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Dynamic Capabilities for Strategic Change in Practice

BALANCING INNOVATIONS

The Management of the Interplay of Institutional and Organizational Developments via Proto-Institutions

ABSTRACT:

Research in the realm of the Dynamic Capability Approach portrays firms as open systems which need to adapt to institutional demands by constantly reconfiguring and leveraging their organizational competencies. Bridging strategic and organization research, I stress that innovation management demands the consideration of institutional developments and market shaping activities, too. I highlight that organizational capability for renewal manifests in the capacity to balance the interplay of institutional and organizational developments. Applying an iterative empirical research design to an embedded singly case study in the German healthcare sector, I identify that actors are able to manage the co-evolution of institutional and organizational developments via proto-institutions. Taken together, I formulate a contribution to dynamic capability research by a) providing a model which allows the combined analysis of multi-level processes based within the consistent theoretical framework of the CbTF, b) presenting proto-institutions as instruments to deal with environmental uncertainty and resistance to change, and c) offering three propositions that summarize their respective contributions to this field of inquiry.

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INTRODUCTION

Dynamic capabilities are defined as *"the capacity of an organization to purposefully create, extend or modify its resource base"* (Helfat et al. 2007, p. 4). The Dynamic Capability Approach typically portrays innovation capacity as the result of routinized adaption processes to changing environmental demands (Teece 2012; Teece et al. 1997). Firms are depicted as open systems which need to constantly adjust to institutional dynamics as well as internal challenges by building and leveraging organizational competencies (Sanchez & Heene 1996, 1997). Compared with initial resource- and competence-based research (Barney 1991; Prahalad & Hamel 1990; Wernerfelt 1984), external dynamics have taken center stage in explaining organizational change processes. Although, it is widely acknowledged that organizations are embedded in their institutional environment, the Dynamic Capability Approach is somewhat lighthearted in terms of explaining the interaction with and the impact of the environmental setting on innovation processes.

The relevance of environmental aspects in the context of innovation processes is highlighted by research in the realm of institutional theory. Institutional theorists conceptualize environmental phenomena with the help of institutions. They stress that institutional arrangements shape the trajectories of organizational actions (DiMaggio & Powell 1983; Jepperson 1991; Scott 2008). As "*shared rules and typifications that identify categories of social actors and their appropriate activities or relationships"* (Barley 1986, p. 96), institutions may promote (Kennedy & Fiss 2009) or inhibit (Ferlie et al. 2005) innovations since a specific innovation may or may not be in consent with field-level structures (Caronna 2004). Particularly, in *"situations where institutional arrangements that support markets are absent, weak, or fail to accomplish the role expected of them"* (Mair & Marti 2009, p. 419) innovations may meet institutional resistance (Hargadon & Douglas 2001; Mair et al. 2012). This is an interesting observation since institutions may fundamentally affect organizational change processes (Greif 2006) by constraining or supporting the success of dynamic capabilities.

While dynamic capability research stresses organizational adaption to prepare the fit with environmental dynamics, the link of institutional and organizational levels of analysis as well as entrepreneurial activities to manage their interplay, are only sparsely addressed. Against this background, I claim that the story of *"organizational renewal"* (Helfat et al. 2007; Teece et al.

1997) may not be as straightforward as the Dynamic Capability Approach suggests. I argue that market shaping activities constitute important instances of the management of future innovations, too. I base this claim on the observation of *"the purposive action of individuals and organizations aimed at creating, maintaining and disrupting institutions"* (Lawrence & Suddaby 2006, p. 215) to generate an institutional setting that supports their innovative projects. For instance, existing research shows that market shaping activities become vitally important in highly-regulated (Gersch et al. 2010) and disrupted fields (Aldrich & Fiol 1994; Zietsma & McKnight 2009), in markets characterized by institutional voids (Mair & Marti 2009; Mair et al. 2012), and in disruptive innovation projects (Hargadon & Douglas 2001; van Dijk et al. 2011). Taken together, this study is based on the theoretical assumption that a management of the interplay of institutional and organizational developments is essential in order to generate innovations that fit with future institutional requirements. This study will therefore address the following research question: *How do actors plan and try to manage the co-evolution of institutional and organizational developments to realize future innovations?*

I suggest that innovations in the healthcare sector are a good instance to study the multiplicity of the management of innovation processes. Since the healthcare sector is a highly-regulated, stable market (Gersch et al. 2010), actors sometimes meet the challenge to create appropriate institutional structures that support their innovations and to prepare resources and competencies that fit with those future institutional requirements. The theoretical crux, however, seems to be that strategic and organization research is equipped with a toolkit of different theories that, each on their own, illuminate several aspects of innovation management but do not necessarily give a comprehensive explanation of all relevant sub-processes. For instance, resource- and competence-based theories are powerful in explaining the micro-dynamics, especially adaption processes to environmental dynamics on the firm-level. However, they often spare out the institutional environment into which such processes are embedded. Institutional theory is fairly strong in explaining the inertia of rules, standards and norms that may surround the implementation and diffusion of innovations. However, the micro-dynamics of innovation processes are only marginally addressed. Stressing the simultaneous consideration of institutional and organizational phenomena, I introduce the *Competence-based Theory of the Firm* (CbTF; Freiling et al. 2008) as theoretical framework which allows the analysis of processes on multi-levels. Specifically, I extend the CbTF by a coherent definition of institutions as well as proto-institutions as *"institutions in the making"* (Lawrence et al. 2002) based on a

clear philosophy of science. An embedded single case study in the German healthcare sector is conducted to understand the management of the interplay of organizational and institutional developments in innovation processes.

The theoretical background is introduced in section 2 before I describe my method and data in section 3, explore and discuss my findings in section 4 and 5.

