

# Rethinking the Agility Puzzle – Toward an Understanding of Endogenous Dynamics in Becoming Agile

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**Abstract:** Extant research on organizational agility leans more toward flexibility in the face of environmental changes and dynamics. Although such a view is needed and seems plausible initially, it lacks a thorough theoretical underpinning that explains how agility is actually enacted endogenously in the form of effortful and emergent accomplishments. By drawing on research on routine dynamics, we seek to offer an emergent and endogenous understanding of routines that allows for theorizing the underlying dynamics and mechanisms of organizational agility. Therefore, we consider routine dynamics insights to theorize organizational agility and, thus, uncover the emergent unfolding of agility.

**Keywords:** Organizational agility, organizational routines, endogenous dynamics, becoming agile.

## 1. Introduction

Organizational agility enables organizations to act and coordinate appropriately under increasingly dynamic and ever-changing situations and environments (Sambamurthy, Bharadwaj, & Grover, 2003). For instance, changing customer needs (Dingsøyr, Moe, & Seim, 2018), digital disruptions (Doz, 2020; Doz & Kosonen, 2010), temporary organizing (Sydow & Braun, 2018), or grand challenges such as the COVID-19 pandemic (Foss, 2021; Seidl & Whittington, 2021), demand organizations to act and react appropriately. Organizational agility represents a concept based on these ever-changing situations (Lee, Sambamurthy, Lim, & Wei, 2015). Therefore, organizational agility is defined as “a firm’s ability to cope with rapid, relentless, and uncertain changes and thrive in a competitive environment of continually and unpredictably changing opportunities” (Lu & Ramamurthy, 2011, p. 932). It is of considerable interest for scholarly research and managerial practice (Tallon & Pinsonneault, 2011).

Recent endeavors to examine agility are spread across various academic disciplines, and multiple theoretical lenses have been adopted. Many studies on organizational agility are situated in information systems research (Lee et al., 2015; Sambamurthy et al., 2003; Tallon & Pinsonneault, 2011). However, other scholarly fields are increasingly incorporating agility into their research agenda, such as leadership research (Bäcklander, 2019; Srivastava & Jain,

2017) and organization studies (Baškarada & Koronios, 2018; Teece, Peteraf, & Leih, 2016). This research stream mainly explains agility using the dynamic capabilities (DC) framework by focusing on organizational scholarships (Tallon, Queiroz, Coltman, & Sharma, 2019; Teece et al., 2016). It is one of the most widely used frameworks for explaining organizational change in ever-changing environments (Schilke, Hu, & Helfat, 2018). DC scholars promise to explain the *dynamics* of agility by conceptualizing DC in terms of organizational routines (e.g., Eisenhardt & Martin, 2000; Helfat et al., 2007; Teece, 2007; Winter, 2003). Accordingly, DC scholars explain dynamism through the idea of a hierarchy of routines (Nelson & Winter, 1982, p. 17), in which DC acts as a higher-order strategic routine that induces change in lower-order operational routines (Wenzel, Danner-Schröder, & Spee, 2021). However, the DC framework still assumes DC as strategic higher-order routines that are rather undynamic and stable (Wenzel et al., 2021). According to this research, routines are stable ‘things’ that can be executed reliably by actors. Building on a rather stable and – with regards to the actors being involved – mindless perspective of how organizational routines are enacted limits our potential to explain dynamics, and thus, agility within organizations (Wenzel et al., 2021).

In contrast, recent research on routine dynamics stresses that the performance of organizational routines can be the source of dynamics within organizational processes.

Routine dynamics scholars incorporate internal and endogenous changes, including those that occur through enacting routines. Moreover, routines are not exclusively seen as connections between input and output, but rather as consisting of emergent practices that evolve through their performances and, thus, generate changes (Feldman, 2016; Feldman, Pentland, D’Adderio, & Lazaric, 2016).

We argue for the adoption of the recent *routine dynamics perspective* against this backdrop and propose that research on organizational routines (Feldman et al., 2016, 2021; Feldman, 2016; Pentland, Mahringer, Dittrich, Feldman, & Wolf, 2020) can enhance our understanding of the emergence and unfolding of organizational agility within organizations. Conceptualizing organizational routines as “repetitive, recognizable patterns of interdependent actions, carried out by multiple actors” (Feldman & Pentland, 2003, p. 95) characterized by internal dynamics and flexibility (Feldman et al., 2016; Feldman, 2016) contribute to theorizing organizational agility. Arguably, understanding how organizational agility occurs and is enacted within organizations is informative for both scholars and practitioners. Using an organizational routine dynamics lens could explain the internal dynamics that stem from organizational agility and related activities. By this, the DC perspective on organizational agility is complemented by incorporating underlying dynamics (Parmigiani & Howard-Grenville, 2011; Teece et al., 2016; Wenzel et al., 2021). Thus, we support calls to incorporate organizational agility with established concepts in organization studies (e.g., Strode, Huff, Hope, & Link, 2012).

