

Burisch, Robert; Wohlgemuth, Veit

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## Conceptual paper

# Blind spots of dynamic capabilities: A systems theoretic perspective



Robert Burisch<sup>a</sup>, Veit Wohlgemuth<sup>b,\*</sup>

<sup>a</sup> European University Viadrina Frankfurt (Oder), Chair of Management and Organization, Große Scharrnstraße 59, 15230 Frankfurt (Oder), Germany

<sup>b</sup> HTW Berlin Business School (FB3), Treskowallee 8, 10318 Berlin, Germany

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### ABSTRACT

Dynamic capabilities remain one of the most popular, but also one of the most controversial topics in current knowledge and innovation research. This study exposes strengths and weaknesses of existing conceptualizations of dynamic capabilities by using a systems theoretic lens. Systems theory suggests that organizations operate in environments they cannot fully understand. Thus, organizational action patterns inevitably involve simplification, selectivity and uncertainty leading to inherent blind spots in every kind of strategic action. As the resulting insight, fully flexible organizational capabilities might not be achievable and continuous adaptation to every kind of environmental change cannot be possible from a systems theoretic perspective. Accordingly, this work discusses empirical difficulties that derive from the preceding argumentation and outlines a corresponding re-conceptualization of the dynamic capabilities concept.

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### Puntos ciegos de capacidades dinámicas: Una perspectiva teórica de sistemas

### RESUMEN

Las capacidades dinámicas siguen siendo una de las más populares, pero también uno de los temas más controversiales en la investigación de conocimiento e innovación. Este estudio expone las fortalezas y debilidades de las conceptualizaciones existentes de las capacidades dinámicas bajo la óptica teórica de sistemas. La teoría de sistemas sugiere que las organizaciones operan en entornos que no pueden ser comprendidos plenamente. Por lo tanto, los patrones de acción organizacionales implican, inevitablemente, la simplificación, la selectividad y la incertidumbre que conllevan a puntos ciegos inherentes a cada tipo de acción

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\* Corresponding author.

E-mail address: [veit.wohlgemuth@htw-berlin.de](mailto:veit.wohlgemuth@htw-berlin.de) (V. Wohlgemuth).

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estratégica. Como percepción resultante, la completa flexibilidad de las capacidades organizacionales podrían no ser alcanzables y la continua adaptación a cualquier tipo de cambio en el ambiente no puede ser posible desde una perspectiva teórica de sistemas. En consecuencia, este trabajo analiza las dificultades empíricas que se desprenden del argumento anterior y esboza una re-conceptualización correspondiente del concepto de capacidades dinámicas.

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## Introduction

Since the two seminal works by Teece, Pisano, and Shuen (1997) and Eisenhardt and Martin (2000) dynamic capabilities became and remained a central research area on knowledge and innovation. Despite the popularity, several shortcomings still exist, with the fragmentation of the literature being one example (Arend & Bromiley, 2009). Bibliographic reviews (e.g. Peteraf, Di Stefano, & Verona, 2013; Vogel & Güttel, 2013) suggest that various conversations on dynamic capabilities emerge that, although being partly complementary, do not necessarily share a common theoretical grounding. The fragmentation of the field is visible through the diversity in definitions and conceptualizations of dynamic capabilities (Ambrosini & Bowman, 2009).

To divide this variety of conceptualizations into groups, a classification along the lines of a distinctive desirable outcome, that is successful adaptation to environmental changes or the achievement of competitive advantage, appears to be useful. A recent meta-analysis reveals that the empirical evidence for the relationship between dynamic capabilities and competitive advantage is inconsistent (Pezeshkan, Fainshmidt, Nair, Lance Frazier, & Markowski, 2015). The initial intent of Teece et al. (1997) was to explore how firms can sustain a competitive advantage in highly dynamic environments. Accordingly, they conceptualize dynamic capabilities as leading to 'sustainable' success. However, only some of the existing research today follows this assumption. This paper therefore divides between conceptualizations that include a distinct outcome, and those that do not. The group that argues for a distinctive outcome consists of two further subgroups, that either argue for sustainability or not. Like Teece et al. (1997), Wang and Ahmed's (2007, p. 35) conceptualization belongs to the first group. They define dynamic capabilities as "a firm's behavioral orientation constantly to integrate, reconfigure, renew and recreate its resources and capabilities and, most importantly, upgrade and reconstruct its core capabilities in response to the changing environment to attain and sustain competitive advantage". Further definitions that might as well fit here are for example those by Griffith and Harvey (2001) and Lee, Lee, and Rho (2002). This study refers to those definitions in the following as group 1a.