THEORETICAL BACKGROUND

A Critical View on the Dynamic Capability Approach

Building on the concept of routines (Nelson & Winter 1982) and on resource-and competence-based reasoning, the Dynamic Capability Approach has emerged as a popular concept for purposeful organizational adaptation processes (Ambrosini & Bowman 2009; Eisenhardt & Martin 2000; Teece et al. 1997). Specifically, dynamic capabilities are understood as the *„capacity of an organization to purposefully create, extend or modify its resource base"* (Helfat et al. 2007, p. 4). Assuming that organizations constantly need *"(...) to renew competences so as to achieve congruence with the changing business environment"* (Teece et al. 1997, p. 515), the Dynamic Capability Approach provides a useful concept to depict routinized innovation capacity in dynamic environments (Danneels 2002, 2011; Verona & Ravasi 2003). In contrast to the static and ex-post view of traditional resource- and competence-based thinking (Foss & Ishikawa 2007; Freiling et al. 2008, Priem & Butler 2001a, 2001b), the Dynamic Capability Approach thus provides a dynamic perspective on innovation capacity. Empirical research stresses the role of dynamic capabilities, for instance in innovation (Danneels 2002; Verona & Ravasi 2003), restructuring (Karim & Mitchell 2000), and corporate venturing processes (Collinson & Wilson 2006; Keil 2004). However, evidence that the development of such capabilities is not always a smooth, uncomplicated process (Danneels 2011; Tripsas & Gavetti 2000) indicates that organizations may also face difficulties to adapt to changing environmental demands (Collinson & Wilson 2006; Danneels 2011; Sull 1999; Tripsas & Gavetti 2000). Since the Dynamic Capability Approach depicts performance exclusively as the result of purposeful organizational change processes depending on environmental dynamics, entrepreneurial endeavors and activities to deal with firm external influences and innovation barricades remain rather unspecified. Moreover, the impact of the environment on

organizational processes is not further explicated. While the Dynamic Capability Approach traditionally focuses on organizational level aspects, the embeddedness of the organization in its environment is not sufficiently conceptualized. Hence, the rather exclusive focus on the organizational level of analysis leads to the assumption that organizations lack influence on external aspects. Consequently, the interplay and proactive management of external and internal developments cannot be theorized. Second, notwithstanding its popularity, the Dynamic Capability Approach is profoundly criticized because of the fuzzy theoretical conceptualization of the dynamic capability construct (Arend & Bromiley 2009, Schreyögg & Kliesch-Eberl 2007, Vogel & Güttel 2012). Although, the microfoundation of dynamic capabilities in terms of sensing, seizing and reconfiguring capabilities (Teece 2007, 2012) can be seen as a valuable contribution, operationalization problems (Ambrosini & Bowman 2009; Zahra et al. 2006) lead to critical questions regarding the practical contribution of dynamic capability research (Arend & Bromiley 2009).

Despite the centrality of environmental dynamics in dynamic capability research, little has been done to study the link of institutional ("macro") and organizational ("micro") levels of analysis. While research focuses on organizational adaptation, the impact of market shaping processes for the generation of innovation capacity rarely has yet been addressed. Consequently, there is insufficient knowledge regarding the purposeful management of the interplay of institutional and organizational developments over time. Since we know that organizations have to develop innovation capabilities that fit the institutional setting, I argue that there is a need to additionally explore how market shaping processes may help to generate this future compatibility. Focusing on the interaction of micro- and macro level phenomena over time ("co-evolution"), I examine how actors try a) to shape field level regulations, and b) to align their readiness for action and their innovations to these requirements aiming at the generation of future innovation capacity. With the intent to contribute to dynamic capability research by exploring the link between organizational and institutional levels of analysis, this study answers the following research question:

How do actors plan and try to manage the co-evolution of institutional and organizational developments to realize future innovations?

Assuming that purposeful entrepreneurial market shaping activities may be an important aspect of organizational innovativeness, this study stresses that multi-level processes are essential to understand all facets of dynamic capabilities and capability development. With the objective to study the role of the recursive management of organizational and environmental developments for dynamic capability research, this study introduces insights of macro-oriented approaches to conceptualize the recursive impact of organizations and environmental demands. Specifically, the institutional work concept is used which roots in institutional theory.

Institutions and institutional work

Focusing on macro-level phenomena to explain organizational behavior, research in the realm of institutional theory conceptualizes environmental aspects with the help of institutions. Institutions are understood as *„shared rules and typifications that identify categories of social actors and their appropriate relationships"* (Barley & Tolbert 1997). Institutional thinking is based upon the assumption that actors have to conform to field-level institutional arrangements to gain legitimacy. In opposition to resource- and competence-based thinking, competitive advantages are not only depicted as the result of rational efficiency criteria but of conformity with the institutional environment, as well. It is argued that the institutional environment conveys *„a common external standard of what a community defines reasonable behavior"* (van de Ven & Lifschitz 2013, p. 164). Organizations that conform to these institutionalized rules gain legitimacy and therefore access to superior resources and competences. Against this background, institutional theorists stress that institutional arrangements shape the trajectories of organizational actions (DiMaggio & Powell 1983; Jepperson 1991; Scott 2008). For instance, empirical studies show that institutional arrangements may affect the attention of actors (Ocasio 1997), determine appropriate behavior (Lounsbury 2007), and influence the choice of alliance partners (Vasudeva et al. 2013), the access to (D'Aunno et al. 1991) as well as the selection process of adequate resources and competencies (Oliver 1997).

Since traditional institutional thinking highlights non-reflexivity and taken-for-granted conformity to institutional arrangements, researchers study strategic and managerial behavior in the institutional work concept. With the emergence of the institutional work approach, the focus has shifted from rather passive organizational behavior to *"the purposive action of individuals and organizations aimed at creating, maintaining, and disrupting institutions"* (Law-

rence & Suddaby 2006, p. 215). Since institutions may promote (Kennedy & Fiss 2009) or inhibit (Ferlie et al. 2005) innovations – depending on their conformity with field-level structures (Caronna 2004) – the institutional work concept acknowledges that actors sometimes also may engage in institutional work to change the external requirements to which they have to adapt to remain innovative. Stressing the importance of lobbying and further market shaping activities in dynamic capability development, I assume that dynamic capability research might gain fruitful implications of research that explores institutional work within a clear theoretical competence-based framework. However, the deviation and integration of a compatible definition of institutions and agency within the framework of the Dynamic Capability Approach is hardly realizable, since the Dynamic Capability Approach lacks a) a clear definition of its philosophy of science, b) a theoretical concept of agency, and c) the acknowledgment of organizational impact on environmental aspects. With the objective to avoid eclecticism, as the non-reflective integration of theoretical concepts, this study introduces the *Competence-based Theory of the Firm* which is seen as a promising theoretical framework for the compatible integration of competence-based and institutional thinking.

The CbTF as Theoretical Framework to Study Multi-Level Processes in Innovation Research

The C*ompetence-based Theory of the Firm* (CbTF; Freiling et al. 2008) is a relatively nascent theory that extends the line of thinking of resource- and competence-based approaches. Advancements to traditional resource- and competence-based frameworks can be seen in the explicit definition of resources, competencies and assets, as well as in the conceptualization of entrepreneurial activities (Freiling 2004, 2005). While early competence- and resource-based thinking conveys the subliminal impression that the competence management might be guided by the invisible hand of the manager (Freiling 2004, p. 413), the CbTF explicates managerial activities in the context of capability and innovation processes. Most importantly, based upon market process theory, the CbTF provides a clear theoretical framing that acknowledges the importance of process-based concepts to explain innovations in a dynamic environment and that allows the analysis of multi-level phenomena (Freiling et al. 2008). Specifically, the traditional ex post-oriented explanandum of resource- and competence-based thinking is modified in the "*explanation of current and future firm competitiveness (...)*" (Freiling et al. 2008, p. 1150), shifting the focus from *"(sustainable) competitive advantage"* to *"striving for competitiveness"* (Freiling et al. 2008, p. 1151). By linking micro-, meso-, and macro-levels of

analysis, the theory provides a clear theoretical framing that underscores the interplay and recursive impact of institutions and agency.