After briefly introducing organizational agility and routines, we highlight differences in the two perspectives to contrast these approaches. Furthermore, we discuss the relevance of applying a perspective using recent organizational routine research on organizational agility in terms of the implications of a more dynamic and nuanced view. Hence, we contribute to the literature on organizational agility in two ways: first, we facilitate the routine dynamics view to reveal and theorize internal dynamics of agility; second, we attempt to understand how organizations become capable of enacting agility.

## 2. Organizational agility

Organizational agility, a multifaceted concept, has been examined from numerous per-

spectives, resulting in various definitions and characterizations (Tallon et al., 2019; Walter, 2021). This situation is aggravated by related notions, such as *strategic agility* or *agile methods* (Conboy, 2009; Nijssen & Paauwe, 2012). We have adopted the definition of Lu and Ramamurthy (2011): “a firm’s ability to cope with rapid, relentless, and uncertain changes and thrive in a competitive environment of continually and unpredictably changing opportunities” (p. 932).

Accordingly, Tallon et al. (2019) emphasized that organizations have to “respond to unanticipated environmental threats and opportunities” (p. 218). This is consistent with existing scholarly work that highlights the importance of recognizing and evaluating environmental factors to remain competitive (Lee et al., 2015; Lu & Ramamurthy, 2011). Considering the significance of environmental influences on the organization’s activities and viability, the DC perspective is recognized as a theoretical concept useful for examining such environmental factors and their significance for organizational agility (Tallon & Pinsonneault, 2011; Teece et al., 2016).

Relying on a DC perspective, which defines DC as “the firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments” (Teece, Pisano, & Shuen, 1997, p. 516), offers several insights that advance our understanding of organizational agility. Lee et al. (2015) show that DC can help understand the role of organizations’ IT ambidexterity in highly dynamic environments in comparison with fewer dynamic environments. From another perspective, Baškarada and Koronios (2018) state that DC are necessary to “effectively adapt to changing environmental conditions” (p. 332) and, thus, the DC view helps understand how such effective adaption can be achieved. Furthermore, they highlight that such a perspective is suitable for investigating organizational agility because of its applicability in markets with high velocity (Baškarada & Koronios, 2018). Teece et al. (2016) emphasize that scholars can benefit from adopting DC as it enables researchers to understand “the issues facing management in the innovation economy” (p. 18) and take efficient decisions. Thus, organizational agility scholars rely on the DC view, as it is applicable in highly volatile environments and explains how organizations respond flexibly to changing circumstances (Tallon et al., 2019).

However, a DC view of organizational agility focuses only on adapting to external changes in the environment, thereby ignoring endogenous processes. Prior research on DC strongly builds on organizational routines as an underlying explanatory concept. Consequently, routines are used to explain the dynamic nature of DC, because higher-order routines change lower-order routines (Teece et al., 1997; Teece, 2007). A closer look at DC research reveals the use of traditional routine assumptions (Wenzel et al., 2021). They are portrayed as rather stable and inflexible (Feldman, 2000; Wenzel et al., 2021). Thus, routines are conceptualized and integrated by DC scholars as “stable “things” that actors can reliably draw upon to structure their work” (Wenzel et al., 2021, p. 2), resulting in an entitative understanding of routines (Wenzel et al., 2021). Conversely, opening this black box, systematic research shows that routines are highly dynamic from within. Incorporating the recent and emergent view of routines with organizational agility would unravel the internal *dynamics* underlying agility, thus, showing how dynamic organizational agility might be in itself in addition to adapting to environmental changes. Consequently, we propose that the recent routine dynamics lens helps understand how agility unfolds and is enacted. Furthermore, applying this perspective allows us to uncover the dynamics associated with agility. Admittedly, a DC view is useful in examining organizational agility from a market or environmental perspective. In contrast, a routine dynamics perspective offers possibilities to fully open up the black box of organizational agility. As Feldman and Pentland (2003) highlight, focusing on the performance of actors “enables us to understand more about the dynamics of organizational routines and how these relate to stability, flexibility, and change in organizations” (p. 115).

### 3. Organizational routines

Following the practice turn (Feldman & Orlikowski, 2011; Parmigiani & Howard-Grenville, 2011), routine scholars recognize routines as flows of actions that are *done* rather than as entities that organizations *have* (Feldman et al., 2016; Feldman, 2016). For this purpose, the focus is on *performing* routines, which in turn influences the *patterning*. Performing relates “actual performance by specific people, at specific times, in specific places” (Pentland & Feldman, 2008, p. 241). Patterning refers to the formation of paths of possible action sequences through repeated performances that describe how a routine can or will unfold (Pentland et al., 2020). Both

aspects are highly dependent on actors who perform the routines. Therefore, they shape the patterning (Feldman et al., 2016; Feldman, 2016; Geiger, Danner-Schröder, & Kremser, 2021; Pentland et al., 2020). Accordingly, routine scholars explain the ambivalence of stability and change within organizational routines (Feldman, 2003; Feldman & Pentland, 2003; Pentland & Feldman, 2005). This leads to recognizing the emergent and effortful nature of routines rather than characterizing them as stable, inflexible, inert, and mindless as in earlier organizational routine research (Feldman, 2000, 2016).

