms of isomorphism, namely coercive (e.g. rules, laws, guidelines, etc.), normative (e.g. professionalization, networks, etc.) and mimetic (e.g. copying and orientation, etc.) isomorphism (DiMaggio and Powell, 1983).

Researchers like Kennedy and Fiss (2009) and Tolbert and Zucker (1983) conceptualize instrumental and institutional sources not as distinct and substitutive. They integrate these perspectives and assume that diffusion of organizational adaptation starts with output-based justifications and ends with justifications for meeting external expectations, which means that the spread of certain standards is related to their institutionalization (Brunsson et al., 2012; Deephouse and Suchman, 2008).

However, particularly the efficiency assumption or a resource-based view (Verbeke and Tung, 2013) only makes sense in environments with intense competition and many competitors, as in classical economics. If competition is restricted or non-existent, other sets of reasons may be relevant. Therefore, and according to Suchman (1995), we suggest a complimentary understanding of instrumental and institutional forms of legitimacy. Hence, instrumental and institutional forms of legitimacy may matter

irrespective of the temporal sequence of the diffusion process but vary depending on the organizational context. Following this complementary logic, we assume that reasons may be added and expanded as well as changed during the diffusion process depending on internal and external circumstances and contextual factors (Strang and Tuma, 1993).

For a better understanding of the reasons behind the introduction of quality management in teaching and learning in higher education and in hospitals, we formulate four main hypotheses. They are related to the timing and institutional context of hospitals and higher education institutions.

Timing: According to Tolbert and Zucker's two-stages model (1983), organizations that adopt organizational innovations earlier, tend to do so due to expected efficiency, effectiveness, or quality gains. Thus, instrumental reasons are more prominent among early adopters compared to late adopters. Late adopters are more likely to suffer from social, political, or public pressure due to the mentioned external pressures. Hence, late adopters would tend to avoid social losses (Kennedy and Fiss, 2009). They will be motivated by institutional reasons to adopt organizational innovations.

H1: The earlier organizations introduced quality management the more instrumental reasons are emphasized.

Institutional context: As an extension of the two-stages model, Kennedy and Fiss (2009) argue that technical and social motivations may be complimentary if regarded in a gain/threat framework. They assume a rational perspective that organizations may use organizational innovations to position themselves as 'market leaders' and thus gain trust and a better reputation. However, such logics may only be relevant in organizations that partake in functioning competitive markets which is rarely the case for public organizations. A comparison of different organizational fields may provide fruitful insights into this matter.

Considering the organizational characteristics, higher education institutions and hospitals reveal some important similarities. Both, for example, provide services that require a minimum level of professionalization. In hospitals, it is not necessarily the treatment – which might be very standardized as well –

but the diagnosis that requires professional knowledge. Nevertheless, hospitals have a closer coupling of techniques to reach and measure a desired outcome, which is health. In higher education institutions, research and teaching follow a similar logic. While parts of them could be harmonized or even standardized, the inner core of these services is hardly standardizable. Therefore, and this is an important difference from hospitals, the coupling between techniques and outcomes, which is education, is difficult to measure. In sum, these characteristics of organizations with a strong professional dominance but differences in technique-outcome relations may help us to further generalize regarding the ideas of isomorphism and quality management.

Regarding these differences, German higher education institutions are mainly organized as public organizations with limited competition (Mayer and Ziegele, 2009). Krücken (2019) states that competition, in these cases, is less a market mechanism relying on demand and supply but rather a social construct that imposes certain logics of appropriateness on its organizations. We argue that this further increases the level of ambiguity organizations have to deal with. Accordingly, this ambiguity will increase the likelihood of normative and mimetic isomorphism (Krücken 2019).

H2a: The less competition in the organizational field, the more institutional non-regulatory reasons, e.g. professional norms or mimesis, are emphasized by quality managers.

German Hospitals, on the other hand, have been exposed to privatization initiatives over the last two decades with the purpose of creating an increasingly functioning market. For example, over the past twenty years there have been substantial mergers in the German health sector. Hospitals even actively compete for patients, who are free to choose their preferential hospital. Added to that, Germany has the fourth-highest number of hospital beds per 1,000 inhabitants in the OECD (2019). While the hospital market is increasingly strengthened, regulating its actors become more comprehensive as can be seen in our example of quality management. In accordance with Vogel (1998), we argue that freer markets become more regularly subject to regulation. Thus, the more competition an organizational

field experiences, the more regulatory pressure is likely to be the driver for the introduction of organizational innovation.