However, as a relatively nascent theory and as an advancement of traditional resource- and competence-based approaches, the nucleus of the CbTF has focused on the explanation of micro-level dynamics. Based upon the clear theoretical foundation in terms of six hard core elements, I integrate a compatible conceptualization of institutions in the theoretical framework of the CbTF. In line with the philosophy of science of the CbTF a recursive ontology of institutions is applied, supposing that although institutions constrain action, they are the product of human activities, collective learning processes (Barley and Tolbert 1997; Cloutier and Langley (forthcoming)), and therefore, embody the diverse strategic interests and worldviews of more or less powerful actors (Zietsma and McKnight 2009). Referring to the reflexive understanding of Hargrave and Van de Ven (2006, p. 866), institutions are understood as "*(...) the humanly devised schemas, norms, and regulations that provide orientation and guidance for actors in social life"*. While institutional theorists apply this construct to study the impact of existing institutional arrangements on field-level practices, they theorize the development process of new, potential institutions within the concept of proto-institutional work. Proto-institutions are consciously defined as *"institutions in the making"* or as "*[new] practices, technologies, and rules that are narrowly diffused and only weakly entrenched, but that have the potential to become widely institutionalized (...)"* (Lawrence et al. 2002, p. 283). In the development process of proto-institutions, actors negotiate the regulatory content of the prospective rule with relevant stakeholders to gain their legitimacy and to initiate its institutionalization process aiming at changing field wide practices, rules and norms (Helfen & Sydow 2013; Zietsma & McKnight 2009). Proto-institutional work, thus, provides a conceptual lens through which we can study the processes by which actors draw on and potentially impact their context.

However, integrated in the CbTF, the exclusive institutional focus on the external impact of proto-institutions on field-level practices can be extended by the exploration of the internal dynamics in proto-institution development processes. While research in the realm of proto-institutional work, thus, focuses on the generation of the external impact so that proto-institutions shape field-level practices, I assume that theories that allow the exploration of micro-dynamics, as well, provide a framework to study the internal impact of proto-institutions on the firm level. Against this background, this empirical study is informed with

the theoretical assumption that proto-institutions may constitute a promising instrument to manage the interaction and co-evolution of institutional and organizational developments.

METHOD AND EMPIRICAL CONTEXT

Due to the reason that this study pursues the objective of theory extension (Eisenhardt 1989; Yin 2014), an iterative empirical research design is chosen. Specifically, the CbTF is extended by an understanding of market shaping processes in terms of institutional change. Moreover, explorative research is required, because the link of institutional and organizational developments has not been elaborated sufficiently (Tracey & Phillips 2011). Hence, in line with Yin (Yin 2014), the management of the co-evolution of institutional and organizational phenomena in innovation processes is explored within an embedded single case study.

Empirical Context

The empirical single case study is conducted in the German healthcare sector between 2005 and 2015. The German healthcare sector seems promising to study my theoretical research interests empirically for several reasons. First, the German healthcare sector can be characterized as a highly regulated sector, consisting of standardized, stable structures and practices. These regulations work as innovation barricades (Gersch & Rüsike 2011; Mirow et al. 2007). Although, suspected demographic developments and a lack of medical and non-medical personal require fundamental change in healthcare practices and structures, the introduction of innovative health care concepts is hindered by stable institutional arrangements. Due to legal regulations, political interests and common practices, innovation activities oftentimes face barriers that inhibit their implementation. Second, the case study is conducted in the submarket of outpatient ventilator care. While the general regulations of the healthcare sector constitute the overall frame, they need to be specified for their application in the relevant submarkets. However, empirical data shows that such individualized regulations are absent in the sub-segment of outpatient respiratory care. Hence, while the general regulations of the healthcare sector shape the practices of outpatient ventilator care only superficially, this field lacks guidelines that take account of the special requirements of outpatient ventilated patients. Referring to Mair and colleagues (Mair & Marti 2009; Mair et al. 2012), this market can be

characterized by institutional voids. That is, situations where *"institutional arrangements that support markets are absent, weak, or fail to accomplish the role expected of them"*. Existing research shows that in highly-regulated (Gersch et al. 2010) and disrupted fields (Aldrich & Fiol 1994; Zietsma & McKnight 2009), as well as in markets characterized by institutional voids (Mair & Marti 2009; Mair et al. 2012), market shaping activities become vitally important in innovation processes. Since innovative practices need the support of the institutional setting for their legitimation, actors may first have to create new or modify the existing institutional arrangements that fit with their innovative projects. Due to demographic challenges, such profound changes regarding the common practices and structures in the German healthcare sector are required and also politically desired. Against this background, I argue that the German healthcare sector in general, and the sub-market outpatient ventilator care in particular, seem highly promising to observe innovative actors who intent to take advantage of the seldom opportunity of institutional change and who try to manage the interplay of external and internal developments with the attempt to generate an institutional setting that fit their innovative project.

Empirical Case Study

The focus of the empirical case study is on the industrial firm *Breathe,* which specializes in the care of long-term ventilated patients. *Breathe* intends to implement a disruptive innovative care program to bridge the gap between intensive care and home care. Specifically, they plan to gain first mover advantages (Lieberman & Montgomery 1988) by offering the service *"outpatient weaning"*, that is, the process of improving the respirator system to enable spontaneous breathing and liberation from mechanical ventilation. Due to the lack of institutional arrangements that legitimize outpatient weaning, *Breathe* faces two challenges. On the one hand, *Breathe* has to create an appropriate institutional setting that specifies and supports their innovation project. On the other hand, *Breathe* simultaneously needs to prepare corresponding resources and competencies that fit these future institutional requirements. From the period from 2005 to 2013 *Breathe* shows various efforts to establish as high quality care provider. With the attempt to differentiate from non-specialized care provider, *Breathe* develops internal quality standards and in-house training programs that focus on the needs of long-term ventilated patients. After eight years of negotiation with health insurance funds regarding the legitimization of weaning services out of the hospital, *Breathe* faces rather higher costs than com-

petitive advantages – due to the lack of institutional support. In 2013, demographic challenges and the threatening lack of medical and non-medical care providers put political institutions and organizations in the German healthcare sector under pressure to change the rigid established legal system to avoid shortage of medical care. While monitoring the growing importance of innovative care concepts that strengthen outpatient (respiratory) care, *Breathe* initiates a collaborative research project (*Breathe@Home)* in 2013. Together with an interdisciplinary project consortium, consisting of industrial, technical and scientific partners, *Breathe* intends to shape the future institutional setting with the objective a) to create a legal system that supports their idea of outpatient weaning and b) to prepare internally by developing appropriate resources and competences that fit these future (self-created) institutional arrangements. The data shows that the development of discharging criteria for patients with prolonged respiratory failure takes center stage in this process. This can be traced back to the reason that the development and the implementation of generalized discharging criteria constitute one example for the multiplicity of institutional arrangements which are required for the (politically desired) diffusion of integrative care concepts in Germany.

