

# Entrepreneurial Initiatives as a Microfoundation of Dynamic Capabilities

**Christian A. Mahringer & Birgit Renzl**

University of Stuttgart  
Chair of Management and Organization  
Keplerstr. 17  
70174 Stuttgart, Germany

Contact: [Christian.mahringer@bwi.uni-stuttgart.de](mailto:Christian.mahringer@bwi.uni-stuttgart.de)

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# Entrepreneurial Initiatives as a Microfoundation of Dynamic Capabilities

## Abstract

**Purpose** – The purpose of this paper is to show how entrepreneurial initiatives in organizations serve as a microfoundation of dynamic capabilities and, thus, foster change in organizations.

**Design/methodology/approach** – This paper revises and applies conceptual as well as empirical research on dynamic capabilities, their microfoundations and corporate entrepreneurship. In addition, it develops a model of how entrepreneurial initiatives, operative routines and capabilities interact.

**Findings** – The paper develops a model of how entrepreneurial initiatives in organizations represent a microfoundation of dynamic capabilities. First, the model shows that environmental dynamism reduces fit of operative routines and capabilities. Second, the model states that entrepreneurial initiatives are triggered by operative routines and capabilities in respect of environmental dynamism. Third, the model suggests that entrepreneurial initiatives disrupt operative routines and capabilities and, thus, restore their fit in dynamic environments. The paper contributes to current research on dynamic capabilities, their microfoundations and corporate entrepreneurship.

**Originality/value** – This paper addresses the tension between routinization and the entrepreneurial nature of dynamic capabilities. Considering entrepreneurial initiatives as a microfoundation shows that dynamic capabilities might be entrepreneurial, but still preserve their patterned nature enabling repeated execution. This approach provides a way to reconcile the two sub-streams in dynamic capability research and preserve their ontological assumptions. Moreover, this paper extends the literature on dynamic capabilities by ascertaining how individual and group level entrepreneurial initiatives operate within a broader context.

**Keywords:** Dynamic capabilities, organizational routines, multi-level, microfoundations, entrepreneurial initiatives, intrapreneurship, corporate entrepreneurship.

**Paper Type:** Conceptual paper

## 1. Introduction

During the last several decades, dynamic capabilities have received widespread attention in management research. Environmental dynamism influences the fit of current operative routines and capabilities in organizations. The latter require dynamic capabilities to deal with this issue (Teece *et al.*, 1997). Thus, dynamic capabilities enable organizations to adapt operative routines and capabilities to dynamic environments, which is a key concern in contemporary organizations (Zollo and Winter, 2002; Winter, 2003).

However, the nature of dynamic capabilities remains ambiguous. Some scholars regard dynamic capabilities as sets of organizational routines (e.g. Eisenhardt and Martin, 2000; Zollo and Winter, 2002). However, because routines are phenomena that develop within specific trajectories (Vergne and Durand, 2011) the question remains how do they enable “dynamic” adaptation and change. In this regard, Teece (2012) argues that entrepreneurial behavior of managers in organizations might also be components of dynamic capabilities. Creative acts and entrepreneurial intent are necessary for evaluating and stipulating organizational change. Concisely, the dynamic capability concept simultaneously includes seemingly opposing aspects of routinization and entrepreneurship.

This tension raises two major questions. First, it is currently unclear how this tension between the supposedly divergent perspectives of a routine-based approach and (corporate) entrepreneurship might be resolved. Such conceptual clarity is important in order to advance research on dynamic capabilities. Second, corporate entrepreneurship involves individuals and groups and, thus, might not solely be considered an organization level phenomenon (Kuratko *et al.*, 2005). This hints at a movement that endorses consideration of the micro level of dynamic capabilities in order to gain a deeper understanding of the phenomenon (Felin *et al.*, 2015; Winter, 2013; Salvato and Rerup, 2011).

The purpose of this article is to reveal *how entrepreneurial initiatives represent a microfoundation of dynamic capabilities*. Specifically, this article builds on research on dynamic capabilities and the microfoundations movement that has emerged within this literature. Moreover, we borrow insights from research on corporate entrepreneurship in order to explain entrepreneurial initiatives as a microfoundation of dynamic capabilities. The paper develops a model that demonstrates how entrepreneurial initiatives in organizations disrupt operative routines and

capabilities to cope with the dynamic environment and, hereby, constitute a microfoundation of dynamic capabilities.

