Chapter 5
German Higher Education Institutions as Organizations

In this chapter we also describe recent developments at the meso level of the German higher education system. However, in contrast to Chap. 4 we are not dealing with governance structures, instead we are applying selected organizational approaches to German higher education institutions in order to observe changes, but also stable patterns at these institutions. Our aim is twofold: firstly, we want to describe idiosyncratic features of German higher education institutions that become visible when we apply organizational concepts; secondly we deal with the question of whether German higher education institutions are developing towards the concept of a "complete organization", or whether there are obstacles standing in the path of such a development.

The organizational perspective is an important complement to the governance perspective when it comes to analyzing higher education institutions. However, in contrast to the governance perspective, the organizational perspective is not really useful in analyzing the regulation structure of entire higher education systems. Instead, the perspective is of particular importance in analyzing groups of higher education institutions or single institutions. Another important difference to the governance perspective is that national characteristics of higher education institutions are not paramount. Instead, the differences between higher education institutions as compared

to other social units are at the center of attention.[1] At the core of the organizational perspective is the description of common features that distinguish organizations from families or networks, for example. Thus, organizational theory attempts to describe the commonalities of all organizations, independent of their national embeddedness.

However, organizations not only manifest commonalities, they are also considerably different to each other. Organizational theory deals with this by defining organizational types. Organizations with common features are analytically summarized into a type, with the assumption that organizations of any one type share similar problems and also apply similar solutions. But after taking a closer look, it can be seen that even organizations of any one type can still be very different. This leads to the very fundamental awareness that, depending on the depth of the analysis, every organization is: (a) like all other organizations; (b) like some other organizations; (c) like no other organization.[2]

Universities, especially European universities, are very old forms of organizations whose beginnings can be traced back to the University of Bologna in the eleventh century.[3] The first universities within the borders of present day Germany were founded in 1386 (University of Heidelberg), 1388 (University of Cologne) and 1389 (University of Erfurt). For a long time, however, universities were not viewed as organizations, but as cultural institutions. The notion and concept of the university was at the forefront, less the formal organizational structures, processes, hierarchy, etc. And so it was that Jaspers (1946) wrote about the "idea of the university" (see also Schelsky 1963). Viewing universities as cultural institutions also meant that the underlying concept and ideas had to remain sufficiently diffuse and vague to be recognized as an institution.

German higher education institutions as organizations only came into systematic focus in the 1990s (e.g. Meier 2009). Higher education institutions in Germany are increasingly being observed and analyzed from the organizational perspective in

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[1]In qualifying this statement it should be noted that implicit national properties sometimes do play a role in organizational theory concepts. This is particularly the case for concepts concerned with organizations such as higher education institutions that are heavily dependent on their respective national environments. Special approaches to higher education organizations which we will be looking at later use American universities, more specifically American research universities, as a reference model. Because of this, it is to be expected that properties of these organizations are incorporated in these concepts. Especially because national characteristics are not supposed to play a role in organizational theory, it is therefore a critical question whether simply transferring these to German universities, for example, is at all possible and/or to consider what adaptations need to be made if it is. For details of specific organizational models of European universities, see Maassen and Olsen (2007) who look at both historical models as well as recent developments. A connection between changing national conditions in Europe and organizational transformations can be found in Bleiklie et al. (2017). For an instructive comparison of universities under pressure in Europe and the USA, see the contributions in Popp Berman and Paradeise (2016). For the interplay of organizational structure and teaching, learning and identities see the contributions in Leišytė and Wilkesmann (2016).

[2]See also Scott (1981, 27).

[3]A comprehensive appraisal of the history and development of universities can be found in de Ridder-Symoens (1992, 1996) and Rüegg (2004, 2011).

the light of the NPM reforms. This is also a result of the shift in society's perspective with regard to higher education institutions: over time, the social environment has begun to view them less as cultural institutions and much more as "normal" service organizations (e.g. Braun and Merrien 1999).

In this chapter, we start by presenting a general model of organizations and applying it to higher education institutions, particularly German higher education institutions. Afterwards, we use concepts of organizational neo-institutionalism to discuss some possible research questions when using this theory. We do this by briefly presenting selected studies on German higher education institutions that use concepts of organizational neo-institutionalism. Our next step is to deal with specific organizational approaches to describe and analyze higher education institutions. We describe the three most frequently used approaches: firstly, higher education institutions as loosely coupled systems (Weick 1976; Orton and Weick 1990); secondly, higher education institutions as professional organizations (e.g. Mintzberg 1983); and thirdly, higher education institutions as organized anarchies which also includes the garbage can model of decision-making (Cohen et al. 1972). All three approaches highlight how higher education institutions deviate from a rational, bureaucratic organizational model.

We will be applying all three approaches in two respects to German higher education institutions. First of all, we will be using the three perspectives to describe key deviations found in German higher education institutions compared to higher education institutions in other countries. For each perspective we will be focusing on a central aspect that is particularly relevant to the respective perspective. With respect to loose coupling, we examine the German chair system; for the professional organization, the constitutional protection of professors at German higher education institutions; and regarding the organized anarchy perspective in the form of the garbage can model, overlaps in decision-making principles that have developed historically from the university of professors (*Ordinarienuniversität*), the group university (*Gruppenuniversität*) and the managerial university.

Our second application of the three organizational perspectives to German higher education institutions is to appraise some recent reforms in Germany from each perspective. Our question here is: What becomes visible when the reforms are seen from the perspective of loose coupling, the professional organization and organized anarchies?

At the end of this chapter in our discussion of higher education institutions as "complete organizations", we will be examining on the one hand how important deviations between universities and other types of organizations are, and, on the other hand, how important are the deviations between German higher education institutions and higher education institutions in other countries based on the multiple NPM reforms.

5.1 General Organization Theory

Modern societies are societies of organizations (e.g. Perrow 1991; Schimank 2001b; Bromley and Meyer 2015). Organizations can be found in virtually all parts of society and have a considerable impact on the way people live together. On the one hand, organizations are a "mechanism by which, in a highly differentiated society, it is possible to 'get things done', to achieve goals beyond the reach of the individual" (Parsons 1960, 41), on the other hand, they also lead to an ever-greater rationalization of various aspects of life, which Habermas (1989), for example, critically views as a "lifeworld colonization".

However, this permeation of society by organizations is not a constant feature of societal development. It is, instead, a phenomenon that begins with the establishment of nation states and the accompanying need to administer them, arrives in the economic system through industrialization and then gradually extends to nearly all other societal areas (Türk et al. 2006). Organizations spread through a "dynamic of reactive formation" (Schimank 2001b, 284). In other words, as soon as organizations are established in an area of society this leads to interests being better asserted, to more economic success, to better control, better offerings. Then, other individuals or social units will also form an organization, to get the same benefits. Consequently, setting up an organization often leads to other organizations being formed.

Despite all the differences, macrosociological approaches since Max Weber have converged in viewing the particular efficiency of organizations as expressing the fundamental characteristics of the modern society. This is especially true with regard to the division of labor, differentiation, decision-making contingencies, instrumental rationality and a focus on progress (Coleman 1973, 2000; Luhmann 1997, 826–847; Krücken and Drori 2009).

The study of organizations and their impact on societies in a systematic way started in the 1940s and 1950s. Although there had already been isolated studies of organizations prior to this (e.g. Michels 1915 [1911]; Taylor 1911; Fayol 1916; Weber 1976 [1922]; Barnard 1938), the "big bang" of organizational research was the English translation of Max Weber's concept of bureaucracy in 1947. Weber's description of bureaucracy inspired a series of American researchers to conduct their own empirical work, which then led to the field of organizational research being established (e.g. Scott and Davis 2007, 9).

5.1.1 Organizations and Their Elements

Essentially, organization theory deals with intentionally created, stable social units that are based on voluntary membership. Organizations pursue certain goals, or at least claim to pursue them, and have a more or less formal structure that enables members' actions to be coordinated toward the achievement of these goals. In a

Fig. 5.1 Elements of organizations based on Scott Authors' illustration based on Scott (1981, 13)
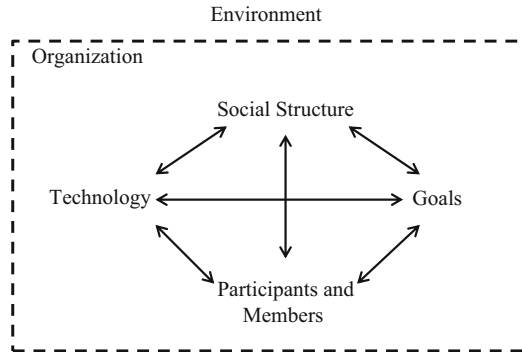
simplified way, organizations can initially be seen as a pool of resources to which members contribute some of their resources—such as labor or money—to achieve goals that individuals cannot achieve alone (Kieser and Walgenbach 2010, 2–4; Coleman 2000, 448–450).

In principle, organizations can be viewed analytically in two distinct ways: firstly, as corporative actors, and secondly as social systems. In the former, organizations are viewed holistically and the focus is on the connections and interactions to other organizations, social units, or whole societies. In our everyday lives, we assume that organizations can act, and thus are actors. This everyday assumption is not self-evident, but has emerged over time (Coleman 1973, 2000, 325–370; Bromley and Meyer 2015, 125–128). When analyzing organizations as social systems, the focus is instead on internal structures, interactions, member groups, working and decision-making processes, etc. (Scott 1981, 10–11; Coleman 2000, 421–450).

Organizations are complex structures, comprising a multitude of elements that interact with each other. These elements could include formal structures, behavior, technologies, functions, responsibilities, motives and many more. To give some order to this initially chaotic complexity and to simplify our analysis of organizations, we will draw on a simple model from Scott (1981, 13–19).[4] This model can be seen in Fig. 5.1.

Scott's model distinguishes five elements of organizations: social structure, participants and members, goals, technology and environment. Each of these elements are described briefly below before we examine how they apply to higher education institutions.

Social Structure
Social structure concerns relations between members of an organization. We can distinguish between the normative and the behavioral structure of an organization.

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[4]See also Leavitt (1965).

Normative structure refers to values, norms and the expectations of roles within an organization, whereas behavioral structure highlights actual or de facto behavior in the organization. It should be emphasized that "[t]he normative structure and the behavioral structure of a social group are neither independent nor identical, but are, to varying degrees, interrelated" (Scott 1981, 14).