H2b: The more competition in the organizational field, the more institutional regulatory reasons are emphasized by quality managers.

Other differences regarding the internal management structures provide another substantial contrast between the two types of organizations. Higher education institutions are well-known for their high degree of organizational autonomy and individual academic freedom, especially in Germany (Pritchard, 1998). Hence, higher education institutions' management is characterized by dual leadership encompassing management and administration on the one hand and academic self-governance on the other hand (de Boer et al., 2008). Both do not always or necessarily work hand in hand. In contrast to higher education institutions, hospitals are less autonomous but are embedded in more competitive fields (see above). Hence, their overall principles of action are much more driven by efficiency and the cost-effective provision of services and outputs. Beyond this, techniques within hospitals (such as surgery, etc.) are much more standardized than teaching and learning within higher education institutions. Furthermore and in accordance with Scott's (2008) slightly "oversimplified" distinction between "creative" and "clinical professions" as institutional agents (Scott, 2008: 227), we argue that creative professionals participate to a larger extent in shaping their "cultural-cognitive, normative or regulative frameworks", while clinical professions "apply professional principles" and adjust them in an incremental and "case-specific incremental fashion" (Scott, 2008: 228). Therefore, quality managers adjust to the institutional background and the institutional agents leading to our third hypothesis:

H2c: The more organizations are able to shape the institutional framework of their professions, the more institutional non-regulatory reasons are emphasized by quality managers.

All in all, our sector-specific considerations (for a summary of these characteristics, see Table 1 below) lead to four main assumptions. In the following sections, we aim to investigate all assumptions on timing and organizational context with an exploratory design and parsimonious descriptive statistics.

Table 1: Commonalities and Differences Between Hospitals and Higher Education Institutions

	Hospitals	Higher Education Institutions
Commonalities	<ul style="list-style-type: none"> • organizations function as professional bureaucracies • professional roles are predominant • core services are delivered autonomously • measurement of quality is difficult • existing goal conflicts (research vs. teaching and care vs. medicine) • significant management reforms • comparatively high levels of loose coupling between organizational units 	
Differences	<ul style="list-style-type: none"> • competition • dependent on revenues • dependent on holding/sponsor • techniques clear 	<ul style="list-style-type: none"> • restricted competition / no competition • dependent on state budget • high degree of autonomy • techniques unclear

Note: Differences according to Klenk and Seyfried (2016, p. 233)

Research design, methods, and dataset

The overall research design of our paper follows a mixture of comparative and statistical methods (Lijphart, 1971, 1975). This means that we aim to maximize the internal variance within the organizational fields but at the same time try to minimize the variance between the organizational fields of higher education and health. Hence, we assume that hospitals and higher education institutions may be considered as cases in a most similar cases design (Teune and Przeworski, 1970).

For both higher education institutions and hospitals, we present quantitative data collected from two nationwide online surveys. The first survey, aimed at the higher education sector, was carried out as

part of the research project [project name, anonymized for review] funded by the German Federal Ministry of Education and Research (BMBF) and was conducted between July and September 2015. The target population consisted of all quality managers in all public higher education institutions in Germany responsible for quality management at the institutional level. Based on extensive online research, an online questionnaire was sent out via e-mail to a total of 225 public higher education institutions. We reached staff units and quality management departments. The design of the questionnaire was preceded and informed by an in-depth qualitative interview study among quality managers on the structures, procedures, and staff pertaining to quality. Moreover, a pre-test was conducted to double-check the comprehensibility, unambiguousness, and completeness of questions. In total, 294 out of 639 identified quality managers responded to our questionnaire. Relative to the number of questionnaires sent out, a quite satisfactory response rate of 46% was achieved.

The second data set, covering quality management in hospitals, stemmed from an online survey in hospitals during July and September 2018. A questionnaire was also sent out to the central quality management units of hospitals. Although the overall number of responses was higher (n = 364), the calculated response rate itself was lower (18.7%) (see **Fejl! Henvisningskilde ikke fundet.** for the main characteristics of the surveys).