The routine dynamics perspective evolved when scholars began considering changes within routine performances that were not explainable through exogenous triggers. Thus, they realized endogenous changes within routines (Feldman, 2000, 2016). Feldman (2000) shows that actors reflected on the outcomes of routines and, thereby, varied their performance of subsequent routine iterations. She revealed internal dynamics of routines that could lead to a continuous change (Feldman, 2000). By turning toward actions performed in idiosyncratic situational contexts (i.e., situated actions), routine scholars can trace the changes within and across routines (Feldman et al., 2016; Feldman, 2016). This has been further developed by other researchers, who revealed that routines could change through actors’ reflections and actual performances (Parmigiani & Howard-Grenville, 2011) without having variations necessarily in mind (Dittrich & Seidl, 2018). This view echoes the turning away from conceptualizing stability and change as dualism toward emphasizing the former counterparts as duality especially in routine contexts (Feldman, 2016; Feldman & Orlikowski, 2011).

We consider a routine dynamics perspective on organizational agility to understand how it emerges and unfolds. By using certain criteria, we show how a DC-inspired perspective explains organizational agility and the corresponding assumptions of routine dynamics research. This forms the basis for discussion on implications for agility research and our research objective.

### 4. Contrasting the assumptions of agility research and routine dynamics

We use four categories to identify the benefits of a routine dynamics perspective on organizational agility. First, we present the key assumptions of the traditional perspective on organizational agility for each category. Next,

we explain how routine dynamics research deals with each category and conclude why this perspective could be beneficial for theorizing organizational agility. We derive the four categories based on: (1) the core aspects addressed by routine dynamics research (Feldman et al., 2016; Feldman, 2016) and (2) the aspects worked on (though, only superficially) by organizational agility scholars (Tallon et al., 2019; Walter, 2021) – stability and change (Feldman et al., 2016), trigger of change (Deken, Carlile, Berends, & Lauche, 2016; Dittrich, Guérard, & Seidl, 2016), intentionality of change (Bucher & Langley, 2016; Dittrich & Seidl, 2018), and shape-ability (Bertels, Howard-Grenville, & Pek, 2016; Feldman et al., 2016). Each contrast is followed by a short paragraph explaining the learnings from the routine dynamics perspective to understand and examine organizational agility. Table 1 summarizes the key assumptions of both the perspectives.

Research on organizational agility shows that changes are induced by the organizations (Chan, Teoh, Yeow, & Pan, 2019) in response to volatile environments and changing conditions, such as new technologies (Lee et al., 2015; Sambamurthy et al., 2003) and external triggers. This may modify and reconfigure the organization’s design (Park, Sawy, & Fiss, 2017; Worley & Lawler, 2010). In contrast, routine dynamics scholars highlight the flexible and ever-changing nature of routines, without neglecting the possibility of stability, by considering routines as flows of actions (Feldman et al., 2016; Feldman, 2016; Turner & Rindova, 2012). Actors can cause variations through mindful engagement (i.e., agency), regardless of whether these changes are intended, as both the perspectives are considered in routine dynamics research (Feldman et al., 2016).

Overall, research on organizational agility considers neither the underlying dynamics nor the actual enactment or performance of agility within organizations sufficiently, particularly from a DC perspective. This limits our understanding of the enactment of agility and stunts the investigation of how organizations become agile. Incorporating a routine dynamics-inspired perspective (Feldman et al., 2016; Feldman, 2016) to examine organizational agility would help gain an in-depth understanding of agility. This would also help in determining how organizations become agile.

#### 4.1. Stability and change

**Agility perspective.** One key issue in agility research is the role of stability and change within organizations. Lee et al. (2015) describe that organizations “continually sense and respond to market changes” (p. 398) and changes in business environments to perpetuate their competitive success. Digitized platforms of knowledge or business processes support these changes by helping organizations react to changing customer demands faster. Organizations may flexibly adjust their market strategies in response to volatile markets, environments, or customer requirements (Lee et al., 2015; Sambamurthy et al., 2003). In addition to changing environmental conditions and the need for organizations to react appropriately to such changes, Baškarada and Koronios (2018) point out that agility “requires a stable backbone comprising relatively fixed structures that define how resources are distributed” (p. 334). They present the necessary dynamic aspects for adapting and adjusting to emerging challenges and opportunities. However, the emphasis is on a stable backbone and “governance that dictates how decisions are made” (Baškarada & Koronios, 2018, p. 334).