An important feature of organizations is that parts of their normative structures are formalized. Formalized expectations are independent of individual members of the organization and signal importance for their actual behavior. In addition, informal expectations also always exist among members and these structure behavior as well. While organizational research initially focused primarily on formal structures and formal patterns of behavior, later research was much more interested in informal structures and the interplay of formal and informal structures.[5] The de facto behavior of members in organizations arises through the interplay of formal and informal expectations. It is also possible to observe behavior that cuts through both types of behavioral norms.

An example of this from higher education institutions in Germany refers to the actual behavior of presidents and deans following the NPM reforms described above. The NPM reforms changed some formal decision-making structures and presidents have received greater formal decision-making authority compared to academic self-organization bodies, especially the academic senate. However, this new formal structure is usually far from being fully exploited. Actual decision-making behavior is dominated by consensus and discourse in which members of the academic-self organization bodies still play a central role. One explanation for this is the informal expectation of academics that they should be involved in decision-making processes. Here we can see the influence of the informal structure on the formal structure with regard to actual behavior.

Participants and Members

The second element of organizations are their participants and members. Whereas prevalent concepts only consider members as the decisive category in organizational research (e.g. Luhmann 1964), Scott extends this to include participants. Participants are all people who contribute to goals being achieved or to the continued existence of the organization. These can include customers, employees, stockholders, suppliers, for instance. These examples show that the contribution made by participants can vary enormously. The same applies to the amount of time invested by participants.

In contrast to participants, members of an organization—as a key subgroup of participants—are usually a more homogeneous group. Members usually join the organization voluntarily, receiving and accepting formally defined rights and duties (Luhmann 1964).

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[5]See for example the so-called Hawthorne experiments (e.g. Roethlisberger and Dickson 1939).

For higher education institutions, it is important to distinguish between employees and "input members" (Müller-Jentsch 2003, 27) within the group of members. Employees follow organizational goals directly and usually have a contract of employment that defines rights and duties. They receive remuneration for their work. For higher education institutions, this includes academics and administration staff.

For the organization, input members on the other hand are "input to be processed" (Müller-Jentsch 2003, 27). In contrast to customers they tend to stay for longer periods of time and their behavior in the organization is much more regulated. Input members usually also go through a formal act of joining, which defines their rights and duties. It should be clear that input members of higher education institutions are the students who join the organization through the formal act of matriculation.

It is important to note that individuals are usually both participants and members of various organizations. In most organizations there is no total inclusion, only a partial inclusion.[6] This means that only some aspects of the whole behavior of academics and students are seen as specific to the organization. Membership and participation in a specific organization is thus mostly restricted socially, and in terms of purpose and time.[7]

Goals
Earlier, we indicated that organizations either pursue certain goals, or claim to pursue them. For a long time, organization theory assumed that a significant proportion of organizational behavior, or behavior in the organization, was connected to the respective goal(s) of the organization. This is why we find goals as a key category in most definitions of organizations. However, in more recent approaches, the connection between organizational goals and actions is seen to be more loosely coupled. We cannot, and do not wish to, decide on this discussion here. Instead, we simply point out that there is not always a tight coupling of organizational behavior, or behavior in the organization, and goals pursued officially (e.g. Brunsson 1989).

Most organizations do not pursue just one goal, but several. Most of the time these can be divided into primary and secondary goals. Primary goals of higher education institutions are research and teaching; secondary goals include equal opportunities for women, the integration of socially disadvantaged groups, the transfer of knowledge, etc. We therefore agree with Schimank when he states that higher education institutions are "general stores" (Schimank 2001a) that pursue a wide range of goals.

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[6]Bearing in mind Max Weber's pure type of legal domination/authority as a bureaucratic administrative unit, in these organizations there is an inextricable separation of office and person.

[7]Exceptions to this are the input members of "total institutions" observed by Goffman (1961), such as prisons, monasteries and also secure psychiatric clinics.

It is typical for organizational goals to be in conflict, at least latently. For example, investing time in research leaves less time for teaching, and vice versa.

Not only are conflicting goals at organizational level relevant, we also find conflicting goals between individual members and the organization. This leads us to the question of who sets the goal(s) of the organization. Generally speaking, goals are negotiated in the "dominant coalition". This comprises all groups whose interests are to be taken into account (Cyert and March 1992 [1963], 30–51). Both internal and external groups can make up the dominant coalition. The composition of dominant coalitions varies from organization to organization and is to be determined empirically. For German higher education institutions we can assume that the various status groups (professors, non-professorial academic staff, students, administrative staff) but also external authorities such as political parties or economic interest groups (for example unions, employers' associations) play a key role in the dominant coalition.

Technology

Alongside the social structure, the participants and members, and the goals, the technology of an organization is the fourth internal element. Technology is to be understood in a very broad sense, not just in terms of machines or material equipment. In this general meaning, technology refers to the way in which a product is manufactured, to how people (remember the input members) are "processed" etc. It is about the "mechanism for transforming inputs into outputs" (Scott 1981, 17) within the organization. In higher education institutions this is a lecture, for example, and the social and material technology used to convey knowledge, but also a laboratory with all its apparatus, measuring devices and so on in which research is conducted.

We wish to emphasize that each organization has technologies at its disposal, but that there are considerable difference in the extent to whether these technologies are understood, controlled, routinized, efficient and effective. While, as a rule, the functioning of machines in a factory is understood and controlled, and contributes to routine, efficient and effective production, the same cannot be said of the technologies of higher education institutions. There is no guarantee—neither in research, nor in teaching—that the technologies used, i.e., the way of producing output from input, will be understood and controlled. Routine in both research and teaching is not exactly expedient, and whether research and teaching are efficient and effective can hardly be judged—at least not in the short term.[8] We will be returning to this point in our observations on higher education institutions as organized anarchies.

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[8]For further details of the resulting challenges for science and higher education management see Krücken (2008).

Environment

The environment is Scott's final element of organizations. The environment comprises the external, technological, cultural and social conditions of an organization. To ensure their continued existence, organizations have to adapt to this environment. The elements discussed thus far reflect the dependency, or the close dovetailing, of organizations and environment. For example, expectations within the organization—as an important element of the social structure—are made possible, and even restricted, primarily by expectations outside of the organization. The goals of an organization are also co-determined by its social and cultural environment. Society, or at least its relevant parts, determines what is regarded as a goal and what type of support an organization can receive to pursue the goal.

If we apply this to German higher education institutions, it is clear that their goals are not in the main determined within the organization, but by politics and the scientific community as the "environment" of higher education institutions. The conversion to bachelor and master degrees was decided at European level and then imposed on higher education institutions. Even the social structure of higher education institutions is partly determined by instances—in the form of higher education acts, for example—located outside of the organizations themselves. On the other hand, the behavior of academics is largely characterized by standards and values inherent to their discipline or the scientific community. Accordingly, key values and behavioral norms are based on the overarching scientific system with its community structures and thus also stem from the environment of the organization.

We can conclude that organizations are systems that consist of various elements that are connected to each other, interact and thus elicit various effects. Higher education institutions as organizations can only be understood when the effects of the interaction between these elements are taken into account. Consequently, higher education institutions as organizations can not only develop through goals, or members, or social structure: the relations between these elements also need to be taken into consideration. As Scott states: "We will miss the essence of organization if we insist on focusing on any single feature to the exclusion of all others" (Scott 1981, 19).

5.1.2   Neo-Institutionalist Organization Theory and Its Application to German Higher Education Institutions

Just describing the elements of an organization reveals the fundamental complexity of the subject matter of organization theory. It is therefore no surprise that there is a multitude of organizational theories. Each focuses on specific properties and patterns of relationships and is not necessarily capable of capturing the whole picture of an organization. Which theory is to be used depends on the nature of the research and the knowledge to be gained.

Given the scope of this book, we cannot deal with the profusion of organizational theories. Instead, we refer to the excellent depictions of Scott and Davis (2007) and Perrow (1993), and for the German context to Kieser and Ebers (2006), Preisendörfer (2011) and Kühl (2011).

However, in our deliberations below we will present one general organizational theory and possible applications to higher education institutions. We have chosen the theory of organizational neo-institutionalism, one of the most important and popular approaches to research on organizations. This applies both to organizational theory in general (Davis 2006) as well as to research on higher education research organizations (Krücken and Röbken 2009). We apply the theory by discussing selected studies that have used this theory to analyze German higher education institutions.[9]

If we take Scott's model described above in which he distinguishes five core elements of organizations, the main focus for neo-institutionalism is on the relation between organizations and their environment. The theory also highlights the difference between formal structures and actual behavior as part of the social structure of organizations. The basic assumption of neo-institutionalism is at first remarkably simple: the behavior of organizations is largely characterized by their striving for environmental legitimation. This orientation towards the criterion of legitimation emphasizes the fact that organizations are embedded in society. Therefore, the traditional decision-making criteria for organizational behavior such as efficiency or micro-politics are contested. Building on this basic assumption, a dynamic research program has emerged that analyzes the conditions of social legitimation of organizations and uses this to try to explain organizational behavior.[10]

The approach is called "neo-institutionalism" because it shares the fundamental assumption of institutional theory that individual and collective actions can only be explained through authoritative guidelines for social behavior—institutions. Institutions can be both formal and informal in nature. Depending on the degree of formalization, they either lean more in the direction of legal standards (such as prohibitions) or general social conventions (shaking hands when meeting someone). However, regardless of the degree of formalization, it is assumed that institutions are known and that they promote certain types of behavior.

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[9]We would also like to point out that in recent years other general organization theories have been applied and have contributed to new and interesting insights into German higher education institutions. The resource dependence theory is just one of these (Pfeffer and Salancik 1978). Nienhüser (2012) has used the resource dependence theory to explain the composition of higher education boards of governors in Germany, and Larmann (2013) has used the approach to analyze the situation regarding small higher education institutions in structurally weak locations. More recent international contributions applying organizational theory to higher education institutions include Fumasoli and Stensaker (2013), Popp Berman and Paradeise (2016) and some chapters in Bleiklie et al. (2017).

[10]Greenwood et al. (2017) provide a comprehensive review of the theory. A current overview of theoretical developments and empirical applications in Europe can be found in Krücken et al. (2017).

Accordingly, institutions can be defined as social structures of expectation that determine what is reasonable action and decision-making.