In the light of institutional theory, these discharging criteria can be characterized as proto-institution. They constitute a rule that determines the time of transition of patients from inpatient to outpatient care, depending, on the one hand, on the defined needs for medical treatment and care of the respective patient group to whom the rule is directed at. On the other hand, the time of transition depends on the readiness of action of the outpatient care organization in terms of technical, qualification and infrastructural conditions. Therefore, the regulatory content of the discharging criteria has a fundamental impact on the discharging practices of the medicals in the inpatient sector and on the practice of patient admission of outpatient care organizations that intend to offer weaning services.

The development process of these criteria is fundamentally based upon the joint definition and negotiation of the current and target care and transition processes for the realization of controlled weaning services out of hospital. Since *Breathe* and the other project partners deem these discharging criteria as a promising new regulation to change field wide practices, rules and norms, these criteria are created with the objective to become widely institutionalized and therefore, to support outpatient weaning under certain circumstances. The data shows that *Breathe* negotiates the regulatory content of the prospective rule with relevant stakeholders to gain their legitimacy and to initiate the diffusion and institutionalization process (Helfen & Sydow 2013; Zietsma & McKnight 2009). At the background of the aforementioned theoreti-

cal knowledge of proto-institutions, the discharging criteria can be characterized as proto-institutions.

Assuming that proto-institutions might be a possible instrument to manage the interplay of institutional and organizational developments, the empirical study focuses on how *Breathe* attempts to manage their co-evolution via the development of the discharging criteria to generate a future fit and to realize their innovative idea "outpatient weaning".

Data Collection

My data covers the period from 2005 to 2015, a period that starts with the entrance of *Breathe* in the market of outpatient weaning and ends in the beginning of this year. The empirical analysis draws on process data, including 22 in-depth interviews, field notes, participatory observations and memos. All interviews were recorded and transcribed. The first 7 interviews were conducted between 2011 and 2012. These interviews primarily cover general information about *Breathe*, its history and objectives. The second round of interviews (2013-2015) focuses specifically on the management of the interplay of external and internal developments via discharging criteria (proto-institution), aiming at the generation of an innovation that fits future environmental requirements. These primary documents have been triangulated with an extensive set of secondary data, containing press articles, corporate documents, presentations etc. Table 1 provides an overview of the rich case study database.

Document	Number of Documents	Pages	Number of Interview Partners	Hours of Participating Observation
PRIMARY DATA				
Interviews 2013-2015	22	580	18	
Interviews 2011-2012	7	161	7	
TOTALS Interviews	**29**	**741**	**22**	
Field Notes	45	176,5		
Participating Observation	25			119,5
Memos	20	135		
TOTALS Primary Documents	**119**	**1052,5**	**22**	**119,5**
SECONDARY DATA				
Presentations	19	401		
Press Articles, Studies, Reports, Scientific Articles, Corporate Documents, TV-Reports, Websites	79	1942		
TOTALS Secondary Documents	**98**	**2343**		
TOTALS	**217**	**3395,5**	**22**	**119,5**

Table 1: Case Study Database

Data Analysis

Given the relative paucity of extant research on this matter, I used an inductive approach to my data analysis, but interpreted my findings in the light of resource- and competence-based as well as institutional theories (iterative research design; Gioia et al. 2013). The analysis of the case study was conducted with the objective to explore the management activities performed externally, aiming at shaping the institutional environment, and the activities performed internally in response to this prospected institutional shift. Consequently, the interpretation of the data was informed by my knowledge about institutional and competence-based theories. Following common practice in qualitative data analysis, I used open coding ("in vivo codes") to identify relevant concepts in the data. Referring to Gioia and colleagues (Gioia et al. 2013) a constant iteration between theoretical and empirical data ensured that concepts emerge that were informed by case study data, information about the field and relevant literature. This process of induction was conducted in Atlas.ti and resulted in 267 first-order categories shaped by informant-language. Engaging in axial coding, that is the continuous checking and re-checking of similarities and differences between the collected first-order categories in the data, I derived my first-order concepts. While these concepts help to understand how

actors try to shape field-level regulations and how they try to adapt and prepare internally to these prospected environmental requirements in the process of proto-institution development, they do not inform about the underlying theoretical concepts. Consequently, the next step was conducted and the first-order concepts were informed by preliminary theoretical findings. Finally, six theoretically framed second-order themes derived. In accordance with Gioia and colleagues (Gioia et al. 2013), these themes were aggregated in the form of two dimensions. These aggregate dimensions link first-order concepts and second-order themes on a conceptual base, explaining how *Breathe* manages the balance of institutional developments and organizational readiness for action over time. Table 2 and 3 illustrate the data structure which is also the foundation for my multi-level model (Figure 1).

Next, I turn to my findings. I first present how actors try to create and shape institutional arrangements via proto-institutional work. Second, I show how they simultaneously manage their internal readiness for action to prepare a fit with these future institutional requirements.

FINDINGS

This study attempts to extend dynamic capability research with empirical insights into the interplay of external and internal developments in innovation processes by bridging strategic and organization research within a consistent theoretical framework. Asking what kind of managerial activities actors perform externally and internally to develop future innovation capacity, this study informs competence-based research with institutional thinking on the consistent theoretical foundation of the CbTF. The empirical analysis focuses on how *Breathe* intends to develop future competitiveness in market shaping processes via the development of discharging criteria, which have been characterized as proto-institution.

My data suggest two kinds of entrepreneurial activities that are central for the management of the co-evolution of external and internal developments. On the one hand, actors perform a *Symbolic Legitimacy Management*, aiming at shaping the institutional regulations via the development of proto-institutions. On the other hand, actors simultaneously try to adapt their readiness for action to these prospected regulations via the performance of a *Technical-material Adaptation Management*.