Conceptualizations that slightly relax the assumptions of competitive advantage, but still contain an outcome component belong to the second subgroup, that this study calls group 1b. Eisenhardt and Martin (2000, p. 1107) for example

define dynamic capabilities as "the firm's processes that use resources – specifically the processes to integrate, reconfigure, gain and release resources – to match or even create market change. Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resources configurations as markets emerge, collide, split, evolve and die". Contrary to Teece et al.'s (1997) conceptualization and the resource-based view origins (Barney, 1991) of the concept, it is explicitly stated that dynamic capabilities do not necessarily meet all of the VRIN criteria, namely being valuable, rare, inimitable, and non-substitutable. The equifinality of dynamic capabilities might make them substitutable and also partly imitable (Eisenhardt & Martin, 2000). This conceptualization's violation of the VRIN criteria might not only impede the achievement of a sustained competitive advantage, but also of a temporary competitive advantage (Peteraf & Bergen, 2003; Peteraf et al., 2013). Nonetheless, Eisenhardt and Martin's (2000) definition still ties dynamic capabilities to the achievement of an outcome, namely matching or creating market change. This at least indirect relation to a positive outcome (Ambrosini & Bowman, 2009; Barreto, 2010) is among others also identifiable in Zollo and Winter's (2002) and Zahra, Sapienza, and Davidsson's (2006) definition.

Independent of the very type, the involvement of a successful outcome in the definition of dynamic capabilities might make the concept tautological (e.g. Ambrosini & Bowman, 2009; Arend & Bromiley, 2009; Barreto, 2010; Williamson, 1999): "If the firm has a dynamic capability, it must perform well, and if the firm is performing well, it should have a dynamic capability" (Cepeda & Vera, 2007, p. 427). This directly affects empirical examinations since cause and effect are inseparable. It becomes for example impossible to declare dynamic capabilities ex ante (Arend & Bromiley, 2009). Moreover, some definitions might not even allow for an ex post declaration. Rindova and Kotha (2001) argue in their case study research that Yahoo! and Excite possess dynamic capabilities. However, both firms faced significant troubles after the field research (Arend & Bromiley, 2009). This might not affect Rindova and Kotha's (2001) declaration of dynamic capabilities as they argue that a competitive advantage cannot be sustainable in so-called hypercompetitive environments (D'Aveni, 1994). Thus, the firms might simply have 'lost' their capabilities and competitive advantage. Nevertheless, the possibility of a loss seems not satisfactory as this implies that a firm that successfully transformed multiply times might not necessarily be able to repeat this in the future. Thus, the attribution of dynamic capabilities ex post might not provide insides for future developments. In order to avoid those challenges, an identification

**Table 1 – Definitions of dynamic capabilities.**

Group	Definitions include	Examples	Advantage	Disadvantage
1a	Sustainable advantage as the outcome	Teece et al. (1997) Griffith and Harvey (2001) Wang and Ahmed (2007)	Explains sustainable advantage in dynamic environments and therefore extends the resource-based view	Tautology that dynamic capabilities equal competitive advantage
1b	Achievement of any outcome	Eisenhardt and Martin (2000) Zollo and Winter (2002) Zahra et al. (2006)	Intent to extend the resource-based view partly captured	Tautology that dynamic capabilities equal a specific outcome
2	No outcome	Winter (2003)	Not tautological	Misses the intent of dynamic capabilities to explain sustainable competitive advantage
3	Purpose instead of an outcome	Helfat et al. (2007)	Solves the trade-off between tautology and intention to explain competitive advantage	Empirical tests are controversial (Barreto, 2010) Purpose should be expected

of processes with a causal link to resource creation or modification, instead of firm performance, is necessary (Ambrosini & Bowman, 2009).