The main difference to traditional institutional theory is the point of reference: in traditional institutional theory the premise is that institutions guide individual behavior; in neo-institutional theory the argument is that institutions guide organizational behavior. On the one hand, this reflects the point that neo-institutionalism is embedded in the wider context of interdisciplinary organizational research (Walgenbach and Meyer 2007; Greenwood et al. 2017). On the other hand, there is a systematic argument for this different starting point for the theory: historically, an ever-greater capacity for social action is being generated by and in organizations. The issue here is that modern societies are societies of organizations.

However, from the perspective of neo-institutional organizational theory this does not mean that organizations have become independent variables of societal development. Quite the opposite: organizational behavior and decision-making are not the result of autonomous choice. In fact, they would be inconceivable without recourse to their social environment and the predominating rules. In this sense, organizations—and equally individuals in traditional institutional theory—are rather "dependent variables" of the society and the institutions that surrounds them. These rather simple basic assumptions are to be found in two classical texts: Meyer and Rowan (1977) and DiMaggio and Powell (1983).

The starting point for Meyer and Rowan (1977) is a question that follows on from Max Weber, asking why organizations form formal-rational structures—such as defining responsibilities and channels of communication, or bookkeeping and filing. The neo-institutional answer is that organizations do not do this to structure their internal action and decision-making processes as effectively and efficiently as possible. Instead, they follow socially institutionalized expectations. They do so to gain or to maintain legitimacy in their social environment. Therefore, formal structures in organizations—such as Weber's insignia of bureaucracy mentioned above as well as modern concepts of management—are primarily directed outwards.

Organizations have to meet societal expectations of rationality—described by Meyer and Rowan as "myths"—to guarantee their survival. However, this conformity with expectations can primarily be found at the level of formal structure. Whether the conformity can also be found at the level of actual behavior of and in organizations is a completely different question. Meyer and Rowan assume that it is quite common for formal structures and actual behavior to be decoupled or only loosely coupled. We are thus dealing with two levels of organizational reality. While at the level of formal structures it is possible to quickly and almost ritually adapt to environmental expectations, at the level of actual behavior it is "business as usual".

The Meyer and Rowan approach was used to analyze technology transfer offices at German universities (Krücken 2003). The study was based on semi-structured interviews, statistical data and the analysis of text documents. It was shown that technology transfer offices only play a minor role in the actual transfer activities of universities and academics.

Transfer offices were set up in the 1980s at German higher education institutions nationwide. They are specialized organizational units aimed at accelerating the transfer of knowledge and technology between higher education institutions and corporations. However, in the state in question, transfer offices were not established as an attempt by higher education institutions to improve the transfer process themselves. Instead, the stimulus clearly came from the environment, in particular from the state's ministry of science. It was the ministry that wanted and expected more transfer activities from higher education institutions. In line with the arguments advanced by Meyer and Rowan, higher education institutions reacted in a certain way: they established visible formal structures, namely organizational transfer units. At the level of actual behavior, "business as usual" continued in two respects. Firstly, university leaders did not give any indication that transfer activities were more important than before. The "third academic mission" associated with transfer activities remained relatively insignificant compared to the traditional missions of research and teaching. Secondly, the large number of transfer-oriented academics in applied natural sciences and engineering usually ignored the transfer offices. Instead, they continued to rely on their personal relationships to companies. As such, this formal structure known as "transfer office" protected university leaders' low level of interest in transfer activities and the actual transfer activities of transfer-oriented academics from external observation and monitoring.

Although some of the study's findings have changed over time, particularly in terms of the interest shown by university leaders, the bulk of transfer activities at German universities are still not conducted through transfer units (Kloke and Krücken 2010).

The study clearly shows that expectations emanating from the environment of higher education organizations do not have an unfiltered effect on actual behavior in higher education institutions. Formal structures such as transfer offices represent an important buffer for higher education institutions. They provide the means to react to constantly increasing environmental expectations without directly changing actual behavior.

It can be assumed that such processes also take place when implementing other expectations placed on higher education institutions. Using Meyer and Rowan's (1977) terms, it is possible to see calls for "diversity", the "entrepreneurial university" and "gender equality" as institutionalized myths in the social environment of higher education institutions. Meeting these expectations is highly crucial for environmental legitimation. However, one has to reckon with the possibility that only formal structures will change and that, at the level of actual behavior, business will continue as usual.

Meyer and Rowan (1977) have established a clearly society-oriented perspective on organizations. With regards to organizational theory, DiMaggio and Powell (1983) have added important deeper insights to the neo-institutional theory. Firstly, they provide further clarification regarding the concept of social environment. Secondly, they added some missing details concerning the mechanisms that lead organizations to adapt to environmental expectations.

DiMaggio and Powell replaced the somewhat fuzzy concept of social environment with the much clearer concept of organizational fields.[11] The basic idea is that every organization is part of an organizational field and that the organizational field is the relevant social environment for an organization. Organizational fields are a "collection of diverse, interdependent organizations that participate in a common meaning system" (Scott 2014, 106). For example, the organizational field of a business organization comprises competing companies, suppliers and political/regulatory instances. Therefore, the field concept provides some important clarifications. Firstly, the relevant social environment of organizations is other organizations. Secondly, organizations that form an organizational field are connected. Thirdly, organizational fields have a common meaning system. Another clarification is not so obvious but also important: the relevant social environment for an organization is defined by the organization. The concept of organizational fields makes it clear that not all expectations held by the environment for an organization have an impact on the organization. Only expectations that are part of the organizational field have.

In the DiMaggio and Powell paper, the concept of organizational fields is then combined with an empirical observation: over time the formal structure of organizations in an organizational field becomes more and more similar. One part of the explanation for this process of "institutional isomorphism" is provided by Meyer and Rowan: Organizations in one field face the same expectations from their relevant social environment and react to them by establishing formal structures. However, the answer to the question why the organizations establish similar formal structures which leads to the process of "institutional isomorphism" is an open one. In their paper, DiMaggio and Powell identified three mechanisms that explain "institutional isomorphism": the coercive, the mimetic and the normative mechanisms.

Coercive isomorphism describes homogenizing processes based on "formal and informal pressures exerted on organizations" (DiMaggio and Powell 1983, p. 150). There are a wide range of organizational formal structures that are necessary by law: the governance bodies in different legal forms of companies, the requirement to keep accounts imposed by taxation law or the need for insurance protection required by liability law. These are traditional aspects of organizational legislation. However, there are other, more recent, developments that accelerate isomorphism by law. In particular this includes anti-discrimination laws with regard to gender, minorities or sexual orientation. A widespread reaction of organizations is to establish organizational units to deal with this expectation.

Homogenization by means of mimetic processes occurs because an organization mimics structures and processes of another organization which is perceived as successful or better adapted to its institutional environment. The probability of mimetic homogenization processes increases in organizations firstly when other

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[11]For an extension and application of that concept in relation to European universities see Hüther and Krücken (2016).

organizations are perceived as superior or more successful; and secondly "when goals are ambiguous, or when the environment creates symbolic uncertainty" (DiMaggio and Powell 1983, p. 151). Particularly successful and legitimate models quickly diffuse within and across organizational fields and serve as a blueprint for organizations in the field, basically effectuating their convergence.

Normative pressure is the third mechanism to generate isomorphism. Here, supra-organizational professionalization processes lead to increasing homogenization among organizations. If the organizations in a field draw on members of a profession in a certain area, then homogenization occurs in this area because the professionals "tend to view problems in a similar fashion, see the same policies, procedures and structures as normatively sanctioned and legitimated, and approach decisions in much the same way" (DiMaggio and Powell 1983, p. 153).

The DiMaggio and Powell approach was used to analyze the driving forces behind, and the dynamics of, the early stages of the conversion to bachelor/master degrees in Germany (Krücken 2007). The speedy conversion to bachelor/master programs is a striking example how the coercive, mimetic and normative mechanisms work in an organizational field.

This study deployed a combination of semi-structured interviews, statistical data and the analysis of text documents. The findings showed that only a few of the higher education institutions studied set up bachelor/master degree programs from the bottom up. Rather, many different interview partners stated that coercive pressure from the state played the key role in the conversion process. Mimetic processes were also important: on the one hand, for the direct coordination between higher education institutions in specific regional settings; on the other, observation and mimetic processes can be seen at the level of disciplines. At this level there was a strong orientation towards trendsetters. Normative pressure was also important and was exercised by the newly-created accreditation agencies. However, this pressure was not seen as an alternative but as a supplement to the coercive pressure from the state.

Both example studies presented (transfer offices, bachelor/master conversion) show how strongly the German higher education system and its higher education organizations are still characterized by the state as the key actor in the environment. Other conceivable environments, such as business companies when setting up transfer offices, or potential students when converting to bachelor/master programs only play a minor role. Most neo-institutional studies that work with the concept of DiMaggio and Powell (1983) emphasize the particular significance of mimetic processes between organizations (e.g. Mizruchi and Fein 1999). In contrast, in the organizational field of German higher education institutions it is the coercive mechanism via direct state regulation that is of central importance.

Our two examples highlighting the relevance of the neo-institutionalist perspective for the analysis of recent developments at German higher education institutions referred to the early stages of institutionalization processes. However, it is also important to take a long-term perspective of such processes. An example of this is a study by Blümel (2015, 2016) on changes to the position of chancellor at German higher education institutions.

The theoretical starting point of the study is the concept of "institutional logics". This concept arose from criticism within neo-institutionalism of the two fundamental works sketched out above. Key concepts such as "institutional entrepreneur" (Hardy and Maguire 2008), "institutional work" (Lawrence et al. 2009) and not least "institutional logic" (Thornton and Ocasio 2008) emphasize that organizations can also influence their environment and that environmental expectations are very heterogeneous and contradictory. All these concepts point to strategic choices of organizations with regard to environmental expectations, while rejecting a model that purely advocates adaptation (see for example the contributions in Greenwood et al. 2017; Krücken et al. 2017).

Based on a variety of sources (higher education acts, job descriptions, quantitative surveys, résumés), Blümel shows that there is transition from an academic-bureaucratic "administrative logic" to a post-bureaucratic "management logic" on the part of chancellors at German higher education institutions. The transition is closely intertwined with the new public management reforms. As a result of the NPM reforms, a primarily managerial role emerges in which the importance of organizational success and efficiency are crucial, rather than the traditional orientation towards legal rules. However, given the long-term nature of the analysis and the diversity of the sources used, Blümel (2015) shows a very differentiated picture. What initially appears to be a paradigm shift in which one logic is replaced by another, proves to be much more complex. His historical-sociological study shows that there is very often a coexistence of both institutional logics with a variety of ambivalent effects.[12]

5.2 Specific Organization Theories Relating to Higher Education Institutions

So far, our description of general organization theories has concentrated on the commonalities of different organizations. The aim was to illustrate some fundamental concepts of theories of organizations and their relevance for higher education institutions in Germany. However, with regard to higher education institutions, we also find approaches in organization research that focus more strongly on the peculiarities of the higher education institution as an organization and which thus highlight differences to other organizations.