Symbolic Legitimacy Management

While actors attempt to shape the institutional framework by creating new or modifying existing regulations, they face the challenge to initiate and drive forward the diffusion and establishment of this new or modified rule. My data suggest that actors perform a *Symbolic Legitimacy Management*. In this process, the prospected new rule or regulation has to be developed in (formal) consent with the existing regulations, logics, norms and interests. Specifically, my data indicates that the radical nature of new rules that support disruptive innovations – in this case, the idea of outpatient weaning services – has to be covered by embedding them in the familiar structures of norms and logics of relevant stakeholders. Three entrepreneurial patterns of action can be identified within which the *Symbolic Legitimacy Management* manifests: co-creation, signaling conformity and embedding. The illustrative data structure is presented in Table 2.

First Order Concepts	Second Order Themes	Aggregate Dimension
Create common reference framework	Co-creation	Symbolic Legitimacy Management
Resolve tensions		
Define competence areas		
Create evidence	Signaling conformity	
Communicate reputation		
Show congruence		
Institutional inscribing	Embedding	
Lobbying		
Attract attention		

Table 2: Data structure *Symbolic Legitimacy Management*

Co-creation. The initiation of the development of the discharging criteria can be traced back to the intention of *Breathe* to modify the established institutional setting and practices so that new regulations emerge that support their idea of an innovative care concept. In this attempt, *Breathe* is reliant on the cooperation with relevant stakeholders in the field of respiratory treatment. On the one hand, *Breathe* is particularly dependent on the specialized knowledge of the medical care providers. On the other hand, my data show that *Breathe* is not only highly

reliant on their know-how, but on their acceptance and legitimacy, as well – in particular, regarding the plans to establish as provider of outpatient weaning services. *Breathe* realizes that the diffusion and institutionalization of supporting discharging criteria is highly dependent on the acceptance and the supported by relevant stakeholders. Consequently, *Breathe* takes immense efforts to convince the medical project partners of the importance of the development of the discharging criteria and of their participation in this process. Due to the reason the German healthcare sector is characterized by non-cooperation, *Breathe* shows various efforts to reduce established political conflicts, to define the competence-areas of the different partners, to align the divergent interests and the evolvement of a joint idea of "outpatient respiratory treatment services" at the beginning of the development process of the criteria. Taken together, my data indicates that *Breathe* continually tries to create a cooperative atmosphere and to ensure the emergence of legitimacy of the discharging criteria on the project level.

Signaling conformity. In the development process of the discharging criteria not only the definition of the regulatory content of the intended future regulation becomes central. The regulatory content of the discharging criteria encompasses the specification of appropriate patient groups for outpatient weaning depending on their medical and care needs, the respective time of transition from inpatient to outpatient care of each group, as well as the qualification, technical and infrastructural prerequisites outpatient care organizations have to meet to guarantee high-quality weaning services. Moreover, the data also shows that symbolic actions take center stage in the development of the discharging criteria. Specifically, *Breathe* takes various efforts to generate acceptance of the criteria on the level of the cooperation and the wider field. The data shows that the generation of legitimacy is primarily realized through the signalization of conformity with existing norms and logics. Thus, the development process of the potential institutional rule is formally conducted in line and in coherence with the existing legal framework, norms and logics of the relevant stakeholders. For instance, the discharging criteria are conceptually aligned with the tenor of existing medical guidelines and the interests of important stakeholders. The group of relevant stakeholder consists of medical experts, health care politicians, patients and representatives of health insurance firms, for instance. In this process, *Breathe* continually underscores the reputation of the participating actors, intending to enforce the trustworthiness of the developing criteria. A further activity that aims at signaling conformity can be seen in pretending "medical evidence" of the discharging criteria. Medical evidence is deemed as objective proof for the benefit of care concepts in terms of

quality and cost in the healthcare field. However, since *Breathe* evaluates the benefit of the discharging criteria primarily on a conceptual base through a "proof of concept" than through randomized clinical studies, the conformity to the healthcare logic can be interpreted as being rather symbolically. Moreover, *Breathe* establishes an advisory board ("Beirat") with relevant and important representatives of the German healthcare sector. My data show that *Breathe* expects the generation of acceptance and legitimacy from these relevant stakeholders through their active participation in the development process of the criteria and through the conceptual alignment of the criteria with the logic of these stakeholders.

Embedding. Among co-creation and signaling conformity to existing institutional norms and logics, *Breathe* also prepares the integration of the discharging criteria in the established overarching institutional framework. The inscription of future institutional rules in the existing general framework is seen as prerequisite for their acceptance, implementation and their institutionalization in terms of shaping the practices of other actors. For the reason that the implementation and support of the new criteria is seen as central for the realization of the innovative care concept "outpatient weaning", *Breathe* attempts to enforce the perceived importance of discharging criteria on the societal-level by heavily attracting the attention of relevant stakeholders on conferences, by participating in committees and via lobbying. Specifically, they polarize by demonstrating the negative consequences of the absence of discharging criteria on conferences and in the wider publicity. Over time, intentions to institutionally inscribe the new criteria in the overall institutional framework become apparent. For instance, *Breathe* continually takes efforts that the discharging criteria become the character of quality indicators. As quality indicators, they can be integrated in medical guidelines, in accreditation guidelines for specialized weaning centers and in medical education programs, and therefore, becoming part of the quality assessment of health insurance firms with regard to the evaluation of outpatient care organizations. Taken together, efforts to "embed" the discharging criteria in the existing institutional framework increase the diffusion and institutionalization of the criteria in the field.

Technical-material Adaptation Management

The dimension *Technical-material Adaptation Management* encompasses the entrepreneurial challenge that *Breathe* faces in their attempt to prepare internally for the perceived future performance requirements as provider of outpatient weaning services. While *Breathe* engages in the development and initiation of the institutionalization of discharging criteria – new rules that aim at shaping field-level practices (*Symbolic Legitimacy Management)* – my data show that *Breathe* simultaneously considers the prospected consequences of these criteria with respect to their organizational development needs. Specifically, *Breathe* compares its current readiness for action to the required performance requirements which have been defined in the discharging criteria for outpatient weaning services. Moreover, my data show that *Breathe* continually adapts its internal resource and competence base with the evolving performance prerequisites. The proto-institution is used as landmark for the ex ante-reconfiguration of the organizational readiness for action to realize outpatient weaning. In particular, the dimension *Technical-material Adaptation Management* encompasses three entrepreneurial activities: fit scanning, first realization, and ensuring. Referring to Ansari and colleagues, adaptation means the process of the alignment of the organizational readiness for action with prospective environmental dynamics – or the other way round: the proactive alignment of future institutional regulations with the individually perceived capacity for change. The illustrative data structure is presented in Table 3.