There are of course conversations on dynamic capabilities that consider the major shortcomings and separate dynamic capabilities from a positive outcome, this study further refers to this group as group 2. Arguably, the most prominent example here might be Winter (2003). He describes dynamic capabilities as a higher-order routine to change zero-level capabilities. Following Winter (2003), dynamic capabilities are plainly one strategic option available to organizations in dynamic environments that might not lead to success at all. Ad-hoc problem solving, or resource-picking skills (Makadok, 2001) could be alternatives. Moreover, in static environments dynamic capabilities might even have a negative impact on firm performance (Drnevich & Kriauciunas, 2011; Winter, 2003).

These conceptualizations neither suffer from tautology, nor from an inability to prove them empirically. However, they might miss the very intent of the concept dynamic capabilities by Teece et al. (1997). The dynamic capability perspective's intent to extend the resource-based view that, although efficient in static environments, is less applicable to explain sustainable competitive advantage in regimes of rapid change. The non-tautological definitions of group 2 thus miss the very purpose of dynamic capabilities. Hence, their additional value might remain limited as various other concepts already address flexibility, learning, and change, i.e. ambidexterity (Gibson & Birkinshaw, 2004; March, 1991), organizational learning (Argyris & Schön, 1978; Levitt & March, 1988), change management (Lewin, 1947; Weick & Quinn, 1999), and absorptive capacity (Cohen & Levinthal, 1990; Zahra & George, 2002). Some argue therefore that dynamic capabilities are 'vague' (Arend & Bromiley, 2009; Barreto, 2010).

In search for a hybrid, alternative definitions consider the existing controversy. This study refers to those conceptualizations as group 3. They soften the assumption of achieving a distinct outcome and alter their definitions toward a 'purposeful' striving for an outcome. This may circumvent the loss of the concept's very intent, while apparently avoiding the tautology trap. An example here is Helfat et al.'s (2007:1)

"the capacity of an organization to purposefully create, extend or modify its resource base". Again, those definitions are intractable as empirical tests of 'purpose', may it be ex ante or ex post, are controversial (Barreto, 2010). The literature on dynamic capabilities appears thus subject to a trade-off between being either a tautological, causally not ascertainable in empirical investigations (group 1) or being vague with limited strategic intent (groups 2 and 3). Table 1 summarizes the groups of definitions of dynamic capabilities.

## Systems theory

A starting point for a systems theoretic perspective (Luhmann, 1995) on dynamic capabilities is the fundamental distinction between a social system, such as an organization, and its environment. In very basic terms, a social system is defined as being everything but the environment and vice versa. This means that a distinction and thus a border is drawn between the 'inside' (system) and the 'outside' (environment). This distinction is primarily a difference of complexity with a lower level of complexity inside the system. In other words, the environment seems to be boundless and infinite from the system's perspective and the latter is unable to comprehend its surrounding in full scale and scope. Instead, a social system has to reduce complexity to constitute itself and to ensure its further existence through establishing and maintaining a difference or a boundary to its environment. Nevertheless, the system still needs a sufficient although a lower degree of internal complexity to cope with challenges of its more complex environment (Ashby, 1956).

### Distinct characteristics of social systems

The reduction of environmental complexity is accomplishable through two distinct characteristics of social systems. Drawing on basic insights from modern systems theory (Luhmann, 1995), organizations are regarded as social systems which are both *self-referential* and *sense-processing* in their very nature. Building on the biological concept of *autopoiesis* (Maturana & Varela, 1980), *self-referentiality* means that a social system

necessarily refers to itself by distinguishing between the system and the environment. Accordingly, the system decides what counts as the 'inside' (system) and the 'outside' (environment) by taking itself as the point of reference within an act of social construction. Social systems are also *sense-processing*. They possess a certain purpose or meaning stemming from its distinction from the system's environment that is "they produce sense and then operate on the basis of having produced it." (Moeller, 2011, p. 134).