In order to capture the peculiarities of higher education institutions as organizations, traditionally three specific approaches are applied: higher education institutions as loosely coupled systems, higher education institutions as professional organizations and higher education institutions as organized anarchies. All three

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[12]On the tensions between different institutional logics in universities see also the contributions in Frost et al. (2016).

approaches draw attention to key differences between higher education institutions and the model of the formal-bureaucratic organization in the sense of Max Weber's bureaucracy model (Weber 1976 [1922]).

Weber's bureaucracy model describes organizations as social units that are particularly dominated by formal rules. The formal rules determine, for example, how tasks have to be fulfilled, who has to fulfill which tasks and who can give whom instructions, or who can control whose work. In Weber's model, all these formal rules lead to a rational and functional coordination within the organization and ensure that organizational goals are achieved as efficiently as possible.

The loose coupling approach, the description of professional organizations and the organized anarchy approach show, however, that descriptions of "organizations as rational systems" (Scott and Davis 2007, 35) hardly apply to higher education institutions. In order to capture the peculiarities of higher education institutions as organizations, we describe the three approaches and apply them to the German system.

Whereas loose coupling, professional organizations and organized anarchy emphasize that higher education institutions are specific organizations, more recent publications put this in a new perspective. This new perspective is basically associated with the international NPM reforms in higher education since the early 1980s and is currently discussed under the heading of the construction of complete organizations. The final section of this chapter is dedicated to this latest approach and to the question of how specific the German higher education institutions still are in the wake of the multiple reforms during the last two decades.

5.2.1   Higher Education Institutions As Loosely Coupled Organizations

While organization research usually uses and/or focuses on one or several of Scott's elements of organizations as its starting point, this is not the case with the loose coupling approach. Instead, the focus here is on the nature of the connection between the elements of an organization. Whereas the relations between the elements in Scott's model are indicated by arrows, thus implicitly establishing connections, Weick (1976) subjects these implicit assumptions to much more rigorous observation.

Based on the preparatory work by Thompson (1967) and Glassman (1973), Weick (1976) drafted what at that time was a new picture of the organization. The main focus was on the fact that elements of organizations are not always tightly connected and that this loose coupling could be advantageous for organizations.[13]

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[13]As part of the neo-institutional organization theory presented above, we saw an example of the decoupling of formal structures and activity structures. This decoupling is advantageous because it secures and/or generates legitimacy for the organization and prevents the potentially negative impact of expectations arising from the environment on operational processes.

Weick did not discover the notion of loose coupling between elements of an organization. This has also played a role in other theories. However, these loose couplings were largely viewed as irrational, or dysfunctional for organizations.

The new picture of loosely coupled organizations is an alternative draft to a picture of the organization viewed as a rational and functional structure with fixed and continuous relations between elements of the organization based on Weber's concept of bureaucracy. Although Weick states that there are parts in organizations that correspond to the bureaucratic-rational system, other parts of the organization have not been sufficiently well described by the bureaucratic organizational concept. In addition, the relation of tight and loose couplings varies between organizations. To illustrate his point, Weick argues that educational organizations such as schools and higher education institutions are characterized by a high number of loose couplings, yet still manifest a high degree of stability and legitimacy.

How can one identify whether an element is, or which elements are, loosely or tightly coupled? Couplings represent fundamental relations between elements, structures or processes within organizations. If elements or structures are in a relation to each other, Weick applies the nature of this relationship and/or the mechanism that establishes the connection. The three mechanisms that facilitate a tight coupling according to Weick are technical core of the organization, authority of office and control.

Technical Core of the Organization
According to Weick, this coupling mechanism connects elements within an organization to each other through their function and/or their functional interdependencies (Weick 1976, 4). Only through this tight coupling of elements can the main function—one could also say the primary goal—of the organization be achieved.

Higher education institutions, however, rarely manifest tight couplings in relation to functions being fulfilled. Through Clark (1983, 14), these loose couplings at higher education institutions can be explained by the fact that in higher education academic specialization has led to a gathering of a multitude of disciplines and subjects, and that these disciplines and subjects autonomously process knowledge. In this sense, higher education institutions do not have a primary goal that forces the different units to work together. Thus, research and teaching in history is independent of research and teaching in physics. In view of the pursuit of organizational goals of research and teaching, both areas are not dependent on each other, but are loosely coupled. Moreover, within a department or a discipline, the core functions of research and teaching are only loosely coupled. Knowledge relevant in the research process is much more advanced and open-ended than knowledge conveyed in teaching. This loose coupling of function ultimately emerges from the fact that the raw material of higher education institutions is highly-specialized knowledge.

Authority of Office

With this coupling mechanism, elements are connected to each other by a hierarchical superordination and subordination (Weick 1976, 4). Here too, we find fewer tight couplings in higher education institutions compared to other organizations. Normally, professors enjoy a great deal of autonomy in their work, and hierarchical instructions from presidents or deans are extremely rare. In particular, professors are free to choose their research areas and the methods applied to generate new knowledge. Ultimately, the loose coupling in the structure of authority can also be explained by the processes of working with specialized knowledge. From this perspective, dealings, or work, with specialist knowledge is overtaxing for superordinate positions. Although superordinates are capable of making decisions, they often do not have the specialist knowledge—there is an information deficit—and decisions run the risk of missing their objective. In such situations, organizations tend to delegate authority downwards and allow decisions to be made where there is the necessary knowledge. We are aware of this circumstance as an information problem in hierarchical coordination (see Chap. 3).

Control

A coupling mechanism connected with "authority of office" is control. If controls occur between elements in an organization, tight couplings will be established. With regard to control, two areas are particularly interesting for Weick (Weick 1976, 11): firstly "inspection" (how well is the work done?) and secondly "certification" (who does the work?). Thus, controls can refer to the quality of work or access to certain positions.

In higher education institutions there are only weak inspection controls in respect of professors. Besides aspects of power and status, this is because it is difficult to control dealings with specialized knowledge when the controller him/herself does not have this knowledge. In other words, dealing with specialist knowledge within higher education institutions also strengthens the control problem inherent in hierarchical coordination (see Chap. 3).

In contrast, control mechanisms for access, defining functions and the respective rights of the higher education members are being emphasized (Weick 1976, 11–12) as can clearly be seen by the cumbersome procedures for appointing professors (Musselin 2010). Such procedures are justified by the weak coupling within higher education institutions in terms of the function, the structure of authority and the monitoring of the inspection. Here, the organization is attempting to elicit some kind of compensation through complex access and recruitment procedures.

Overall, we can conclude that coupling mechanisms typical of bureaucratic-rational organizations are only of minor significance for higher education institutions. Nonetheless, these are still stable organizations. This stability cannot be explained from the perspective of the formal-bureaucratic organizational model because loose couplings are viewed as problematic when it comes to achieving goals. This

stability can therefore only be explained by the fact that loose couplings have benefits for an organization that have not been observed in the traditional formal bureaucratic model (Weick 1976, 4).

According to Weick, one of these benefits is that it is possible for loosely coupled units to adapt to changing environmental conditions in a variety of ways without this affecting the whole organization. Many smaller and speedier adaptations can take place in loosely coupled organizations. This is only possible because they do not have any direct impact on the other units that are loosely coupled with this unit. This facilitates a multitude of local innovations, such as in teaching, because experimenting with new forms of teaching/learning frequently only affects a subject or just a particular course. Related to this is the fact that should an adaptation in a unit prove dysfunctional, it will not spread to the whole organization. Shoddy teaching and/or research in physics will not have an impact on sociology, and vice versa.

Another benefit of loosely coupled organizations refers to the greater satisfaction of members. This can arise through fewer controls and the greater latitude for decision-making that usually accompanies this situation. In addition, the increased readiness of members to identify with the organization is not only a benefit in itself, it can also lead to greater stability for the organization (for a systematic analysis of other possible benefits see Orton and Weick 1990).

We apply the loose coupling approach to the German system in two respects. Firstly, we will be asking whether there are systemic differences between German and other higher education institutions in relation to the coupling of elements, and secondly how the approach can be used to analytically assess the more recent reforms in Germany.

In comparison to a range of other organizations, higher education institutions exhibit a greater proportion of loose couplings. Nevertheless, even between higher education institutions we can find considerable differences in relation to the proportion of loose couplings and in relation to the elements that are loosely coupled. A key difference between the German and the American system, for example, is that chairs in Germany—as has been the case for more than a 100 years—are the most important decentralized unit at universities. By way of contrast, the department is the most important decentralized unit at universities in the American system and in a range of other countries. In Germany, therefore, the center of power at universities is found at the level of chairs, and chairholders (full professors) enjoy a broad range of privileges and resources of power. This also includes the fact that departments are not units that exercise "vertical control", but are merely "a source of horizontal linkage" (Neave and Rhoades 1987, 215). This is also clear because deans are elected by the individual professors and hardly have any power over the individual chairholders (Hüther 2008). Unlike in American universities with a department system, in Germany, with its chair system, we find a much looser coupling between the professors in a department, but also between the department and the individual professors.

There is another important difference: within the chairs in Germany we do not find a loose, but rather a tight coupling.[14] On the one hand, the chairholder has authority of office and is thus the "boss" of the other chair staff, deciding among other things on appointments and contract extensions totally independently of other chairholders or the dean. On the other hand, we often find a coupling in respect of functional dependency because chairholders and staff often work on one project, publish together, or at least work on similar issues. There is also a tight coupling in relation to control because the chairholder is in a good position to assess how well a member of staff is doing his/her work. Typically, the chairholder will also have to submit a report on the work of the chair staff members because the chairholder not only supervises the doctoral/post-doctoral work of the employee, but is also the primary reviewer in doctoral and post-doctoral ("habilitation") procedures. If we see that over 80% of scientific employees at German higher education institutions are assigned to a chairholder (see Chap. 3) and if there is no loose coupling within the chair, the result is that the proportion of loose couplings at German higher education institutions and at institutions in other countries that do not have a chair structure differ profoundly.