First Order Concepts	Second Order Themes	Aggregate Dimension
Detect market opportunities	Fit scanning	Technical-material Adaptation Management
Identify resource & competence gaps		
Process- & infrastructure adaptations	First implementing	
Prepare organizational embedding		
Evaluate organizational changes	Hedging	
Prepare external scaling		

Table 3: Data structure *Technical-material Adaptation Management*

Fit scanning. The data indicate that *Breathe* is granted the opportunity to get a foresight into future market developments that are prospected by the medical cooperation partners in the development process of the new, potential institutional regulation for discharging. Due to lacking medical know how and the dependence of *Breathe* on the support of the medical experts, *Breathe* becomes aware that promising market and innovation opportunities can only be identified and addressed with the help of and the access to the competencies of the medical partners. For the reason that the medical partners also have an interest in early, but structured transition processes of defined patient groups from inpatient to outpatient care, *Breathe* initiates the cooperation with the medical partners to define (infra-) structural, technical and qualification criteria that have to be met by care organizations that intent to offer outpatient weaning services. These performance requirements are an essential regulatory part of the discharging criteria. My data show that *Breathe* evaluates future market options that have been identified by medical experts with respect to their own development needs. Specifically, *Breathe* takes advantage by identifying its own resource- and competence gaps regarding "outpatient weaning" services. In the process of the joint definition of discharging criteria, *Breathe* uses the criteria as landmarks and guidelines for the internal evaluation of its development needs with respect to future innovation opportunities and conditions.

First implementing. While *'fit scanning'* primarily focuses on the identification of individually perceived resource and competence gaps with regard to the implementation of an institution-compatible innovative care concept, the empirical data indicate additionally that *Breathe* already starts to adapt its readiness for action to the evolving regulatory content of the discharging criteria. For instance, *Breathe* rewrites its internal qualification and training programs, invests heavily in new hardware and modifies its intra- and inter-sectoral processes in consent with the logic of the future discharging criteria. These organizational adaptations become more concrete over time: In the cooperative development process of a consent regarding the regulatory content of future discharging criteria, *Breathe* simultaneously adapts its organizational performance capacities with respect to the evolving organizational prerequisites for outpatient weaning. The discharging criteria, hence, are used as landmarks for the ex ante preparation of organizational innovation capacity; that is, the internal development of resources and competences in line with anticipated institutional performance requirements. This fit will be mandatory for the realization of outpatient weaning services, if the discharging criteria become institutionalized.

Hedging. My process data indicate that the submarket "outpatient respiratory care" can be characterized by institutional induced uncertainty due to the absence of adequate qualification criteria for organizations that specialize in the care of patients with artificial ventilation. Moreover, since intersectoral und interdisciplinary cooperation has been uncommon practice in the German healthcare sector, actors lack profound orientation and landmarks with regard to desired organizational qualification standards. In fact, the submarket "outpatient respiratory care" is characterized by a lack of qualification requirements, poor quality of care and non-standardization. In their attempt to establish as high quality provider, *Breathe* has developed organizational capacities which *Breathe* perceives as effective, efficient and beneficial. My data show that in the cooperative development process of the discharging criteria, *Breathe* gets insights, for the first time, in the expectations of the medical regarding high-quality out-patient care. Consequently, in the development process of the discharging criteria, *Breathe* gets the opportunity to evaluate and adapt their intra- and interorganizational processes in real time with the help and the know-how of relevant stakeholders. The modification and evaluation of internal processes is first realized on a conceptual base and finally tested during field-tests. In this context, hedging means the implementation and evaluation of modified processes that are perceived to be more effective, efficient and flexible with regard to (future) performance requirements. By involving representatives from health insurance firms, *Breathe* additionally evaluates and ensures compensation and reimbursement of the modified processes.

Taken together, my data suggest that *Breathe* adapts its readiness for action in terms of the anticipated performance requirements that are explicated in the regulatory content of the discharging criteria. However, by evaluating its organizational capacity for change, *Breathe* simultaneously gets hints with regard to their own performance potentials and problems. These hints trigger *Breathe* to intervene and shape the regulatory content of the discharging criteria with respect to its individually perceived performance capacities. Hence, by proactively participating in the development process of a new rule, *Breathe* simultaneously has the possibility to affect the expectations of the stakeholders and to ensure acceptance with regard to their organizational modifications.

DISCUSSION

This study is conducted with the attempt to explore the role of actor-driven market shaping processes in dynamic capability research. Finally, the importance of multi-level aspects for capability development can be highlighted.

Due to the absence of a clear theorization of environmental dynamics in dynamic capability research, I suggest referring to institutional theory to conceptualize and specify external aspects with the help of the construct of institutions. Based on the consistent theoretical framework of the CbTF, institutions are understood as norms, rules and schemata that provide orientation and guidance to the actors in social life. In line with recent institutional argumentation, I study purposeful market shaping processes with the help of the proto-institutional work concept. The focus of the proto-institutional work concept is on actor-driven development and institutionalization processes of new or modified institutional rules.

With the attempt to inform resource- and competence-based research with institutional thinking, these constructs are integrated in the CbTF based on a clear philosophy of science. This has important consequences: While research in the realm of proto-institutional work (Lawrence et al. 2002; Zietsma & McKnight 2009) highlights the macro-level by studying how actors create and try to embed proto-institutions to shape field-level practices, the theoretical framework of the CbTF allows relevant insights not only into macro-, but into micro-dynamics on the firm level, as well. Against the background of the theoretical framework of the CbTF, my data show that actors engage in the development of proto-institutions a) to create institutional arrangements that support their innovative idea and (perceived future) performance potentials, and b) to ex ante prepare the fit with these future institutional requirements by adapting their organizational performance potentials during the managed interplay with the evolving proto-institution. Specifically, I argue that actors, who attempt balancing future institutional and organizational developments, face two challenges in the process of proto-institution development. On the one hand, actors need to perform a *Symbolic Legitimacy Management*. I identify three entrepreneurial activities that are aimed at the creation and initiation of the institutionalization process of a new institutional arrangement which supports their innovative project. However, in this process, actors consider their internal ability to change simultaneously: *'co-creation', 'signaling conformity',* and *'embedding'*. On the other hand, actors cope with a *Technical-material Adaptation Management*, as well. That is, the ex ante adaptation of the organizational readiness for action to the (self-created) prospective in-

stitutional regulations – respectively the proto-institution. In the interplay with the continuous evolvement of the proto-institution, actors perform three entrepreneurial activities attempting to adjust their readiness for action to the future institutional requirements: *'fit scanning', 'first implementing'*, and *'hedging'*.