Table 1: Contrasting the assumptions of a traditional perspective on organizational agility and a routine dynamics perspective

Category	Point of view	Traditional perspective	Routine dynamics perspective
Stability and change		Flexible organizations with stable backbone and governance	Routines are changing and flexible
Trigger of routine changes		Changes are caused by external triggers and circumstances	Changes are triggered exogenously <i>and</i> endogenously
Intentionality of change		Changes are intended	Changes can happen intentionally <i>and</i> unintentionally
Shape-ability		Shaping and designing are managerial efforts	Routines are shaped by performances of actors

Following this argument, organizational agility relies on, or more precisely needs, stable backbones in terms of, for instance, patterns and processes to support the flexibility and adaptability of other processes and dynamic elements. This builds on the practically oriented research by McKinsey experts Aghina, De Smet, and Weerda (2016). They show that organizational agility is enacted within the field of tension between stability and change. Nonetheless, research on agility examines and highlights some rigid structures, governance mechanisms, and processes of organizational agility in addition to dynamic elements that enable fast adaptation. Thus, companies should regularly rethink their processes and structures to “strike a balance between speed and stability” (Aghina et al., 2016, p. 12).

**Routine dynamics perspective.** Routine scholars emphasize the role of change and flexibility within routines (Feldman et al., 2016; Feldman & Pentland, 2003; Parmigiani & Howard-Grenville, 2011). Feldman (2000) studies the housing routine of a large state university over several years and identifies variations in its execution. The author explains that actors reflected upon the outcomes of the routine in several ways. For instance, the actual outcome sometimes did not match the intended outcome. Actors derived possible responses and changes were made in subsequent routine iterations. In doing so, Feldman (2000) reveals that routines have an inherent dynamic quality in that the actions within routines are subject to variations because actors reflect on the outcomes and introduce other actions into routine iterations as effortful accomplishments. Hence, considering the actions performed within routines “reveals the dynamics underlying the stability and the provisional nature of stability” (Feldman et al., 2016, p. 508). Thereby, it offers a dynamic perspective and conceptualization. In line with this, Rerup and Feldman (2011) investigate the role of trial-and-error learning in routine changes. For example, different errors occurred in the welcoming routine for new employees, such as delays in payments. Consequently, different new actions, such as using contracts with less formal restrictions, were included over time to solve the problems. Accordingly, the routine was subject to continuous change and varying actions by the actors in response to problems encountered (Rerup & Feldman, 2011). Analyzing situated actions (Feldman & Orlikowski, 2011) enables routine scholars to describe how routines are enacted flexibly with different action patterns. Furthermore, Pentland et al. (2020) highlight

several possible action sequences in performing a specific routine. This implies that actors can perform a specific pattern of actions in different ways. Thus, they can react and adapt to changing circumstances appropriately by having the ability to choose from a repertoire of possible actions.

Organizational agility enables organizations to be flexible and adaptable (Lee et al., 2015). However, the source and potential of flexibility is not clear. Applying a routine dynamics perspective allows us to explore the dynamic nature of organizational agility. The routine dynamics perspective shows that actors can perform routines with flexibility; actors diverge from the initial routine design, particularly in situations where they perceive that the initial procedure is not reasonable or applicable (Feldman, 2000; Pentland et al., 2020). The routine dynamics perspective thus facilitates a view on flexible organizations. Moreover, it ensures to not taking for granted stable processes (Pentland et al., 2020) and considers possible dynamics that may emerge from performing routines and processes. For instance, a stable backbone (Aghina et al., 2016) may not be stable at all costs. Based on the routine dynamics findings, the enactment of a stable backbone is dynamic and changing. This leads to the assumption that the stable processes in the background must not be assumed to be stable and that they affect organizational agility and how agility is executed. Specifically, the resulting dynamics influence those organizational agility activities that have not been recognized before but shape how organizational agility unfolds.

#### 4.2. Trigger of change

**Agility perspective.** In organizational agility, scholars emphasize that organizational changes can be caused by several triggers. Walter (2021) refers to the notion of responsiveness, described as “the actions or behavior of a system using a series of capabilities to address changes triggered by stimuli” (Bernardes & Hanna, 2009, p. 42), which can be interpreted as an agile capability. Responsiveness, for example, shows that various stimuli can cause changes concerning organizational agility; however, these stimuli have not been described in more detail (Sambamurthy et al., 2003; Walter, 2021). Other scholars consider market changes and altering customer requirements as the most important drivers of change (Lee et al., 2015; Saha, Gregar, & Saha, 2017; Sambamurthy et al., 2003). In differentiating between operational

exploration and operational exploitation, Lee et al. (2015) explain that organizations may be able to react to market changes and to “emerging threats, such as natural disasters or disruptions in the supply chain” (Lee et al., 2015, p. 402) and refer to both as operational ambidexterity (March, 1991). While operational exploration, for instance with the help of novel customer service models, can help organizations react rapidly to changing customer demands and requirements, disruptive innovations, for instance, in business processes or products, can help organizations react faster to market changes and threats. However, operational exploitation requires continuous adaption by aiming “to take advantage of emerging market opportunities” (Lee et al., 2015, p. 402) and possibly cause changes.

This view is consistent with the explanations of Baškarada and Koronios (2018), who refer to sensing and shaping, two types of DC related to organizational agility. Both capabilities are essential for internal and external organizational learning as they detect threats and options from the external environment and create novel possibilities within the organization, thereby inducing change (Baškarada & Koronios, 2018). Hence, most scholars agree that agility is related to environmental changes, which organizations respond to by rapid sensing and shaping (Chan et al., 2019; Tallon & Pinsonneault, 2011). Thus, most triggers for change are external (Wenzel, 2021).