Table 2: Survey and Sample Description

	Hospitals	Higher Education Institutions
Variables covered	234	462
Sample	1.942	639
No. of respondents (all)	528	482
No. of respondents who completed the survey	364	294
Response rate	18.7%	46.0 %
No. of identifiable organizations	389	125
Organizational response rate	20.0%	19.6%

The two surveys were conducted with a time gap of three years, resulting in two discontinuous datasets. However, we argue that the temporal aspects of the data structure has no significant influence on the results. Firstly, the overall conceptions of quality management in higher education institutions has not undergone further significant changes since 2015. Although there are still higher education institutions who have started to introduce these management ideas, there is no re-invention of quality management and no new trend that triggers actors to introduce new elements. Instead, there has been more of a consolidation phase. Secondly, the logics we aim to investigate are not regarded as time-variant. That means that we think that the processes we observe may occur at different times in the same way. Thirdly, quality management developments in both sectors are disjointed and mutually independent. Hence, combining both datasets with similar questionnaires provides insights despite the time lag. Our respondents are quality managers in their respective organizations that provide the highest level of expertise on the practical matters inquired in our surveys.

Both surveys were in large part identical and only differed in some questions pertaining to specific differences between higher education institutions and hospitals. Regarding the introduction of quality management and the timeline of organizational reform, both surveys contained questions about the timing of initial quality management attempts, such as evaluations. This helped us to grasp the new management instruments based on specific steps. Additionally, we measured the different reasons for the introduction of quality management based on various items (see Table 4 in the appendix).

To identify early and late adopters, we used changepoint analysis (Killick and Eckley, 2014) to differentiate between the two groups. Changepoint analysis is a method widely used to examine significant changes in timeline data in various research fields, such as financial business studies, biology, or linguistics (Kulkarni et al., 2015; Nam et al., 2012; Reeves et al., 2007; Ye et al., 2012). Since we decided to split the samples into two groups, early and late adopters, we applied the AMOC (“At Most One Change”) method to both samples separately. This allowed us to find the statistically optimal change point in the means of adoption rates of quality management systems. Thus, we identified the change

points 2009 for the higher education sample and 2004 for the hospital sample. At these points, we split the samples into early and late adopters.

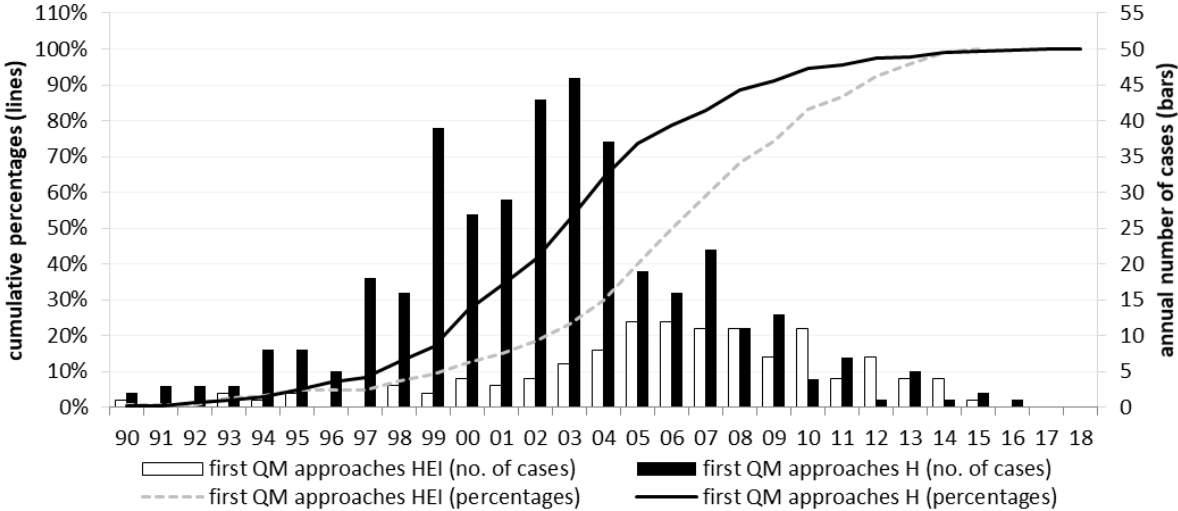
All items are based on a six-point Likert scale (1=very unimportant – 6=very important). These items cover institutional reasons (regulation, orientation towards other organizations, etc.) and instrumental reasons (quality). Since we gained several responses from quality managers of the same organization, we calculated the averages of their assessments in order to relate them to the sequence of the introduction. For this purpose, we also controlled for important events, such as the beginning of the Bologna process (1999) or the release of the European Standards and Guidelines for quality assurance (ESG 2005/2015).