Overall, this shows that the loose coupling in relation to the relatively small group of chairholders is clearly more marked at German universities than is the case at American universities, for example, but that all other academics below the professorship level are tightly coupled to the chairs. The all too simple assertion that all universities are loosely coupled systems regardless of their national characteristics masks this central difference.

The loose coupling approach can also be gainfully utilized to understand what recent reform attempts in Germany have tried to change. For example, the internal hierarchization of higher education institutions targeted as part of the NPM reforms can be interpreted as an attempt to establish a tighter coupling of departments, institutes and professors by strengthening the authority of office.

On the other hand, the multifaceted new instruments used to evaluate higher education institutions reveal that attempts are being made to increase control using the "inspection" mechanism. This can be seen, for example, in the target and performance agreements between higher education institutions and the state, between higher education leadership and the departments but also between higher education leadership and individual professors. In addition, the broad introduction of teaching evaluation can be seen as an attempt to exercise increasing control over how well work is being done.

The loose coupling approach can also be used in relation to the introduction of the bachelor/master system. Requirements on module descriptions, the combining

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[14]For a long time, this was a significant difference to universities of applied sciences. As described in Chap. 3, for a long time universities of applied sciences had virtually no mid-level academic staff and, thus, hardly any university-like chair structures. However, in Chap. 3 we also described how this mid-level academic staff at universities of applied sciences has developed in recent years. This development is based on these university-like chair structures and thus upholds the traditional German chair structure described below.

of taught courses into modules and the award of credit points have all led to increased coupling of content and courses. In terms of teaching, a stronger functional dependency is being established because courses within a module and modules overall are oriented towards a defined goal. Although this is nothing completely new—just think of traditional curricula—dependency is strengthened by both the comprehensive documentation of courses and by external auditing which forms part of the accreditation. This strengthening does not refer to higher education institutions overall, but to study programs as relevant elements of these institutions.

This loose coupling perspective shines the spotlight on the impact of reforms on relations between elements. Adopting a metaperspective helps us to observe the various and obviously unconnected reforms under a common aspect: the impact on couplings within the organization. It then becomes evident that reforms can be interpreted as an attempt to change the configuration of couplings in higher education organizations.

5.2.2   Higher Education Institutions as Professional Organizations

The starting point for this approach is that there are some organizations in which professions play a key role for the organization and that the structure of these organizations differs from the bureaucratic organizational model. Professions are specific occupational groups that are distinguished among other things by their ability to solve complex problems and a high degree of autonomy in their working processes. Traditional examples of professions are doctors, lawyers and also professors. As a result, hospitals, law firms and higher education institutions are typical examples of professional organizations.

If we also try to link this perspective to Scott's organizational model we see that because professional organizations manifest a self-evident dominance of professions in the "members" element, this will also have an impact on other elements in the organization. As we will show, the social structure changes because the specific standards and values of a profession play an important role in the organization. At the same time, the environmental reference of the organization will also change because the profession itself becomes one key environmental reference.

However, before we can come to a description of the professional organization, we first have to explain—albeit briefly—just what a profession is, what professionals are and why their membership also changes other elements of the organization.

5.2.2.1 Professions

Professions are certain occupational groups within the occupational system that manifest specific features and structures. Initially we can assume that professions render services that are "of vital importance" (Scott 2005, 120) for recipients, they see the service as a matter of life and death, or as salvation. To render their services, professionals use an abstract structure of knowledge and only these professionals have the capability of properly applying this knowledge. The knowledge is not simply deducible, but includes a wide margin of discretion that the professional can apply. For this reason, actions are not determined by standardized or formalized processes that can simply be transferred to various situations, but are aimed at the individual and flexible treatment of individual cases. In professional contexts, therefore, the standardization and bureaucratization of working processes are subject to tight limits. In comparison to other occupational groups, professionals are thus distinguished by a high degree of autonomy in the working process.

Instead of controlling work through standardization and bureaucratization, in professional contexts there is much more reliance on self-control and the mutual control of professionals. The basis of self-control is that professionals not only acquire knowledge, but also learn about standards, programs, norms and values in the course of their training. The whole training phase for professionals is not only characterized by the knowledge to be learned, but also by the "socialization into a professional group" (Stichweh 1994, 357) that aims at internalizing the group's norms, values and standards. In this connection, Mintzberg also speaks of "indoctrination" (Mintzberg 1989, 176). These internalized standards, norms and values then lead to self-control or, with Foucault (1977), to the "self-disciplining" of professionals (see also Martin et al. 1993).

Besides self-control, an orientation toward other members of the profession is also seen as an aspect of control. Such an orientation emerges because reputation conferred by other professionals is very important for a professional career and because the labor market is controlled by the profession. Only when self-control and the adaptation mechanism of orientation break down and when a professional infringes the standards and norms of the profession can the professional be sanctioned. However, this sanctioning is carried out primarily by other members of the profession and only in extreme cases are non-members entitled to perform sanctions. In addition, in professional settings, the dominating power is not the authority of office, but the authority of knowledge (Mintzberg 1989, 175).

In contrast to other occupational groups, the self-organized control of professionals is normally legally protected by the state (e.g., through the introduction of lawyers associations or medical councils). In addition, the state often secures a monopoly position for the professions. This means, for example, that only doctors are allowed to perform medical interventions, but also that in certain legal proceedings defense pleas may only be submitted by a lawyer or that a defense lawyer is mandatory. Professions are reliant on being recognized by state bodies.

This rather traditional understanding of professions was later criticized within the sociology of professions as functionalistic and idealizing because all the characteristics of professions were explained by the fact that they are necessary to meet a key function for society or for the individual client as well as possible (Scott 2005, 121). In contrast, the continuing discussion strengthened the power theory perspective for professions (Larson 1979; Freidson 1970). The emphasis here is not so much on the notion that professions receive autonomy or prominent social status because they fulfill a key function necessary for society, but that professions gain advantages because they have managed to convince society that the advantages are needed to fulfill their function.

Despite these not inconsiderable differences, we can identify a common characteristic of both functionalistic and power theory approaches: in both theories, professions generally and individual professionals specifically enjoy a high degree of autonomy in their respective working contexts. The control of professionals is secured by the profession itself. The coordination of actions via professions is therefore an alternative to coordination via organizations and the markets which is why Freidson (2001) views professions as the "third logic" of coordination. In terms of the basic coordination mechanisms described above (see Chap. 4), professions can best be seen as communities whose members' common feature is to exercise a prominent occupational activity.

The question however remains: What can be viewed as a profession in higher education? Do academics at higher education institutions overall represent a profession, or is there a multitude of professions grouped around individual subjects and disciplines?

In the literature we find both conceptualizations (Mieg 2003, 19–20). On the one hand the literature makes use of the concept of "academic profession", whereby—more often implicitly than explicitly—it is assumed that academics form a common profession with their focus on the overarching scientific norms and values (e.g. Boyer et al. 1994; Enders and Teichler 1995; Schimank 2005; Teichler et al. 2013). Other authors (e.g. Clark 1987; Musselin 2007; Becher and Trowler 2001) assume—again more implicitly than explicitly—that it is less the overarching system, its norms and values that are important, but more the specific and mainly disciplinary subject community, with academics in a particular subject forming a profession. There are good reasons for both conceptualizations. In our opinion, the choice between the two depends on the respective issue at hand.

5.2.2.2   Professional Organizations

Let us now come to professional organizations. Many organizations employ professionals—whether as counsel in a legal department or as a company doctor. However, not every organization is a professional organization. It is important to

distinguish between organizations that require the work of professionals for a small proportion of the time and organizations in which professionals dominate the operational core of the organization in quantitative and/or qualitative terms (Scott 1965, 65; Ortmann 2005, 290).

Professional organizations are created when highly complex tasks have to be performed within an organization that are not suited to being performed by a bureaucratic division of labor. In such organizations, there is important restructuring within the organizational control system. A professional organization "hires duly trained specialists—professionals—for the operating core, then gives them considerable control over their own work" (Mintzberg 1989, 175). In addition, decision-making processes in professional organizations are different than in formal-bureaucratic organizations.

Although formal-bureaucratic elements are not completely suppressed in professional organizations (Waters 1989, 1993), there are considerable deviations to model concepts of bureaucratic organizations. These deviations are associated with fundamental control and information problems of hierarchical coordination described in Chap. 4. Both the control and the information problems of hierarchical coordination are exacerbated by the application of specialist knowledge in the working processes of professionals, which is why they have to draw on other mechanisms of coordination.

Let us begin with control structures. Professional organizations are confronted with the fundamental problem that standard instruments deployed in formal-bureaucratic organizations are only of limited use when controlling professionals. It is hardly possible for superordinates who do not belong to the profession themselves to monitor working processes directly. This is a matter of the complex structure of knowledge of the profession. A university president, who may be a physicist for example, is hardly capable of judging whether experiments conducted by a biologist in a laboratory are right or wrong, meaningful or not.

In organizations we normally find two systems of control: control via direct supervision and control via standardizations.

In terms of direct supervision we usually only find control in respect of resources in professional organizations. Successful professionals get more resources than less successful professionals. This control mechanism does not require an understanding of individual working processes: instead, the results of the work are regarded as the relevant indicator of success. Within professional organizations this control mechanism, however, is not without its problems because "the outputs of professional work cannot easily be measured" (Mintzberg 1989, 176). Therefore, success is not easy to determine.[15]

Alongside direct supervision, we often see control via standardizations in organizations that affect all members overall and less the monitoring of a particular member by superordinates. Such control using standardization usually concerns working processes and results. Also, this type of control is only available to

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[15]The standard example for this is: The operation was a success, the patient died.

professional organizations to a limited extent. Professionals apply their knowledge on a case-by-case approach making it virtually impossible to standardize working processes. As the success of the application is always bound to a degree of uncertainty, the results of work can hardly be standardized either (Mintzberg 1989, 176). When standardizing results, the same problem emerges as with direct supervision via resources: the achievement of goals and performance has to be measured which is not easy to manage in professional contexts. Discussions on performance criteria for academics—which can vary significantly depending on the (sub-)discipline and the topic, especially in the field of research—are an eloquent example of this (e.g. Jansen et al. 2007; Matthies and Simon 2008; Welpe et al. 2015).