A first contribution of this study can be seen in the theoretical conceptualization of the "environmental dynamics" that are only sparsely addressed in dynamic capability research. In the light of the Dynamic Capability Approach, innovation capacity is deemed as the continuous adaptation of resources and competencies to changing external performance requirements. While little has been done to specify these external, environmental dynamics on a theoretical level, this study highlights the importance of such a theoretical conceptualization by referring to the insights of institutional theory. The data show that the institutional setting takes center stage in innovation projects by determining which innovations are legitimized, which resources and competences are needed, and how organizations have to leverage their readiness for action to generate the fit with future performance requirements. Moreover, institutional arrangements may act as diffusion barriers that restrict or impede innovation efforts of organizations in highly regulated sectors, for instance in the (German) healthcare sector (Gersch & Rüsike 2011). Consequently, the institutional framework may narrow the scope of organizational innovation activity (Caronna 2004; Ferlie et al. 2005), in particular in the case of disruptive innovation projects that may lead to a change of field level practices.

These arguments have important implications for dynamic capability research. Interpreted to the extreme, the line of reasoning of the Dynamic Capability Approach suggests more or less directly that a continuous adaptation to environmental dynamics is sufficient to remain competitive and inventive (Teece 2007; Teece et al. 1997). While the Dynamic Capability Approach focuses exclusively on the organizational level, this study elaborates that organizational adaptation indeed is an important, but not the only and always most effective way to generate a future fit of environmental and organizational developments. I argue that modifying the institutional setting can be seen as a further promising entrepreneurial activity in the development process of future readiness for action that fits the institutional performance requirements. This empirical finding is also compatible to the line of reasoning of existing research. On the one side, organizational inertia (Leonard-Barton 1992) may prevent organizational change and adaptation with regard to changing environmental demands (Goeke 2008). On the other side, innovations via organizational adaptation are hard to realize in uncertain environments resistant to institutional change or if institutional change processes turn out to

be contrary with regard to the planned innovative projects. These arguments can be concretized by referring to institutional thinking (Aldrich & Fiol 1994; Mair & Marti 2009; Puffer et al. 2010; Tracey & Phillips 2011; Zietsma & McKnight 2009): Notably in situations that are characterized by institutional induced uncertainty, a purposeful and goal-oriented management of the institutional conditions is essential to generate landmarks that guide actors in the development process of (disruptive) innovations.

Against this background, this empirical study argues that dynamic capabilities can be better understood by extending the exclusive focus on organizational adaptation by the consideration of market shaping activities in innovation processes. Based on empirical and theoretical evidence, it is concluded that a management of dynamic capabilities requires the consideration of the balance of future institutional and organizational developments. Specifically, this study shows that in some situations there is a need to proactively influence the institutional regulations to manage the fit with organizational performance and adaptation potentials. The capacity for renewal and organizational development cannot be traced back to organizational adaptation exclusively, but to a management of the institutional arrangements, as well. It is suggested to interpret the institutional setting as object for continuous observation and as "adjusting screw" for a future fit with organizational performance potentials.

Summing up, the empirical findings highlight the importance of a proactive, simultaneous management of the institutional setting in the context of organizational innovation and renewal processes. It is suggested to understand the proactive consideration of the institutional setting as ex ante management of the fit or the balance of institutional and organizational developments. Proactive consideration means, that in the attempt of capability development, there is a need to a) monitor (Schreyögg & Kliesch 2006; Schreyögg & Kliesch-Eberl 2007) and recognize internal demands for (future) institutional change, and perhaps b) to intervene – e.g. through proto-institutional work. This argument extends the assumptions of the Dynamic Capability Approach profoundly by simultaneously stressing the management of the institutional framework for innovation capacity and organizational renewal. Consequently, dynamic capabilities manifest not only in the management of internal, but of external aspects, as well.

> *P1: As actors try to prepare organizational readiness for action to realize their innovation project, they proactively consider the development of the institutional setting.*

A second contribution of this study can be seen in the exploration of the management activities aiming at the modification of the institutional setting via proto-institutions. These insights also lead to the third finding; the identification of proto-institutions as instrument with which the simultaneous ex ante management of institutional and organizational developments can be realized.

I begin my empirical argument with a short elaboration on my assumption that proto-institutions might be an instrument to manage the co-evolution of institutional and organizational developments in innovation processes. I argue that proto-institutional work can lead to a future fit of a modified institutional setting with the (individually perceived) future performance potentials. In line with research in the realm of the (proto-) institutional work concept, this study shows that actors create proto-institutions aiming at the initiation of the diffusion and institutionalization of the proto-institution in the relevant field. Specifically, my study explicates this process by elaborating that actors cope with a *Symbolic Legitimacy Management*; that is the creation of a potential institutional rule that supports their innovative projects by considering existing institutional rules, norms and logics of relevant actors. While this finding fits existing (proto-) institutional research (Hargadon & Douglas 2001; Schüßler et al. 2014), my empirical data show that proto-institutions simultaneously act as landmarks that provide insights in the regulatory content of the future institutional context. As the proto-institution – as *"institution in the making"* (Lawrence et al. 2002) – evolves and concretizes over time, actors use this rule as indicator to benchmark their existing organizational readiness for action with these future requirements and development needs. Through the performance of three entrepreneurial activities (*'fit scanning', 'first implementing'*, and *'hedging'*), the proto-institution gains an actor-driven impact on organizational readiness for action by indicating internal modification and development needs.

These findings suggest that proto-institutions are not only an instrument to shape future institutional arrangements, but to prepare organizational readiness for action that fits even those future institutional innovation conditions. Hence, through insights into the evolvement process of the regulatory content of the proto-institution, actors can first, estimate the speed and pace of change of external dynamics, second, exert influence on these requirements, and third, adapt their organizational readiness for action respectively to generate compatible performance potentials for market entry. The orientation along and the proactive management of the future institutional developments may lead to the avoidance of flexibility traps (Gersch 2006),

due to the reason that investments are undertaken with respect to the anticipated future development of the institutional environment.

As a complement to the first proposition *(P1)*, I can show that in turn, organizational readiness for action plays an important role in market shaping activities, too. It is argued that market shaping is only an interesting management activity, if the organization is able to address these future institutional performance requirements by simultaneously developing compatible readiness for action.

> *P2: As actors try to shape future institutional arrangements, they proactively consider the development needs of their own readiness for action.*

This study shows that proto-institutions may have a double-sided impact. In line with recent institutional theory, they can be interpreted as means to trigger institutional change. Beyond that, my theoretical and empirical data suggest additionally the interpretation of proto-institutions as self-created landmarks that indicate internal development needs in terms of readiness for action that fits future performance requirements, as well. While actors engage in the creation and scalability of a new institutional rule, they are able a) to shape field-level practices, and b) simultaneously, to manage the ex-ante fit internally by preparing corresponding resources and competencies in order to realize their innovative idea.