**Routine dynamics perspective.** Organizational routines can change from within as “explanatory factors [for change may] be at the level of the routine” (Feldman & Pentland, 2003, p. 114), besides exogenous triggers (Howard-Grenville, 2005; Pentland, Haerem, & Hillison, 2011). Feldman and Pentland (2003) reveal that endogenous changes within routines could occur simply because of the agentic nature of routines in building on agency (Emirbayer & Mische, 1998). By relying on past iterations, actors are able to adapt to new situations and project their actions considering future iterations. Consequently, many variations in routine performances are produced through actors’ mindful engagement within and through routines (Feldman & Pentland, 2003). Additionally, routines endogenously change through reflective talk, in which actors collectively talk and reflect on a routine and how they enact it. By discussing issues, exploring options, and evaluating possible alternatives from various perspectives, actors can develop new ways to perform a routine and, thus, cause

routine changes endogenously (Dittrich et al., 2016). In both examples, change is triggered by an existing routine and the actors involved. Therefore, endogenous changes originating from routines are primarily considered because they influence routines tremendously.

Existing organizational agility research concentrates on exogenously driven organizational changes (Sambamurthy et al., 2003) but does not sufficiently consider endogenous changes. Integrating insights from routine dynamics research allows us to reveal endogenous changes in organizational agility. Thus, recent research on organizational agility falls short of understanding how agility activities unfold. Organizational changes are subject to variations as well as changes from within and are not always triggered externally (Bernardes & Hanna, 2009). It is essential to understand how agility unfolds and the variations and changes that occur through performing agility to fully understand organizational agility and its emergent nature. A routine dynamics perspective helps in theorizing how organizational agility is enacted in organizations and reveals how it unfolds and emerges endogenously. Further, these endogenous changes and variations can also influence the realization of organizational agility and flexibility.

### 4.3. The role of intentionality in changes

**Agility perspective.** Singh, Sharma, Hill, and Schnackenberg (2013) develop a conceptual framework to classify organizations based on their agility efforts. Referring to Volberda (1996), they create a matrix with magnitude of variety change and rate of variety change as the two axes, with the isocurves analytically representing the tradeoffs between the dimensions (see Singh et al., 2013). The authors state that organizational agility includes intentional changes associated with these two dimensions. The view of intentional changes suggests that organizations are actively and intentionally modified due to environmental changes. This is consistent with the perception of Chan et al. (2019), who explain that agile organizations can “quickly enact intentional strategic changes” (p. 438) regarding their outputs, structures, and processes. They cite organizations like Uber and Airbnb as examples, which tremendously influenced the transportation and hospitality industry, respectively, through rapid changes and innovations. Other organizations in the fields were forced to react to these changes to remain competitive. Chan et al. (2019) state that under such circumstances agility is needed to “sense

and gain insights to these changes and to develop effective responses” (p. 439) and, therefore, these organizations deliberately modify their services, products, or processes.

Although organizational agility is often confused with agile methods, the latter is a means to achieve organizational agility, especially in IT-driven environments, to react faster and adequately to changing customer demands (Dingsøyr et al., 2018). Therefore, we refer to the agility case of Dingsøyr et al. (2018) with the assumption that the scholars mainly refer to intentional changes while examining organizational agility. The authors examine coordination within a large-scale agile IT development program in response to changing customer demands. They determine that agility program management intentionally introduced open space technologies and made other adjustments, such as implementing a group chatting tool or restricting the Scrum master. Furthermore, they state that the rotation of team members is a mechanism that implies planned changes and interventions by program management (Dingsøyr et al., 2018). More precisely, changes are emphasized as intentional interventions that are pushed by managers.

**Routine dynamics perspective.** Actors can influence routines tremendously (Feldman et al., 2016) without necessarily having consequent variations in mind, which leads one to consider the role of intentionality in routine dynamics (Dittrich & Seidl, 2018). Turner and Rindova (2012) differentiate between planned and unplanned changes suggesting that actors may cause routine changes, intentionally or unintentionally. Both can be the result of reinterpreting routines or actual variations. Accordingly, Feldman et al. (2016) highlight that participants may not be “aware of what they are accomplishing or even that they have created a variation” (p. 508). This view is supported by Dittrich and Seidl (2018), who show that routine changes can occur “in ways that the actors had not intended a priori” (p. 124). Actor-induced routine changes can stem from developing a “sense of purpose *through performing* the routine” (Dittrich & Seidl, 2018, p. 124). As actors can foreground means in a specific situation, resulting in new ends, which are subsequently pursued, Dittrich and Seidl (2018) indicate that intentions may emerge within routines and cause changes. Thus, the objective of the overall routine may be affected. In an earlier study, Feldman (2003) investigates the efforts of an organization in actively changing a routine with the managers

intendedly pushing this change. Surprisingly, the change did not occur. Actors can intendedly refuse the demanded change if perceived as contextually inappropriate. In brief, variations can occur both intentionally and unintentionally within routines.