In terms of the operating core, professional organizations have to therefore fall back on the control patterns of the profession, described above: self-control and the mutual control of professionals. The problem of this type of control for professional organizations is that the standards, programs, norms and values that form the basis of the two professional control mechanisms are defined by the professions—i.e., the overarching academic profession or the scientific community for the specific subject or discipline. In contrast, the organization leadership has very little, or no, influence.

Unlike the formal-bureaucratic model, neither the control system nor the decision-making structures are dominated by hierarchy. As a rule, we find profession-based patterns of decision-making in professional organizations. At least in some sub-areas the dominant coordination mechanism is that of negotiations and not hierarchy. Here, the dominant decision-making mode in professions—negotiations among equals—is integrated into the organization. Thus, in many higher education institutions we find committees in which professors have the majority and in which key decisions are made. Regardless of whether this is justified by claiming that decisions concerning the working processes of professionals cannot be made by non-professionals who lack the appropriate knowledge and information, or whether status or power theory arguments are raised, profession-based decision-making structures are not easily changeable dimensions.

The uniqueness of professional organizations in relation to the control and decision-making structures described above shows that potential conflicts can emerge within these organizations between formal-bureaucratic and professional arrangements. For example, it is likely that professionals would resist any movement to introduce new bureaucratic rules or to counter bureaucratic control (Scott 1965; Sorensen and Sorensen 1974). This resistance will probably be greater if the bureaucratic rules are inconsistent with the norms and values of the professions. However, these conflicts can be minimized by separating areas of influence, for example. While the profession dominates in one area, the formal-bureaucratic model is more important in another (Scott 1982, 230–236, 2005, 122–123; Leicht and Fennell 2008, 432).

In the following, we will again use the professional organization approach to observe key differences between German and other higher education institutions. Additionally, we will ask what we see when the recent higher education reforms in Germany are viewed from the perspective of the professional organization approach.

A comparison of German higher education institutions with other higher education institutions using the professional organization approach highlights a very particular feature of German institutions. In abstract terms we can see a significantly stronger involvement of the state to protect the interests of professionals in the organization; in concrete terms this refers to the constitutional guarantee of the freedom of research and teaching. Article 5.3 of the German constitution states: "Arts and sciences, research and teaching shall be free." This sentence has immense consequences not only, but also, for higher education institutions as organizations.

As described in Chap. 2, here we see again the influence of the Federal Constitutional Court on the German higher education system. First and foremost, the Federal Constitutional Court has interpreted this freedom of research and teaching as an individual right. This initially protects individual academics from state and organizational intervention. This interpretation as an individual right can only be understood in the light of the country's experience with the Nazi dictatorship. During that period, German universities actively supported the expulsion of their academics for racial or political reasons from 1933 onwards and assisted the utilization of research for Nazi goals. Thus, it was not only state bodies, but also the universities themselves who violated scientific freedom. And this is precisely why—as is the broad assumption in Germany—scientific freedom has to be protected from the interventions of the organization.

This protection has been implemented in a number of judgements of the Federal Constitutional Court stating that, in the eyes of the court, specific organization structures of higher education institutions represented a risk for scientific freedom, and were thus unconstitutional and had to be changed. In order to better comprehend the requirements for organization structures that the Federal Constitutional Court deduced from the constitution, we will take a look at two key judgements.

The first, and older, judgment was passed in 1973 and concerned the introduction of group universities in Lower Saxony (BVerfG 1973). The key feature of the group university is that various university groups (professors, non-professorial academic staff, students, administrative and technical personnel) each conduct internal elections to send representatives to academic committees (e.g., departmental councils, academic senate). As all key decisions are made in these committees, all groups are involved in the decisions. The aim here was to strengthen the influence of other groups vis-à-vis professors and to contribute to the "democratization" of higher education institutions. The question of how much influence academic staff and students should have was the subject of the proceedings in 1973. The main point of the dispute concerned who legally belonged to the group of professors and which weighting the votes of the individual groups should have in academic committees.

The first point of contention established that, under state law, the group of professors was defined very broadly and included senior academic staff and private lecturers, for example. Such a broad definition of the group of professors would have hugely reduced the influence (in terms of numbers) of chairholders within the

group of professors. The Federal Constitutional Court declared this broad definition as unconstitutional and insisted that the group of professors had to be homogeneous and clearly distinguished from other groups. This secured the influence of chairholders within the group of professors under constitutional law.

The second point of contention considered whether the two groups of academic staff and students were entitled to form a majority in academic committees and thus be capable of overruling the group of professors in matters of teaching and research. The court decided that the group of professors had to have 50% of the voting rights in matters directly relating to teaching. In matters relating to research and the appointment of professors, professors had to have more than 50% of the voting rights, otherwise this would represent a threat to their scientific freedom. This judgment from 1973 clearly defined the limits to group universities and upheld the dominant influence of professors in the organization under constitutional law.

The second judgment comes from 2010 and dealt with the question of whether organization structures oriented on the NPM model were unconstitutional because they were a threat to scientific freedom (BVerfG 2010). The object of the dispute was one of the 16 state higher education acts—the Hamburg Higher Education Act of 2001. The Act stated that deans were to be selected by the presidents and their appointment merely confirmed by the departmental council where professors held the majority. Traditionally, deans would be selected by the departmental council without the presidents having any say in the matter. In addition, the 2001 Act gave presidents the right to discharge deans, which departmental councils were not entitled to do, nor were they in a position to hinder presidents in such decisions. These provisions clearly strengthened the position of presidents in the selection and removal of deans and corresponded to the notion of strengthening the managerial hierarchy contained in the NPM model. Moreover, the dean was given wide-ranging rights to make decisions—such as in matters relating to the allocation of funds and the appointment of professors—which had previously been the preserve of the departmental councils. This is thus a further strengthening of managerial hierarchical powers, in line with the NPM model. However, the constitutional court held that these provisions infringed scientific freedom. Expressed simply, the constitutional court highlighted two possible alternatives in its *obiter*. Either deans have no, or only minor, decision-making powers; in this case they could be voted for and discharged pursuant to the Hamburg Act. Or deans have a range of decision-making rights; here both the election and voting out of deans is then principally a matter for academic committees in which professors are in the majority. The more rights were to be concentrated on the presidents or deans, the more control rights academic committees must have to counter the risk that presidents or deans could restrict professors' fundamental right to scientific freedom.

The combination of both judgments highlights the fact that the influence of professors at German higher education institutions has been protected by constitutional law—both vis-à-vis other groups as well as vis-à-vis university leadership. At German

higher education institutions, neither the democratization ambitions of the 1960s and 1970s nor the recent management ambitions have proved viable because, from the perspective of the constitutional court, both are said to jeopardize the fundamental right to scientific freedom. This is irrespective of how meaningful or functional such structures might have been. The organizational position of the academic profession, or to be more precise of professors, at German higher education institutions is thus fundamentally different to institutions in other countries. The dominance of the profession in the organization and academic self-governance of decision-making in Germany are not open for debate—at least not in the current state of affairs.

Despite this fundamental limitation, a look at the latest reforms in Germany shows that attempts are still being made to roll back the properties of professional organizations. It can be clearly seen that attempts are being made to strengthen formal-bureaucratic elements in higher education institutions. We see this expressed, for example, in the shift of formal decision-making competence from bodies of academic self-administration in the direction of higher education leadership. However, we first need to point out that presidents and deans in Germany are virtually solely recruited from the group of professors and are thus part of the profession. Secondly—as shown above in reference to the Federal Constitutional Court's judgment on the Hamburg Higher Education Act—the influence of professors on the election and voting out of presidents and deans has to be considerable, and actually is. Not least therefore, we frequently find—as described above in Chap. 4—a dominance of profession-based patterns of decision-making at German higher education institutions.

Even in terms of the control dimension attempts are being made to increase the organization's monitoring of the operating core with regard to standardization and formalization as well as to direct supervision. Thus, resources are increasingly being allocated by means of formalized and standardized indicator models. Likewise, target agreements—negotiated between presidents, deans and individual professors—have strengthened the direct supervision mechanism. What impact these attempts will actually have still remains to be seen.

Overall, the reforms are attempting to achieve change in the two dimensions in which professional organizations are distinguished from formal-bureaucratic organizations, namely patterns of decision-making and control. From the professional perspective, considerable conflict is to be expected from such interventions given that this strengthened hierarchy and increasing control infringe professionals' claims to autonomy. Research findings discussed above in the chapter on governance—in which new informal decision-making committees at higher education institutions have been set up and presidents, vice presidents and deans are only making very limited use of their formal decision-making rights—are to be seen in the light of the fact that the considerable counter-power potential of academics should be channeled, or has to be channeled (Breisig and Kahl 2000, 218; Hüther and Krücken 2013). Presidents and deans are trying to avoid an open battle for power between professional logic and organizational logic not least because the

outcome of such a battle would be significantly more open than in other higher education systems—even if the political voice is currently in favor of the organizational logic. We have already tried to explain why this is so: behind day-to-day decisions at higher education institutions and in higher education politics we have the protection of scientific freedom under constitutional law, guaranteed by the Federal Constitutional Court.[16]

5.2.3 Higher Education Institutions as Organized Anarchies

In a widely acclaimed article by Cohen et al. (1972), higher education institutions are described as typical examples of organized anarchies in which many decision-making processes do not conform to any rational weighing up of alternative problem solutions (for a recent discussion of the concept see Lomi and Harrison 2012). Instead, we rather find an incidental encounter of problems and solutions, and also of decision makers and decision situations (called the garbage can model). For Cohen et al., it is not so much about characterizing the organization "higher education institution" in detail, but about describing decision-making processes within organizations, and especially within higher education institutions.

The concept of organized anarchy is based on the observation of three of the five elements of organization presented by Scott: goals, technology, social structure.

Problematic Preferences
In terms of the element "goals", in organized anarchies we find problematic preferences, i.e., neither the goals of the organization nor the goals in the decision-making situation are coherent, instead they are imprecise or inconsistent. This problem can arise when a set goal is too abstract and thus ambiguous, but also when there are several goals in the organization, or are relevant in the situation, and are in conflict with each other. We have already seen such a constellation in the above description of the five elements of organization. In higher education institutions, teaching and research goals are in constant conflict with each other due to time restrictions (Krücken and Wild 2010). In contrast, the task of conveying knowledge is too abstract to deduce clearly defined assignments (e.g. Lüde et al. 2003, 15).