Sense-processing and self-referentiality are closely intertwined: They represent an essentially subjective and self-descriptive stance resulting in a boundary demarcation that appears to be meaningful to the system. This ongoing process of social construction is inevitable and inescapable: Self-referential and sense-processing practices enable the system to act in world of infinite opportunities. They support the selection of a few opportunities that appear to be meaningful to the system while they help to exclude a variety of other options. In other words, a set of reasonable possibilities for action is chosen at the expense of seemingly infinite others. Thereby, they reduce overwhelming environmental complexity to a feasible level from a system's perspective (Luhmann, 1995). Moreover, such historically rooted 'interpretive action patterns' (Schreyögg & Sydow, 2010), sensemaking 'action schemes' (Weick, 1979) and self-descriptions resulting in collective identities (Seidl, 2005) are essential not only to enable organizational action but also to maintain meaningful organizational boundaries. They differentiate the system from its environment since the former would not exist otherwise (Aldrich, 1971). The maintenance of system borders necessarily implies a preservation of a complexity divide with a lower level of complexity inside the system.

### Selectivity

Since an organization is unable to fully comprehend its boundless environment, interpretative practices are in place to permit the system to act. Thereby, the system is *inevitably selective* (Luhmann, 1995) since it pursues only those action patterns that appear to be meaningful to itself. Consequently, complexity reduction at the system's border involves the inherent risk of developing an inappropriate idea of the organizational environment. This generic problem of organizing is ultimately not resolvable. In short, "organization necessitates selectivity" (Wildavsky, 1983, p. 29). A system has to develop selective procedures, action patterns, routines, and thus capabilities and competences in order to exist and to act in a world of infinite possibilities implying environmental complexity (Schreyögg & Sydow, 2010). Paradoxically, *selectivity* also leads to potential *blind spots*, and to *uncertainty* in every kind of strategic action which constrains organizational action and harms organizational survival.

### Blind spots

Popularized by Porter (1980) as part of the competitor analysis, the contemporary management literature on competitive blind spots heavily draws on a psychological perspective, stressing the role of group perception and cognition (e.g. Ng, Westgren, & Sonka, 2009). In a systems theoretic sense,

competitive blind spots represent the necessarily ignorant nature of strategic action. Since social systems are essentially self-referential they are naïve and uncritical in a certain way. This applies particularly to their underlying socially constructed distinctions on which their observations of reality and thus their collective sense and identity build on (Luhmann, 1995). As generally stated above, selectivity enables the system to observe its environment in the first place but it also prevents the former from observing itself from an external perspective, or as Luhmann (1995, p. xxxiv) puts it:

*"Whatever is observed is observed by an observer, who cuts up reality in a certain way in order to make it observable. Whatever distinction is selected, others remain possible. Each cut highlights certain aspects of reality and obscures others. Reality as such, the unity of the observing system and its environment, the paradoxical sameness of difference, of inside and outside, remains inaccessible; it is what "one does not perceive when one perceives it," the "blind spot" that enables the system to observe but escapes observation."*

The only way to reveal system inherent blind spots is a second-order observation: an external observer provides another frame of reference (Schreyögg & Kliesch-Eberl, 2007) and enriches the system's selective perspective. Nevertheless, like every observation, second-order observations underlie specific distinctions that involve their own blind spots. This consequently reproduces the basic paradox of selective observations (Luhmann, 1995). Moreover, since social systems are essentially self-referential they also use corresponding selection, interpretation, and reaction patterns when coping with feedback derived from second-order observations.

The following Fig. 1 illustrates the systems-theoretic conceptualization of the generic system–environment relationship outlined above. Accordingly, there is a complexity difference between the system (lower complexity level inside the dashed circle) and its environment (higher complexity level outside the dashed circle). The system has to reduce environmental complexity in order to act and to ensure its further existence. Thus it pursues selective and simplified action patterns (shaded circles) in an environment of seemingly infinite possibilities for action (blue circles). Blind spots (white circles) are invisible for the focal system. A second-order observation (double-headed arrow) of an external observer (smaller dashed circle) could enrich the system's perspective by revealing such blind spots to a certain extent. Nevertheless, if action patterns change in consequence of an adaptation of organizational capabilities, existing blind spots might become relevant which would lead to the failure of corresponding organizational action patterns.