Timing and reasons for the introduction of quality management in hospitals and higher education institutions

To measure the diffusion process, we display two-line diagrams for hospitals and higher education institutions (see Figure 1) in standardized (percentages) and unstandardized versions (absolute numbers). Both figures contain the years in which hospitals and higher education institutions introduced their first quality management approaches (for hospitals these were already systematic quality management approaches). A closer consideration of the diffusion curves for our sample organizations (hospitals $n = 389$ and higher education institutions $n = 125$) shows that both hospitals and higher education institutions started with the introduction of quality management nearly at the same time. Furthermore, the standardized curves (percentages) nearly run parallel. Hence, even under different conditions, such as different levels of competition or autonomy, the diffusion processes remain rather similar, indicating that these factors are seemingly not decisive for the diffusion process overall.

At the beginning of the curves, only a few organizations – in the literature often characterized as early adopters (Kennedy and Fiss, 2009) – introduced quality management approaches and concepts or systematic approaches. Later on, the growth rates accelerate, signaling that more and more organizations adopted the new procedures and structures (Kaufmann, 2008, 2009). During this time, further relevant dates for the introduction of quality management in higher education are, for example, the beginning of the Bologna Process in 1999 and the formulation of the European Guidelines for Quality Assurance ESG in 2005 and, in the health sector, the Reform of the Statutory Health Insurance in 2000 and the related directive in 2005. These events and the increased number of adopters (Jarvis, 2014) may have led to an increased acceleration in the introduction of quality management at a very early stage. Hence, even at the very beginning of the trend, various forms of institutional legitimacy were mixed together due to the legal obligations. Finally, over the years the organizational fields experienced saturation, which means that the curves flattened due to the few latecomers (Kennedy and Fiss, 2009) introducing quality management in hospitals and higher education institutions.

Figure 1: Standardized and unstandardized curves for the introduction of quality management in higher education institutions (HEI) and hospitals (H)



In a second step, we compare early and late adopters' reasons for introducing quality management in higher education teaching and learning and quality management in hospitals. This offers us both inter-sector and intra-sector perspectives. While the former allows for general comparisons between hospitals and higher education institutions, the latter provides important insights for the respective organizational fields.

To investigate quality managers' perceptions regarding the reasons for introducing quality management, we conducted two-tailed t-tests to show meaningful differences between the two groups concerning their reasons for introducing quality management in their respective organizations. The results are shown in **Fejl! Henvisningskilde ikke fundet..**

In general, the results show that quality managers from hospitals and higher education institutions gave similar assessments for reasons like regulations or quality improvement. For other reasons, such as orientation towards other organizations or professional standards, their assessments deviate. The agreement among quality managers from higher education institutions is generally higher than among quality managers from hospitals.

Furthermore, the results of **Fejl! Henvisningskilde ikke fundet.** indicate a temporal dependency of the reasons to introduce quality management in both sectors, higher education institutions and hospitals. Just as striking as the diffusion similarities in Figure 1, we see similar patterns concerning institutional and instrumental reasons. In both samples, early adopters tend to be more strongly driven by rational-instrumental motivations than late adopters. The core function of quality improvement plays a bigger role for early adopters. Conversely, institutional reasons, such as regulations or the imitation of other organizations within the field, are more important to late adopters, supporting the model proposed by Tolbert and Zucker (1983). Beyond this, we can observe the existence of both isomorphism and diffusion dynamics, occurring in parallel in both fields, as items representing coercive isomorphism and instrumental aspects are rated comparatively high. This raises questions about changing motivations

and ex post rationalizations, particularly if new regulations have been introduced, forcing early adopters to carry out further adjustments. Thus, the results support hypothesis H1.

Table 3: Reasons for early and late adopters of initial QM approaches

Reasons for QM introduction	HEI			H			p-value		
	HEI	H	p-value	HEI	p-value	H	p-value		
	<i>group means</i>			early	late	early	late		
Regulatory pressure	4.84	4.93	0.382 (-0.874)	4.95	4.60	0.058 (1.905)	4.62	5.10	0.002 (3.164)
Quality improvement	5.01	5.24	0.005 (-2.795)	5.28	4.92	0.015 (-2.459)	5.44	5.13	0.004 (-2.883)
Mimetic behavior	3.62	3.27	0.003 (2.968)	3.50	3.88	0.059 (1.902)	3.17	3.28	0.531 (0.628)
International standards	4.84	2.81	>0.001 (19.774)	4.83	4.85	0.893 (0.134)	2.54	2.86	0.060 (1.891)