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[16]The everyday impact can be vividly illustrated with the help of a concrete example—albeit an extreme one. At a university, the president was attempting to exert his formal decision-making competence on the departments. When conflict arose, a counterstrategy from the departments was to present legal opinions showing that the formal decision-making competence of the university leadership was unconstitutional. This threat of legal action before the Federal Constitutional Court was deployed as an organizational resource of power at this institution for a whole range of controversial decisions.

Unclear Technology

In terms of "technology", the "mechanism for transforming inputs into outputs" (Scott 1981, 17) within the organization, there is ambiguity in organized anarchies which means that ongoing processes are not completely understood. Prior to an action, members are often not clear what impact a certain action will have and, consequently, do not know which actions will have the greatest chance of succeeding in achieving the set goal. It is not possible for members to weigh up matters rationally which means that actions are subject to "trial-and-error procedures" (Cohen et al. 1972, 1). Thus, for example, there is no procedure to ensure that new knowledge is produced. In this context, the British chemist and theorist of science Polanyi (1966) coined the phrase "tacit knowledge". This knowledge is strongly related to people and situations and can only be tapped into during the specific practice of research activities. Research is thus a daisy chain of trial and error. Conveying knowledge is also not subject to any standard procedure. Luhmann and Schorr (1982) speak here of a "technology deficit" in the education system because teaching and learning processes can hardly be expressed in clear chains of cause and effect and cannot be controlled. In this sense, situational and person-related aspects dominate teaching/learning processes.

The two main goals of higher education (teaching and research) are thus connected with unclear technologies which clearly pushes them in the direction of organized anarchy.

Fluid Participation

In terms of "social structure", organized anarchies are characterized by the fact that in decision-making situations, the actual behavior of members is shaped by fluid participation. This can arise from several sources.

One possibility is that participants in a decision-making situation are not stable over time. If there are decision-making arenas in the organization, for example, in which anyone can participate, participation is very much dependent on the interest of the respective members. It is also possible that participation in the decision-making arena is not open, but that rules of participation envisage the frequent change of members (a rotation procedure). However, it is not only the rotation of participants in the decision-making situation that can lead to fluctuating participation. This can also arise with stable participants in a decision-making situation who actively take part in certain decisions, but not in others. Likewise, it is possible for participants to change their active involvement in decision-making processes over time; in other words they might not be active at the beginning of the decision-making process, but suddenly become active shortly before a decision is taken. By doing so, such participants can fundamentally change the decision-making situation. Both types of fluid participation (fluid involvement and fluid activity of participants) can appear separately, or together (Cohen et al. 1972).

Organized anarchies are therefore characterized by problematic preferences, unclear technology and fluid participation. These structural features have some important

consequences for decision-making processes in the organization: In organized anarchies the traditional rational model of decision-making can only be found to a limited extent. This rational decision-making model assumes that solution options are searched for and the best solution is selected based on a recognized and defined problem. Problem solving is modeled in a fixed sequence. Cohen et al. (1972, 2) note that in organized anarchies such sequences are rarely seen. The sequential model is then compared to the garbage can model in decision-making. In this latter model, we no longer speak of a sequence to problem solving. Instead, problems, solutions, participants and situations are uncoupled (Cohen et al. 1972, 2).

The garbage can is then a decision-making opportunity in which different problems and solutions are stored by (changing) participants where they wait for a decision. Thus, solutions are discovered for problems that do not even exist and these are temporarily parked in the garbage can. If a problem emerges that can be solved by a solution that already exists, and if the problem is also coincidently in the garbage can with the solution, the decision can be made that links the new problem with the solution that may have already existed for some time. The sequence here is not problem—solution, but solution—problem.

Cohen, March and Olsen have replicated the decision-making process in a computer simulation to examine which organization structures entail which type of decision-making mode. They found that both decisions made in line with the traditional rational model as well as decisions made in accordance with the garbage can model appear in all organizational models.[17] This suggests that decision-making processes in organizations can be characterized by both modes, in other words: No organization makes decisions solely in the rational problem-solving mode (Cohen et al. 1972, 9).

However, the proportion of types of decision varies depending on the organization structures modeled. The organized anarchy structure described above leads to a greater proportion of decisions that are not characterized by rational problem solving (Cohen et al. 1972, 11). As higher education institutions—as described above—can be seen as organized anarchies (Cohen et al. 1972, 11), it follows that, in comparison to organizations with other structures, we more often find decisions in higher education institutions that are not in line with the rational model.

We can attempt to illustrate and specify these quite abstract observations using examples from German higher education institutions. First, let us turn to the decision-making processes in higher education institutions. Anyone who has sat on an academic committee will have noticed that when it comes to a long or lively discussion on a matter, a working group is often set up to look into the matter, or decisions are postponed until the next meeting (and often only crop up again

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[17]The simulation distinguished between three types of decision: "decision by resolution", "decision by oversight" and "decision by flight". For the sake of simplicity, we describe the first type of decision as rational decision-making and the two other types as decision-making in garbage can mode.

months later). In the first case, the decision is postponed and thanks to the new working group we have a new garbage can in which the problem (for which no solution was found) is temporarily stored.

The interesting question is now who are the members of the working group. If the working group comprises people who are particularly interested in the topic, it might meet often, various options will be enthusiastically discussed and, wherever possible, a decision reached that can be presented to the original committee. It is not unusual for such solutions to imply—as with all negotiations—that the costs of the solution (for instance, temporal resources) are "externalized" to those who were not involved in the negotiations. This can also mean members of the original committee who, given the potential of incurring costs themselves, now become more interested in the problem and the decision. This is what we mean by fluctuating activity of participants, who can completely alter the decision-making situation. Consequently there will be more discussions that again have to be unraveled. Typically, the composition of the working group will change, or a new working group is set up and the game starts again from the beginning.

However, something else can happen if the working group is composed of people who are not particularly interested in the problem. Sometimes, the selection rules for working group members mean that people are selected who "move" first: physical movement is often interpreted as interest in disagreeable tasks. It is quite plausible to assume that working groups composed in such a manner will not meet particularly often, or enthusiastically, and will only work on the problem with the minimum of commitment. The additional work can only be terminated when some kind of solution is found; whether the problem will actually be solved with the solution is somewhat secondary because the main goal of the members is to ditch the garbage can and the work associated with it as quickly as possible. Thus, the idea is to dock any solution onto the problem and to hand it back to the original committee.

This illustration of internal decision-making processes at (German) higher education institutions may well be overstating the case somewhat, but it does highlight just what kind of circumstances internal to the organization can be captured and explained by the organized anarchies approach.

The fact that decisions are not only made by (higher education) organizations in this garbage can mode, but that political reform processes often also follow a garbage can mode can be illustrated by the introduction of bachelor/master degrees in Germany. The quality of teaching at higher education institutions, the length of study programs, the allegedly high drop-out rates and the alleged lack of practical relevance of programs were widely discussed in the 1990s, but either no solutions were found to these problems, or solutions were held to be unenforceable. Consequently, problems were waiting or were being processed in various garbage cans—quite often in working groups—looking for a solution. Interestingly, with the Bologna Process—whose main aim was to facilitate the international comparability of higher education degrees and improve international mobility—a solution

emerged that could be married to all the ongoing problems of teaching and training at German higher education institutions. Thus, problems wandered into the decision-making garbage cans of bachelor/master reforms before being assigned to a "solution" that was originally conceived of to achieve totally different goals. The fact that such decision-making processes lead to subsequent problems and transintentional effects in the future is not really surprising.

In the following we apply the ideas of organized anarchies to German higher education institutions: we firstly examine specific features of German institutions and follow this up by taking a look at recent reforms from the perspective of higher education institutions as organized anarchies.

If we consider decision-making structures at German higher education institutions, the most striking feature is that the structures are characterized by an overlapping and mixing of three fundamentally different models of higher education. We can find elements of the university of professors, the group university and the managerial model. This overlapping developed historically, with the models being introduced at different points in time; key elements of the previous model were not dismantled or abolished, but were in fact retained.

While decision-making structures were shaped by the university of professors up to the 1960s, from then on they were supplemented by elements of the group university. As we described above, however, the Federal Constitutional Court prevented the complete conversion of decision-making structures toward the model of group universities. Instead, decision-making committees were created in which professors, non-professorial academic staff, students and technical/administrative personnel were represented. Key elements of the university of professors were, however, retained: firstly, because professors had to have a majority in these committees; secondly, because the prominent position of professors was secured by retaining the chair system.

Over the course of time it became clear that, following the controversial conflicts of the 1970s that dealt with the question of whether decisions should be taken in line with the group university model or the university of professors, these conflicts abated significantly because professors ultimately prevailed. Nevertheless, this should not be equated with a simple return to the university of professors. Firstly, legitimation requirements for decisions had fundamentally changed. The involvement of all groups—at least on the surface—became a key requirement for legitimizing decisions. Secondly, the narrow majority of professors in committees led to a "truce" between the professors, thus precluding professors from collaborating with other groups to overrule the other professors. From the 1980s therefore, we find a "non-aggression pact" between professors at higher education institutions, ultimately leading to the maintenance of the status quo. From the 1990s, this strong status quo orientation was increasingly discussed as incapacity of higher education institutions to adapt to environmental change. This discussion was a key trigger for

some NPM reforms in Germany, like the strengthening of formal decision-making powers of university leaders or the introduction of university boards of governors.

The management model favored by politics during the 1990s did not replace the previous decision-making structures, but some elements of the model were introduced with parts of the previous structures being retained. Again, we have already seen a key reason for this: the Federal Constitutional Court hindered a complete change in the decision-making structures due to risks to scientific freedom. The current decision-making structures at German higher education institutions therefore contain elements of all three models. We can find a prominent position of professors (university of professors), representation of different groups in academic committees (group university) and formally strengthened roles of presidents, vice presidents and deans (managerial model).

The impact of this specifically German hybridization of various models at both the formal and informal level has been somewhat patchy (Kleimann 2015; Hüther and Krücken 2015; Bieletzki 2018). The shifting of decision-making into informal structures appears to be an overriding effect. Frequently, the talk is of "kitchen cabinets" consisting of deans, research-intensive professors and other key "veto players". Membership in these "kitchen cabinets" is mostly situational and although decisions relevant to higher education are not formally made there, they are sufficiently well prepared that the actual decision is just a matter of form. Furthermore, the distribution of tasks and responsibilities among the various bodies—in particular higher education presidency, boards of governors and academic senate—has not always been settled satisfactorily. In "normal mode", this is somewhat latent, but becomes clearer in unforeseen conflict situations, such as the premature voting out of a president.