### Uncertainty

Building on Luhmann's (1995) idea of complexity, Schreyögg and Sydow (2010) conclude that environmental complexity implicates *uncertainty*. Representing an organizational key problem (Thompson, 1967), the management of uncertainty through simplification opens the possibility for failure. Organizational action patterns as means to handle uncertainty could be inadequate: "coping with environmental uncertainty does not eliminate environmental uncertainty" (Schreyögg

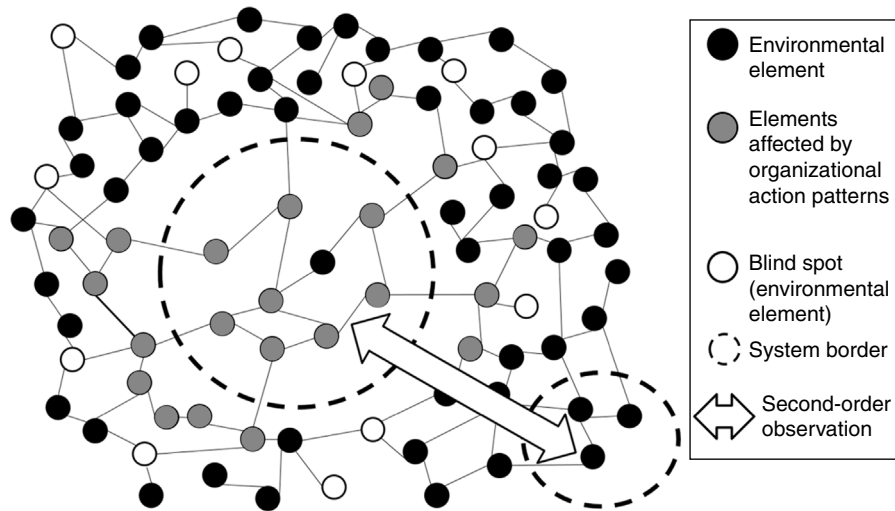


Fig. 1 – System and environment.

& Sydow, 2010, p. 1254). In contrast to blind spots, which they are not aware of, organizational decision makers perceive environmental uncertainty in addition. For instance, Milliken (1987, p. 136) distinguishes three types of perceived environmental uncertainty, each referring to the imperfect understanding of environmental conditions: *state uncertainty* (not knowing how environmental components might change), *effect uncertainty* (not knowing to which extent environmental changes might affect the organization because it lacks sufficient knowledge of cause-effect relationships between components), and *response uncertainty* (not knowing which options might be available to react to environmental changes as well as to which consequences a certain response option might lead).

### Discussion of the dilemma of the dynamic capability concept

The dynamic capability view runs the risk of getting caught in an epistemological trap. Definitions of dynamic capabilities according to whatever kind of outcome-level (group 1) do not allow for rival explanations (Yin, 2009) of competitive advantage, although competitive advantage is an equifinal construct that might have multifaceted causes. Even more implicit (group 1b) definitions in this respect might face the same problem to a certain extent, since even ordinary capabilities already inextricably relate to reliable success (Schreyögg & Kliesch-Eberl, 2007) or as Dosi, Nelson, and Winter (2000, p. 2) put it similarly:

*“To be capable of some thing is to have a generally reliable capacity to bring that thing about as a result of intended action. Capabilities fill the gap between intention and outcome, and they fill it in such a way that the outcome bears a definite resemblance to what was intended.”*

In short, a capability is present when one intentionally proves to do something well repeatedly and not only at one

instance. This exposes a basic dilemma of the capability-based view with respect to its historical roots: A definition of dynamic capabilities must add significant theoretical surplus value in comparison to ordinary capabilities to be perceived as a meaningful extension to concepts originating from the resource-based perspective. Otherwise it risks being too broad, arbitrary, or imprecise with respect to related constructs (group 2). As the term ‘dynamic’ implies, this surplus can only involve the implicit or explicit tautological notion of an organizational capability that allows for continuous adaptation, otherwise the ‘dynamic’- addition is either obsolete or misleading. Similarly, the term capability already implies *purposeful* or *intentional* action. Purpose should therefore not serve as a distinction criterion for ‘dynamic’ capabilities (group 3). In a broader sense, every strategic action follows a specific purpose.