Note: Results from t-tests; means reported, t-value in parentheses

Furthermore, **Fejl! Henvisningskilde ikke fundet.** shows differences between the two organizational fields concerning the underlying motivations behind QM reforms. Hypothesis H2a presumed that institutional non-regulatory reasons would be more relevant for organizational fields in which competition is considered rather as a social construct instead of a functioning market. Hence, hospitals, which have been pushed towards more competition over the past 30 years, had a significantly higher likelihood of aiming for actual quality improvements to strengthen their position within the market. Meanwhile, both mimetic (orientation towards others) as well as normative mechanisms (international standards) are more prevalent in the field of higher education. Thus, the data supports hypothesis H2a. Concerning hypothesis H2b, we expect that regulatory pressure to be more dominant in organizational fields with more competition. In a direct comparison of both fields, we see little difference in the data, although the hospital sector experienced explicit regulatory pressure, whereas higher edu-

cation institutions are mediately forced to adopt quality management measures via accreditation requirements. Yet, again in line with Tolbert and Zucker (1983), there are differences between early and late adopters and the hospital data shows that late adopters anticipate stronger regulatory pressure. However, for higher education institutions it is early adopters that were anticipating stronger regulatory pressure than late adopters. This could be explained by the ambiguity of higher education as a competitive organizational field. While early pressure was assumed due to political signals, the comprehensive professional autonomy of higher education institutions spared them from substantial regulatory requirements in the long run. Hence, our data does not support H2b. Concerning H2c, we presumed that institutional reasons would be perceived as more relevant for organizational fields with higher levels of professional autonomy. The results are mixed. While the orientation towards other players in the field plays a significantly bigger role for higher education institutions, regulatory pressure was an important driver for both fields. Thus, H2c can only partially be supported.

Overall, the data support our prior assumption that temporal aspects of reform diffusion shape the motivations underlying the adoption of new management tools. Early adopters tend to focus more on instrumental goals, such as quality improvements, while late adopters rather emphasize institutional reasons. Moreover, for the inter-organizational comparison, the results show that, particularly in the field of higher education, we observe stronger institutional reasons for reform. These results may be explained by the institutional context. The results also indicate that, in higher education, international standards are perceived as much more relevant compared to hospitals. The results underline that educational institutions have a much stronger international orientation due to exchange programs, international competition for high-profile researchers, and funding sources. Additionally, the results have implications for other domains of the public sector as well. The examined structural features cover a wide range of various public services. For example, as schools have been experiencing a similar wave of managerialization over the last decade (Deem and Brehony, 2005) and they share crucial structural features with higher education institutions (e.g. strong professions and a lack of competition). However, our data provides little insights into domains of less service-focused or profession-centered

organizations (e.g. tax administration, social security administration etc.). However, one might assume that the lack of competition makes isomorphism the sole driver of diffusion processes. Future empirical research will be needed to provide evidence for this claim.

Naturally, this study comes with several limitations. As participants have been asked to name their motivations in hindsight, we cannot rule out some level of inaccuracy. Furthermore, it is possible that by asking quality managers about the purpose of their tools, a bias for self-justifying their work and position could be introduced into our data. However, the variance in our data indicates that this may not be a systematic issue. Future research can improve our understanding by combining archival data with perceptual data to minimize this inaccuracy. Longitudinal studies could also shed some light into the time dependency of reform action motivations within organizations. Case studies combined with ethnographic approaches provide valuable insights. Furthermore, additional comparisons with other organizational fields, such as schools, industrial enterprises, or non-governmental organizations, could further increase the ecological validity of our findings.

Conclusion

In most studies, the introduction of quality management is analyzed only for single sectors. Comparative studies exist mainly within but not between organizational fields. The present paper expands our knowledge about the introduction of quality management in two different sectors, namely hospitals and higher education institutions. Except for the different levels of competition, higher education institutions and hospitals have strong similarities. We therefore aimed to answer the following research questions: How do management innovations diffuse in different areas of the public sector and how does the temporal aspect of the diffusion affect the reasons for introduction? To answer these research questions, we referred to institutional theory investigating the process of introduction and the motivations of quality managers, relying on the results of two nationwide surveys among quality managers in hospitals and higher education institutions.