All in all, it is not clear how, given these structural conditions, decisions in a rational mode can be become more likely, even if this has been a key goal of the reshaping of decision-making structures since the 1990s.

Using the perspective of organized anarchies to review recent reforms in German higher education institutions provides some truly interesting observations. In particular, we can observe which structural properties of organized anarchies are being targeted by higher education reforms to increase the proportion of rational problem solving at higher education institutions.

In terms of the problematic preferences, both profile building and the targeted differentiation of higher education institutions play a role, for example. Here, attempts are being made to establish clearer preferences at the organization level. However, there are also contradictory trends. Thus, for example, further education or diversity management are defined as new tasks for higher education institutions. Therefore goals and preferences are becoming more various or more problematic. On the one hand, attempts are being made to give more structure to the bundle of goals; on the other hand, there is a developing "cluttering of goals" (Schimank 2001a, 224–229) at higher education institutions.

Attempts are also being made to counter the effects of fluid participation. Higher education reforms are at least trying to exert an influence on the structural matters affecting fluid participation. On the one hand, formal hierarchization is attempting

to reduce the extent of potential fluid participation by limiting participants in a given decision-making situation. And the trend towards a much clearer formal definition and differentiation of responsibilities in new higher education legislation and regulations indicates that problems should only be formally processed in certain decision-making situations. This also has reduced the potential of fluid participation by limiting participants. In addition, problems can no longer simply wander from one decision-making opportunity to another. However, that there are great differences between formal and actual decision-making structures is something we have discussed multiple times.

From the perspective of organized anarchies, reforms can be interpreted as attempts to minimize the features of organized anarchies at German higher education institutions and, at the same time, to increase the proportion of rational problem-solving decision-making.

5.2.4   Complete Organizations, or How Specific Are Higher Education Institutions as Organizations?

Whereas the three organization perspectives presented above emphasize that higher education institutions are specific organizations, more recent publications have questioned this. This new perspective is fundamentally connected to the international reforms in higher education from the beginning of the 1980s. In a key paper from 2000, Brunsson and Sahlin-Andersson argue that the reforms can be interpreted as an attempt to construct public administration and higher education institutions as complete organizations (Brunsson and Sahlin-Andersson 2000, 723–727, 729–730, 734–735; see also Meier 2009; de Boer et al. 2007; Krücken and Meier 2006; Hüther and Krücken 2011). According to Brunsson and Sahlin-Andersson, since complete organizations are mainly to be found in the business world, this represents an alignment of higher education institutions with corporations.

The notion that organizations become more similar is something we have already seen in neo-institutional organization theory. This trend towards convergence was described as isomorphism and is based on the three mechanisms "coercion", "mimesis" and "normative pressure". All three mechanisms play a role in the construction of complete organizations. Large parts of the NPM model are standardized through legislation, thus establishing "coercion" for higher education. Simultaneously, we also find mimetic trends at higher education institutions with particular reference to the perception of research universities in the USA. In German higher education discourse, it is frequently suggested that the American research universities resemble corporations in terms of their internal coordination (stronger hierarchy) and coordination between each other (market). Thus, imitating

the perceived American research university will also be replicating elements of corporations. In contrast, convergence by means of normative expectations is mainly driven by a commonly shared image of the "profession" of higher education managers.

However, we should not assume that the construction of complete organizations follows any master plan for change in higher education. Instead, this trend emerges from multifaceted single reforms, which are often not connected. Therefore, the construction of complete organizations is more likely to be a transintentional effect, arising from the interplay of the various reforms (Brunsson and Sahlin-Andersson 2000, 736).

But what are complete organizations? Complete organizations are characterized by identity (autonomy, collective resources, boundaries, being an organization, being special), hierarchy (coordination and control, management) and rationality (setting objectives, measuring results and allocating responsibility). These characteristics are very different from our previous descriptions of higher education organizations: higher education institutions are loosely coupled systems without any particularly strong identity across the whole organization, hierarchy contradicts the principle of academic self-governance emphasized in the profession perspective and rationality is not compatible with the description of organized anarchies whose processes are not typically rational. In the light of these descriptions, higher education institutions are indeed "incomplete organizations".

Below, we will demonstrate that in terms of the three dimensions—identity, hierarchy and rationality—there has been some movement towards complete organizations for German higher education institutions.

Identity

A series of reforms have strengthened the identity of higher education organizations. The increasing autonomy of higher education institutions in Germany has led to the state addressing the institution as a single and coherent unit, for example. Higher education institutions have to react to this new approach by developing a stronger sense of identity. The introduction of global budgets or block grants has the same effect. Instead of the cameralistic, or single-entry, accounting system, which assigns a budget based on individualized itemizations, block grants address higher education institutions as a unit. Block grants are collective resources that have to be allocated by the organization. In order to do so, the organization needs to see itself at least in part as a unit. In this vein, in recent years we have also seen an increase in mission statements of higher education institutions (Kosmützky 2012, 2016; Kosmützky and Krücken 2015). Even if sceptics only see mission statements as inconsequential "window dressing" for the organization, we can still view them as an attempt to strengthen identity at the level of the whole organization.

Overall, one can see that some reforms are pushing higher education institutions in Germany to strengthen their identity. Therefore, one can see a development toward a complete organization.

Hierarchy

Managerial hierarchy at German higher education institutions is being strengthened by the formal transfer of decision-making competence from state actors and academic self-organization units towards higher education leadership. This is a matter we dealt with in more detail in our chapter on governance (Chap. 4). At the same time, there are trends toward making higher education leadership and administrative management more professional (Krücken et al. 2009, 2013). This can be seen not only for top management by extending the terms of office for presidents and deans (Hüther 2011), but also for the whole administrative machinery. The latter is expressed in the fact that higher education institutions are expanding their organizational responsibility to more and more areas—from technology transfer and equal opportunities to personnel development. There is also a clear change in the self-perception of administrative staff: the orientation toward bureaucratic rationality is increasingly transforming into that of independent, decision-focused facilitators.

To sum up: there are some clear signs in German higher education institutions that there is a strengthening of hierarchy and management; thus giving support to the trend towards complete organizations.

Rationality

Greater rationality at German higher education institutions can be deduced from the multifarious expansion of performance reviews and evaluation that ultimately assume that the units under review are themselves responsible for the results. This includes evaluation of research and teaching or benchmarks between higher education institutions. It also includes placing accountability for mistakes with the whole organization or clearly defined organizational units.

Accordingly, in all three areas—identity, hierarchy, rationality—we find developments that, especially in their interaction, point to the formation of complete organizations. These developments—not only in Germany, but in many European countries—are the basis for discussions concerning the construction of complete organizations. The discussions show that within organization research, there is a tendency to replace the view that higher education institutions are different or specific organizations. However, the question needs to be asked whether the developments described above are foremost at the formal structural level or at the behavioral level. The question therefore is: "Are universities still specific organizations?" (Musselin 2007).

The answer is clearly "yes" and can be derived from the previous descriptions of higher education institutions as organizations.

- As seen in the section on loose coupling, there are only minor functional dependencies in research and teaching between academics within higher education institutions. As Musselin notes: "in few other work places (....) is it as

frequent to ignore colleagues seated next door and observe so little influence of the activities of those colleagues on one's own tasks" (Musselin 2007, 70). As long as highly specialized knowledge is the primary working material of higher education institutions, this loose coupling will change little and the uniqueness of these institutions will be retained. Nothing will fundamentally change as a result of the stronger internal coordination of teaching related to the introduction of the bachelor/master system.

- According to Cohen et al. (1972), the two main goals of research and teaching continue to be linked to unclear technology: "because teaching and research are difficult to describe and difficult to prescribe, they are difficult to reproduce" (Musselin 2007, 72). There are still no procedures to ensure that new knowledge is produced and that students learn successfully. The two goals cannot be connected to the actions of academics by a cause-effect model. Even the newly created administrative positions in higher education cannot change this.

- Higher education institutions will continue to be characterized by having multiple goals that mask a multitude of conflicts despite the building of profiles. Accordingly, it is still difficult for the whole organization to define preferences and provide order to them.

- The many different discipline-based and subject-related identities within higher education institutions run counter to attempts to build an identity for the whole organization, especially because academics feel primarily bound to their discipline and subject.

- Higher education institutions remain professional organizations. Internal fragmentation and the external focus of academics will continue to remain important structural features of higher education institutions—at least as long as science is structured in disciplines and subjects.

- Closely connected to the professional organization and the processing of specialist knowledge is also the effect that higher education institutions cannot completely abstain from academic self-governance patterns.

The uniqueness of the higher education institution as an organization comes from the interplay of these six aspects. While each single aspect may well apply to a whole range of organizations, the combination of all six aspects is only found in very few organizations. In addition, these aspects primarily emerge from the basic operations (research and teaching) and are therefore very stable.

It should also be clear that higher education institutions in various countries manifest deviations of varying magnitude with regard to some of these aspects. Therefore, the hurdles to constructing complete organizations can be high or low. In the case of Germany, the hurdles are particularly high. Given the heavy dependence on state bodies in relation to the goals to be followed, German higher education institutions actually pursue a wide range of multiple goals that have to be addressed, at least in the formal structure. Higher education institutions aim to not only pursue excellence in research and teaching, but also aim to improve the integration of women (especially in certain subjects and higher academic positions), migrants (most recently also refugees), students from less well-educated families, students

who have matriculated through second-chance education and students with disabilities. Higher education institutions also aim to render direct services for regional and national development (the third mission). In the course of time, it can be seen that state bodies are constantly expanding the bundle of goals for higher education institutions and German higher education institutions have to comply—at least symbolically. Perhaps an even stronger key discrepancy to higher education institutions in other countries can be seen in relation to academic self-organization. As we have described above, this protection is anchored in the German constitution, whose basic principles are inalterable[18] and whose amendments are subjected to very strict limitations. Thus, anyone wishing to implement strong hierarchy and management in German higher education institutions only has one option: a completely new constitution has to be passed. Such an event is not to be expected in the foreseeable future: even German reunification was not a sufficiently momentous occasion to warrant a new constitution.

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[18]Parts of the German constitution are subject to a so-called *Ewigkeitsklausel*—an eternity clause—defined in Article 79.3 of the constitution. Among other things, this states that principles contained in Articles 1–20 may never be changed.

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