The literature on organizational agility adopts a view of intended changes (Chan et al., 2019), but the role of unintended changes remains unexplored. Considering that routine dynamics scholars draw upon the role of intentionality (Dittrich & Seidl, 2018; Turner & Rindova, 2012), examining organizational agility would help us further explore and understand why and how it unfolds within organizations. Unintended changes within organizations reveal that organizations need not manage their agile efforts, since they have a natural capability of being agile. Furthermore, intended changes may have to be forced from an organizational agility perspective, but unintended changes go unnoticed until actively explored. This means that organizations may develop unanticipated ways of reacting to situations. As a result, agility is also shaped by unintended changes, which depend on how the actors enact agility performances. We can gain an in-depth understanding about how unintended changes influence agility efforts of organizations with the help of routine dynamics.

#### 4.4. Shaping and designability

**Agility perspective.** Aghina et al. (2016) explain that agile organizations learn to manage both stable and dynamic elements within their organizations through “design structures, governance arrangements, and processes” (p.1). Moreover, organizations can deliberately decide and form the organizational structure, which dictates, among other things, the place where employees work. Similarly, Worley and Lawler (2010) argue that agility is a “dynamic organization design capability” (p. 194). In their view, this capability allows organizations to recognize whether there are any external and internal triggers that can result in changes. Such response capability is supported by the idea that agile organizations *have* to react appropriately to pressures of change “or shifts in strategic intent” (Worley & Lawler, 2010, p. 195). Additionally, Sherehiy and Karwowski (2014) propose workforce agility as a prerequisite for enterprise agility (e.g., organizational). Their empirical study shows that managerial practices that positively affect employee collaboration or job autonomy shape workforce agility, as such practices support autonomous decision-making and empower-

ment (Sherehiy & Karwowski, 2014). Muduli (2016) further emphasizes that organizations “have to reshape themselves to fluidly deploy resources to address changing conditions” (p. 1583). Moreover, the researcher highlights the importance of human resources in driving agility within the organizations and shaping organizational structures to promote organizational agility. Hence, workforce agility is necessary for shaping organizational agility (Muduli, 2016). Park et al. (2017) suggest that organizations can be agile in responding to market changes. They describe acting as reconfiguring resources or shaping business processes aiming at novel actions within a market. This is accompanied by the possibility of actively redesigning and adjusting organizational structures (Park et al., 2017). These examples support the assumptions of organizational agility scholars by emphasizing that organizations design and reconfigure their structures and processes concerning organizational agility.

***Routine dynamics perspective.*** Routine scholars emphasize the mindful enactment of routines suggesting that actors have the ability and choice to perform routines differently (Feldman & Pentland, 2003). Accordingly, scholars consider that actors might choose mindfully from “a set of sequentially related actions that unfold over time” (Pentland et al., 2020, p. 9), resulting in actors shaping and (re-)designing routines through performing (Feldman, 2016). Hence, actors influence and shape routines and induce variations or changes by performing or reflecting the routine (Danner-Schröder & Geiger, 2016; Dittrich et al., 2016; Feldman et al., 2016). Bertels et al. (2016) observe the integration of an external routine into an organization. The routine, designed outside the organization, was implemented to improve the organization’s operational compliance. During the implementation efforts, scholars recognized that the routine collided with the cultural assumptions of the employees and prospective actors. Based on cultural assumptions, actors “shaped the routine’s artifacts and expectations even before it was performed” (Bertels et al., 2016, p. 573). These observations contribute to the idea that actors shape or redefine routines by enacting and reflecting for several reasons, including not fitting the organization’s culture or conflicting with actors’ assumptions and expectations. This can result in modifying and altering routine patterns and performance (Bertels et al., 2016). Glaser (2017) examines the role of design performance in a law enforcement organization

that attempts to change routines by creating and applying artifacts intentionally. For instance, actors challenge underlying assumptions when they create new assemblages for upcoming routine performances. Bringing in new ideas, such as being inspired from external communities, necessitates that actors translate and transfer these ideas to a specific routine and ensure “that [these ideas] can function in their local environment” (Glaser, 2017, p. 2145). Actors can actively shape routines through design performance (Glaser, 2017).

Research on organizational agility has shown that organizations actively shape and design processes or structures (Aghina et al., 2016). In contrast, routine scholars offer a wider perspective that routines can be designed externally and be emergently shaped by actors (Feldman & Pentland, 2003). Exogenous impetuses can have limited influence on routine evolutions. However, the actors can alter routines or cause variations (Pentland & Feldman, 2008). Building on the perspective that routines are the emergent accomplishments of actors who shape them, we can examine if and how organizational agility is an effortful accomplishment. In addition, we can explain how organizational agility and related activities are shaped through the performance of actions within organizations and the effects of the unfolding of organizational agility. Thus, taking a routine dynamics perspective on organizational agility allows us to open up the agility black box and examine the emergent and ever-changing nature of organizational agility and its internal mechanisms and variability.