Our empirical investigation yields three main results. Firstly, the process of introducing quality management is similar to the theoretical elaboration of diffusion processes described by Kennedy and Fiss (2009) and Tolbert and Zucker (1983). That means, for a longer time there were just a few pioneers who implemented initial approaches to quality management but later on the process became more dynamic and more and more organizations introduced their first approaches to quality management. During this process, new regulations, standards, etc. were developed, which underlines the particular relevance of the reasons behind the introduction of quality management. The curves, the frequency distributions, and the changes in state regulations or the introduction of international standards support the assumption of the accelerating legitimacy effect as reported in the literature. Hence, the more organizations adopt quality management, the more the new procedures are considered to be legitimate. Consequently, at the same time, the reasons become blurred due to a mixture of institutional and instrumental viewpoints.

Secondly, we uncover different dominant reasons underlying the introduction of quality management. We are able to show that these reasons are time-dependent. The dominant reasons will change depending on the point of introduction compared to the general organizational field. The results show that quality managers belonging to the group of early adopters tend to stress instrumental reasons, while quality managers from late-adopting organizations emphasize legitimizing reasons. This pattern is mostly stable irrespective of the organizational field.

Thirdly, the inter-organizational perspective showed that actors from different organizational fields feature commonalities but also differences in their perceptions of the relevant reasons for introducing quality management. For example, state regulations and the goal of quality improvement were assessed as nearly equally important. This shows that functional and instrumental justifications may be simultaneously regarded as relevant, or that there are sequences of justifications depending on the time of the introduction of quality management. Beyond this, the empirical results exhibited clear differences for other reasons. For instance, higher education perceives international standards as much more relevant compared to hospitals. This gives important hints that the reasons may be context-

dependent, which adds to the discussion around organizational fields and the differentiation between technical and institutional environments.

Besides the empirical results, our work has three important theoretical implications. Firstly, the context in which isomorphism and diffusion unfold matters even more than previously assumed. The implication of our research is that in the isomorphism and diffusion approach institutional pressures and competition among organizations are considered as exogenous explanatory variables for formal structures. While Tolbert and Zucker (1983: 35) emphasize the “critical role of history”, we suggest a focus on the wider organizational field and context for a better understanding of the instrumental and institutional mechanisms of isomorphism and diffusion respectively. Thus, institutional settings could be understood as endogenous rather than exogeneous. That shifts the attention to the question under which preconditions isomorphism and diffusion take place.

Secondly, based on our results and the results of previous research (Kennedy and Fiss, 2009; Tolbert and Zucker, 1983), the motives of organizational change reveal a specific order. Hence, we assume that the sequences of instrumental and institutional factors need to be theorized. It has for example relevant implications, if organization change their structures based on a new legislation while latecomers mimic the structures of others, or if organizations start changing their structures based on mimesis while latecomers are forced by legislation. Depending on the specific sequence, rationalities, adoption processes and organizational outcomes might differ substantially.

Thirdly, we support the conclusion of Kennedy and Fiss (2009: 914) “that logics of efficiency and legitimacy are more compatible than has been generally assumed”. Rather, based on our results, we see both perspectives as complementary (Ganghof, 2016). Hence, we suggest expanding the scope of our models on a temporal and conceptual basis. On a temporal basis, future research should examine the mid- and long-term effects of isomorphism and diffusion sequences on the development of organizational tools after they have been implemented. Combining insights from research on organizational learning could prove fruitful for our understanding of isomorphism. Conceptually, we reinforce the

integration of isomorphism and diffusion models as suggested by Tolbert and Zucker (1983) as well as Kennedy and Fiss (2009). For example, while the diffusion approach works explicitly with a temporal perspective, research applying the isomorphism approach has widely ignored this factor. From our point of view, the isomorphism approach would strongly benefit from such a temporal or even cyclical perspective.

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Appendix

Table 4: List of variables from both surveys

Variables	Items in HEI	Items in H	Scale
First QM approaches	Since when have systematic and organization-wide evaluation procedures for teaching and learning existed in your organization?	Since when have initial approaches to QM (instruments, activities, etc.) existed at your hospital?	Year
How important were the following reasons for the introduction of QM in your HEI/H?			1 = very unimportant 6 = very important
○ Coercive pressure	Regulation by the state	Regulation by the state	
○ Quality improvement	Quality improvement as a goal of the organization	Quality improvement as a goal of the organization	
○ Mimetic behavior	Orientation towards other HEIs	Orientation towards other Hs	
○ International orientation	Bologna Process	European Standards	