### Implications of a systems theoretic perspective

The inevitably imperfect understanding that organizations possess of their environment implies that organizational action patterns, such as routines, are selective and simplifying in their very nature. The same applies to organizational capabilities as they consist (although not exclusively) of routines or even are high level routines themselves (Dosi et al., 2000; Winter, 2003). Selectivity is the reason why social systems exist in the first place and why they are able to act within environments they do not fully understand. An organization cannot escape the inherent selectivity of its action patterns because of their self-referential nature (Luhmann, 1995). Even a capability monitoring process by second order observers (e.g. Schreyögg & Kliesch-Eberl, 2007) cannot facilitate total reflexivity because the processing of the second-order observers feedback is also subject to selectivity. Similarly, such a ‘view from nowhere’ as the notion of an external and neutral observer suggests, seems to be rather unrealistic since observing involves human actors with certain intentions and attitudes that are also to some extent part of the focal system (Schirmer & Tasto, 2009).

In sum, a reduction, but not an elimination of the inherent selectivity of organizational action patterns is feasible. This creates a risk of failure if environments change unexpectedly and blind spots become suddenly relevant. The same argument holds for uncertainty emanating from environmental complexity which ends up in simplified organizational action patterns and thus involves the same kind of risk. Taken together, selectivity and simplification are inevitable and a necessary condition for organizational action but, likewise, they potentially weaken the organization's ability to sense opportunities and threats (Teece, 2007) by impeding a sufficient degree of reflexivity.

Another important reason why organizational capabilities can only partly be flexible directly aims at these matters of sense and identity. Accordingly, organizational capabilities, as successful replication patterns, always involve the dysfunctional flipside of rigidity: In a case of environmental change they may turn "from a strategic asset into a burden" (Schreyögg & Kliesch-Eberl, 2007, p. 916). As Santos and Eisenhardt (2005) point out, besides power and efficiency considerations, competence deliberations and corresponding resource allocation decisions, an organization's boundaries are significantly shaped by its identity. Particularly relevant in complex and uncertain environments, the identity represents a common ground of values and norms resulting from collective sense-making processes (Daft & Weick, 1984). Since identity involves emotional and unconscious components it is hard to change. Instead, identity co-evolves with, or even dominates, competence-based boundary demarcating practices (Santos & Eisenhardt, 2005). This goes along with the idea of a self-referential and sense-processing system that strives to maintain its self-constituting boundaries – boundaries that are *meaningful* to the system. Therefore they might not change offhand, instead organizational core capabilities likewise represent potential core rigidities (Leonard-Barton, 1992). With regard to this paradox, Schreyögg and Kliesch-Eberl (2007) refer to three well-known major reasons why core capabilities might hamper organizational adaptation: (1) structural inertia (Hannan & Freeman, 1984) such as those inherent to existing organizational resources and capabilities (e.g. Gilbert, 2005), (2) possible path-dependencies and strategic lock-ins (e.g. Sydow, Schreyögg, & Koch, 2009), as well as (3) past resource commitments and their underlying social-psychological processes (e.g. Staw, 1976).

Basic insights from modern systems theory (Luhmann, 1995) contradict contemporary fluidity concepts of organizations as argued by Schreyögg and Sydow (2010). This also applies to the concept of dynamic capabilities: If one allows for a limited organizational understanding of a seemingly endless environment, one inevitably allows for selectivity, simplification, and uncertainty in organizational action which leads to the possibility of failure. If one allows for sense and identity one inevitably allows for rigidity inherent to organizational action patterns. Thus, organizational capabilities are only partly flexible. An overarching organizational capability that enables continuous adaptation to whatever kinds of environmental changes, like an everlasting fountain of youth, is therefore impossible to exist from a systems theoretic perspective.