## 5. Discussion

Considering organizational agility as a response to volatile environments falls short of understanding it from within - how it is enacted and what dynamics emerge from and during performance. We respond to the call to explain new organizational phenomena using existing and substantiated concepts and theories (Puranam, Alexy, & Reitzig, 2014; Schreyögg & Sydow, 2010). Organizational agility is mainly investigated through a DC perspective (Teece et al., 2016). Although the denomination of DC suggests the recognition of dynamics, organizational agility scholars limit the exploration of *dynamics* by incorporating an undynamic and stable perspective on routines as the underlying explanatory concept (Parmigiani & Howard-Grenville, 2011; Wenzel et al., 2021). Specifically, organizational agility scholars do not sufficiently consider the dynamic, emergent, and ever-changing nature

of routines (Wenzel et al., 2021). Hence, this DC perspective does not extensively examine how organizational agility unfolds and the underlying dynamics. We adopt a routine dynamics perspective on organizational agility and contribute to the literature by discussing the following two implications.

### **5.1. Rethinking the role of routines in organizational agility to unravel the innate dynamics**

To theorize organizational agility adequately, we must understand the pieces of the agility puzzle – the performances of actions that contribute to achieving agility. Considering actions as unit of analysis like routine dynamics scholars already do (Feldman et al., 2016) brings research on organizational agility a step ahead. While routine research strongly focuses on the performance of actions, structural aspects are also considered (Feldman, 2016; Pentland et al., 2020). In comparison, organizational agility studies have not yet sufficiently analyzed the actual performance but concentrated on environmental factors and DC (Teece et al., 2016; Walter, 2021) or structural aspects (Aghina et al., 2016; Worley & Lawler, 2010) of organizations. Conversely, the recent routine dynamics perspective (Feldman et al., 2016; Feldman, 2016) allows us to unravel the “dynamics” (Wenzel et al., 2021, p. 1) of organizational agility. Moreover, we can explore how agility occurs as a flow of actions subject to dynamics, not apparent at first sight, and influences the unfolding of agility tremendously (Tallon et al., 2019). Considering the meaningful enactment of varying actions, intentional or unintentional (Dittrich & Seidl, 2018), allows agility scholars to comprehensively discover and evaluate the underlying dynamics, mechanisms, or tensions (Tallon et al., 2019). These dynamics and mechanisms, in turn, represent the performance and emergence of organizational agility by organizations or their members. Therefore, agility may be enacted in ways other than those intended ex-ante and unfolds as emergent and effortful accomplishments through a repertoire of agility-related activities (Pentland et al., 2020; Pentland & Rueter, 1994). This allows us to draw upon this new knowledge in conceptualizing and theorizing agility.

Dingsøyr et al. (2018) refer to different coordination modes, such as routines, in their article on coordination in agile software development. They describe routines as an impersonal mode, characterized as a “codified blueprint of action that is impersonally specified”

(Dingsøyr et al., 2018, p. 67) and relate to the traditional assumption of routines. Applying the routine dynamics perspective shows variations triggered by enacting routines related to agile activities. Consequently, coordination modes are performed with variations, and dynamics emerge. These dynamics result in a broader range of options for actors (Pentland et al., 2020). Thus, they make organizational agility less predictable and more dynamic. Moreover, Dingsøyr et al. (2018) relate to task interdependence as “the extent to which people in an organizational unit depend on others to perform their work” (Dingsøyr et al., 2018, p. 66). However, they have not considered the variations and underlying processes that arise through these interdependencies. Focusing on actions and their flows helps understand the performance and unfolding of agility, rather than addressing the coordination effectiveness in agile settings (Dingsøyr et al., 2018; Strode et al., 2012). Specifically, the output of one task (in routine A) can be the input of another task (in routine B). Variations in routine A are likely to affect routine B and cause variations in their interdependence. These variations lead to a more dynamic unfolding of agility. Dingsøyr et al. (2018) would be able to depict how coordination in agile contexts through routines is subject to ongoing variations. As a result, we can examine the underlying mechanisms that affect organizational agility or possible related performance options.

Furthermore, as actions are embedded in specific contexts (Dittrich et al., 2016; Feldman, 2016), agility scholars are able to analyze conditions and characteristics that cause variations. This reveals some actions that exist or arise may reinforce or even hinder agility efforts. Consequently, agility literature can be enriched by explaining how actions shape, form, and enact agility, as done by routine scholars in the case of routines (Bucher & Langley, 2016; Dittrich et al., 2016; Sonenshein, 2016). Admittedly, changes emerging from actions can be minimalistic at a specific time, which can be remedied by integrating a temporal perspective on variations caused by performance. This reveals continuous changes over time (Feldman, 2000; Turner & Rindova, 2018) and their impact on organizational agility.

### **5.2. Organizations become capable of enacting agility**

After promoting a routine perspective to observe and explain organizational agility, we further substantiate our suggestion by an implication relevant to managerial practice.