As aggregation of proposition *(P1)* and *(P2)* and further proposition can be generated:

> *P3: The balance of institutional and organizational developments manifests in proto-institutions.*

Taken together, my empirical data suggest a multi-level model which allows studying the management of co-evolutionary processes via proto-institutions (Figure 1). Actors engage in market shaping activities with the attempt to prepare innovation potentials that fit with future institutional performance requirements. Hence, the consideration of multi-level phenomena, like market shaping activities, fruitfully extends dynamic capability research by providing an additional view on the generation of the fit of organizational and environmental developments. Interpreting proto-institutional work as manifestation of successful dynamic capabilities, this study provides further insights into dynamic capability generation processes. The

development process of proto-institutions, or rather the simultaneous management of institutional and organizational developments can be interpreted as a concretization of the capability monitoring which has been introduced by Schreyögg and Kliesch (Schreyögg & Kliesch 2006; Schreyögg & Kliesch-Eberl 2007). The proactive anticipation and development of (individually perceived) adequate readiness for action may be seen as precondition for the realization of innovations and first-mover advantages.

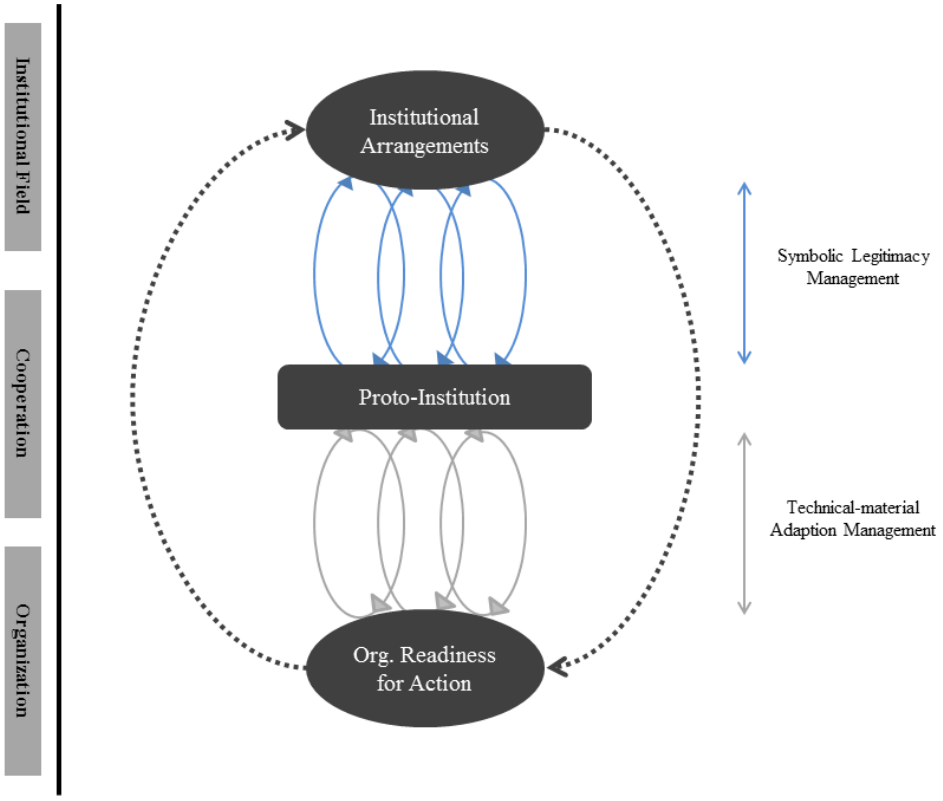

Figure 1: Multi-level model

CONCLUSION

This study attempts to inform dynamic capability research with insights of the interplay of external and internal developments in innovation processes by bridging strategic and organizational research based on a theoretical framework with a consistent philosophy of science. By referring to the insights of institutional theory, I highlight that future innovation capacity

cannot be understood with an exclusive focus on either the micro- or the macro level of analysis.

First, this study stresses the importance of a proactive consideration of environmental, respectively institutional aspects in organizational development processes. Specifically, the importance of multi-level analysis and process data are underscored in dynamic capability research. This means that not only unidirectional influences of institutions on organizations, but also bidirectional, recursive relationships become important in innovation processes. Finally, the consistent theoretical framework of the CbTF allows the elaboration of a theoretical model which allows the combined analysis of multi-level processes. Particularly, in environments characterized by institutional induced uncertainty, actors simultaneously need to consider institutional and organizational developments to manage the future fit which is required for the realization of (disruptive) innovations. While research in the realm of the Dynamic Capability Approach stresses continuous adaptation of organizational readiness for action to the dynamics of the (institutional) environment, I argue that market shaping processes are an important instance of dynamic capability development, too. Instead of rather passive adaption processes, this study introduces proto-institutional work as the proactive, visionary reconfiguration of the organizational resource- and competence-base via the management of institutional change processes. Hence, proto-institutions can be interpreted as instruments to steer co-evolutionary developments and their balance in innovation processes. The successful management of proto-institutions is understood as manifestation of dynamic capabilities.

This study also has some important practical implications regarding future innovation capacity. By considering environmental arrangements as steering screw to generate a future fit with internal performance potentials, actors can proactively manage their scope of innovation. Understanding market shaping activities as possibility to develop organizational capacities for renewal, proto-institutions may serve as instrument for the avoidance of flexibility traps. The management of the external environment provides actors guidance and influence with regard to future capability needs and how to invest in internal development. Furthermore, the role of cooperative projects in organizational development processes is strengthened by the insight that actors can build new and leverage competencies with the help and the knowledge of relevant partners.

However, this study also has a few limitations. To support my conceptual idea, I conducted an in-depth single case study in the German healthcare sector. In general, it has to be acknowl-

edged that statistical generalizability cannot be claimed. Since health care regulations are a very national issue, this study may have generalization problems regarding the application of the findings to another country. Moreover, the market of outpatient weaning is characterized by high institutional induced uncertainty which triggers actors to engage in market shaping processes. Hence, further research is needed regarding markets in other regulated or less regulated sectors. Nevertheless, the contribution is not diminished, due to the reason that this study pursues the objective of theory extension through the exploration of new insights regarding the management of co-evolutionary processes (Yin 2014). Hence, future work may explore the impact and the relevance of proto-institutions not only in other healthcare systems, but in less regulated sectors, as well. This paper can be seen as a first step considering market shaping activities in dynamic capability research. Further studies have to be conducted in order to refine, reject or confirm my findings.

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