### Empirical consequences

As mentioned above, the 'dynamic' prefix of the dynamic capabilities concept can only imply an implicit or explicit tautological notion (group 1) since alternative definitions (groups 2 and 3) miss the very intent of the concept. As the former do not allow for other explanations of competitive advantage they are hardly empirically supportable. For example, it could be possible that the continuous adaptation to environmental changes in the given period of investigation did not require the illumination of competitive blind spots. Therefore, they had no effect. Adaptations that do not touch existing blind spots bring luck and coincidence into play. They do not indicate a dynamic capability (Helfat et al., 2007; Winter, 2003). Although acknowledged within other fields (see Williamson, 1975; Lippman & Rumelt, 1982; Barney, 1986; Woo, Daellenbach, & Nicholls-Nixon, 1994) literature on dynamic capabilities largely neglects the role of luck and coincidence so far (Ambrosini & Bowman, 2009). Competitive blind spots are basically only partly assessable through an ex post rationalization or through second-order observations (Luhmann, 1995). Respective studies typically compare perceptions of competitors (Zajac & Bazerman, 1991) or of stakeholders with those of the focal firm (Ng et al., 2009). In turn, a valid observation of a dynamic capability has to rule out the existence of competitive blind spots as a rival explanation unequivocally. In other words, a dynamic capability needs an unambiguous causal link to firm success in empirical research (Ambrosini & Bowman, 2009). Apart from such 'success stories', what happens if a formerly successful organization, that arguably possessed a dynamic capability, suffers a serious crisis? Accordingly, the firm might have 'lost' their dynamic capability or, alternatively, a blind spot may have become relevant, which might be 'bad luck'. Whatever applies: Proving a causal relationship is essential to avoid tautological statements and to demonstrate the validity of a theory in this respect. However Ambrosini and Bowman (2009) argue that it is hard to show that the construct of dynamic capabilities is causally responsible for organizational success or for organizational resource allocations. Hence, time lags between deployment and outcome as well as complexity and uncertainty emanating from the organization's internal and external environment make it hard to make casual assertions.

This study's understanding of organizational capabilities rather builds on the work of Schreyögg and Kliesch-Eberl (2007) and involves the dysfunctional flipside of rigidity. Therefore, this study assumes relative capability dynamization or adaptability, instead of implicitly accepting their total flexibility as a matter of fact. Consequently, this study derives an understanding of organizational capabilities whereby the concept of dynamic capabilities represents an ideal end of a continuum rather than an empirically observable phenomenon.

### A reconceptualization of dynamic capabilities

The rejection of total flexibility as the conceptual core of dynamic capabilities leads this study to propose a respective alternative understanding. In view of the profound theoretical doubt that directly results in serious empirical complications, this study does not treat a dynamic capability as an

empirical phenomenon. Instead the notion of dynamic capabilities should rather represent an ideal end of a *continuum*. The underlying dimension of this continuum describes the extent of potential capability dynamization or the degree of their adaptability, respectively. The opposite end represents the field of population ecology (Hannan & Freeman, 1977, 1984) with its heavy emphasis on rigidities and inertia, whereby the management possesses only minimal discretion to adapt to environmental changes. Modern systems theory thereby lies in between as this article indicates. Such a continuum opens the door for a discussion between formerly isolated conversations and theories and allows for the empirical testing of multiple theoretical assumptions. Hopefully, this result in an enriched and comprehensive understanding of how and to which extent organizational might change or not.

### Implications and conclusion

This study outlines major shortcomings of existing conceptualizations in dynamic capability research. It emphasizes the trade-off between being tautological by involving an outcome component (group 1) and being vague and arbitrary (group 2). Moreover, this study discusses problems of definitions involving ‘purpose’ to replace the outcome component (group 3). However, in order to provide a theoretical surplus the concept of dynamic must involve a tautological notion, be it explicitly or implicitly. Elsewise, the term ‘dynamic’ is not justified as it becomes either obsolete or meaningless. The resolution of this tautology trap by empirically proving a causal relationship to organizational success is hardly possible. This led to the development of an alternative understanding in which dynamic capabilities are not an empirical phenomenon but an ideal state at the end of a continuum. This allows for alternative views on organizational capabilities such as modern systems theory.

A systems theoretic view on organizational capabilities in high-velocity environments results in the insight that dynamic capabilities might not fully be achievable. A social system is self-referential and sense-processing in its very nature. Furthermore, it operates in an environment it cannot fully understand. On one hand, this leads to selectivity and simplification in organizational action patterns and hence to blind spots and uncertainty in every kind of strategic action. This potentially constrains organizational discretion for adaption. On the other hand, collective sense and identity might be hard to change. Finally, our argumentation supports the view that organizational capabilities are only partly flexible. As the resulting insight, an overarching capability that allows for continuous adaptation to every kind of environmental change cannot exist from a systems theoretic perspective. Rather, this study proposes to conceptualize organizational capabilities with respect to their potential adaptability/dynamization on a continuum while not assuming their total flexibility as a matter of fact. This paper therefore supports the development of an alternative systems theoretic understanding of organizational capabilities that goes beyond the dynamic capability perspective. The capability literature benefits from with a more balanced application of multiple theoretic perspectives.

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