Wenzel et al. (2021) built on the seminal work of Tsoukas and Chia (2002) on organizational becoming and argued that “organizations do not have a (dynamic), capability, but they become (Tsoukas & Chia, 2002) capable in and through the enactment of organizational routines” (p. 6). This is further underpinned by the way routine scholars conceptualize and portray routines. In updating the assumption of *having a routine* to *performing routines* and contained actions, routine dynamics research emphasizes the processual nature of routines (Feldman, 2016; Langlely & Tsoukas, 2016; Tsoukas & Chia, 2002). Following this line of inquiry and adapting it to agility research, we state that organizations do not *have agility* but rather *become capable of enacting agility*. This coincides with the explanations of Denning (2016) – rather than treating agility as something that can be “formalized in an operating manual” (Denning, 2016, p. 13), the researcher emphasizes it as “a different way of understanding and acting in the world” (Denning, 2016, p. 13). The author highlights that agility consists of formal descriptions and is highly associated with an agile mindset that “implies an ideology of enablement” (Denning, 2016, p. 13). The approach of actions is beneficial in theorizing how agility-related activities are enacted to reveal how organizations are becoming capable of performing agility. Building on a routine dynamics perspective, the actual performances that relate to the overall shared understanding allow actors within routines to create connections among the routines and further interconnect the actors in several ways. This can manifest in how actors work together, share information, or reflect on their actions (Danner-Schröder & Geiger, 2016; Dittrich et al., 2016; Turner & Rindova, 2018).

This could lead to a perspective on *enacted agility* in that it is driven by emerging aspects of the present situation and shaped by the actors involved analogously in routine research (Bertels et al., 2016; Deken et al., 2016; Feldman et al., 2016). Goh and Pentland (2019), by analyzing action paths, find that patterns of actions within an agile software development project “change dramatically over time based on the needs of the project” (p. 1901). However, little is known about the comparable emergent dynamics in performing agility-related activities. Accordingly, situated actions and patterns of actions can reveal the dynamics of enacting agility as emphasized by Denning (2016), and explain how agility unfolds within organizations and affects *being successfully agile*. The explanations of Tsoukas

and Chia (2002) on organizational becoming offer excellent potential to analyze how organizations become agile – or rather *becoming capable of enacting agility*. For this purpose, routine dynamics is exceptionally suitable (Berente, Lyytinen, Yoo, & King, 2016; Bertels et al., 2016; Feldman et al., 2016) and allows to ascertain the unfolding of agility within organizations. Moreover, scholars can illustrate the process of *becoming capable of enacting agility*. Highly praxis-related managerial implications could derive best practices or general recommendations by analyzing the underlying processes, mechanisms, and dynamics (e.g., how agile management practices, such as Scrum, are introduced in an organization and adopted over time to replace former non-agile management tools or conceptions). Best practices of becoming agile could help managers organize and support agile transformation efforts, such as questioning and optimizing outdated processes.

Opening up the agility black box through a routine dynamics perspective allows us to investigate how agility is enacted by relying on routines as the underlying explanatory approach. Hence, agility scholars would profit from dwelling on routine dynamics in their research rather than associating organizations with reacting or adapting to changing organizational and external circumstances (Tallon et al., 2019; Walter, 2021) from a DC perspective. Furthermore, applying a routine dynamics perspective allows examining “the tensions underlying agility” (Tallon et al., 2019, p. 234). It explains the possibility that firms can “be both stable and dynamic” (Tallon et al., 2019, p. 234), emphasizing that routine research changes from dualism to the duality of stability and change (Farjoun, 2010; Feldman & Orlikowski, 2011; Feldman & Pentland, 2003). Thus, we argue to consider the actual performance of actions as well as the respective situational contexts and to focus on how something happens (Feldman & Orlikowski, 2011; Jarzabkowski, Lê, & Feldman, 2012) from a routine dynamics perspective. Therefore, we can draw a more detailed picture of how organizational agility is uncovered as an emergent and ever-changing phenomenon and is enacted within organizations.

## 6. Conclusion

We described how scholars portray and interpret organizational agility and recent research on organizational routines. Moreover, we argued that a routine dynamics perspective could improve research on organizational agility

and help conceptualize it. What is more, we outlined agility, as understood by the existing concepts (Puranam et al., 2014; Strode et al., 2012). Building on this analysis, we discussed two main contributions and several recommendations, resulting in a multifaceted and sophisticated understanding of dynamics by extending possible explanatory approaches for organizational agility. Situated actions tremendously influence the routines themselves (Feldman et al., 2016), performance within and between routines, and ongoing variability (Bucher & Langley, 2016; Sele & Grand, 2016), though they are hardly noticeable. They may be beneficial for explaining how agility is enacted and examining how organizations become agile. At this point, an in-depth exploration of routines as a flow of actions reveals the underlying mechanisms of dynamics related to agility. We argue that a routine dynamics view enables future research to modify the understanding of organizational agility as an enacted, emergent, and ever-changing phenomenon. Additionally, scholars may adopt our suggestions and employ definitional approaches for this purpose.

As with any conceptual inquiry, our observations lack empirical evidence. However, we believe that the ideas put forward can lead to further research into how organizations respond and react, be it concerning managerial conceptions of agility or flexible organizational structures, and understanding how agility unfolds, is experienced, and is enacted.

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