The paper is organized as follows. First, it reviews research on dynamic capabilities, their microfoundations and corporate entrepreneurship. Second, the paper develops a model to illustrate how entrepreneurial initiatives represent a microfoundation of dynamic capabilities. Third, it discusses implications for research and practice and shows directions for future research as well as limitations.

This paper contributes to research and practice in several ways. First, it contributes to research on dynamic capabilities by highlighting the specific role of entrepreneurial initiatives and how they interact with operative routines. Second, this paper contributes to microfoundations research by emphasizing the role of entrepreneurial individuals and groups in the attainment of organizational level phenomena such as dynamic capabilities. Third, it contributes to research on corporate entrepreneurship by embedding entrepreneurial initiatives in a broader strategic context. Considering practical implications, the paper argues in favor of nurturing entrepreneurial initiatives as a microfoundation of dynamic capabilities and, thus, fostering organizational change.

## **2. Review**

### *2.1. Dynamic capabilities*

Teece *et al.* (1997) and Teece and Pisano (1994) introduced the concept of dynamic capabilities in the debate on management research. These authors argue that organizations increasingly face dynamic environments that are characterized by rapid change. Consequently, they question how organizations might sustainably capture value in such environments and achieve competitive advantage. According to the authors, dynamic capabilities enable firms to achieve new forms of competitive advantage. Since then, several scholars refined this understanding of dynamic capabilities (e.g. Barreto, 2010; Helfat *et al.*, 2007; Eisenhardt and Martin, 2000; Zollo and Winter, 2002; Winter, 2003; Ambrosini *et al.*, 2009).

The tremendous attention given to dynamic capabilities in management research has several reasons. First, dealing with environmental dynamism is of utmost importance for organizational strategy and behavior. Bourgeois and Eisenhardt (1988), for instance, argue that organizations in highly dynamic environments struggle with defining appropriate strategies since environmental changes occur quickly and are hard to predict. Therefore, specific capabilities are required to deal

with those changes (McCarthy *et al.*, 2010). Second, dynamic capabilities imply that organizations focus on and modify their operative routines and capabilities (Zollo and Winter, 2002). Teece *et al.* (1997) argue that the relevance of dynamic capability research also resides in normative implications that differ from market-based perspectives and extend resource-based perspectives. More specifically, the dynamic capability view emphasizes organizational capabilities and routines, but still considers how these relate to the external environment.

This renewed perspective on how organizations cope with dynamic environments has triggered research that strives to unravel how dynamic capabilities operate, i.e., what they do (Winter, 2003; Peng *et al.*, 2008; Helfat and Winter, 2011; Zahra *et al.*, 2006; Zollo and Winter, 2002; Barreto, 2010; Teece, 2007; Di Stefano *et al.*, 2014). In their initial contribution, Teece *et al.* (1997) hint at this question by emphasizing the fundamental role of operative capabilities and routines in organizations. However, the authors do not explain the specific link between operative and dynamic capabilities. Zollo and Winter (2002, p. 340) define dynamic capabilities as “a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness”. This definition shows that dynamic capabilities might operate in two different ways (Di Stefano *et al.*, 2014). First, they might *modify* operative routines and capabilities (Aragón-Correa and Sharma, 2003; Zahra *et al.*, 2006). Second, dynamic capabilities might also *generate* new operative routines and capabilities. However, Di Stefano *et al.* (2014, p. 315) argue that this distinction is not problematic as dynamic capabilities might be able to accomplish both (Santos and Eisenhardt, 2005; Benner and Tushman, 2003). In a nutshell, following the definition of Zollo and Winter (2002), dynamic capabilities operate by generating or modifying organizational routines and capabilities (Eriksson, 2014, p. 73). They, thus, maintain and restore fit with the requirements that arise from dynamic environments.

Understanding how dynamic capabilities operate also requires knowledge about their nature, i.e., what they are. Eisenhardt and Martin (2000) state that dynamic capabilities are routines that enable organizations to create new resource configurations. Moreover, Winter (2003) explicitly contrasts dynamic capabilities with ad-hoc problem solving and notes that the latter is not routine in nature and, thus, not constituent of dynamic capabilities. Zollo and Winter (2002, p. 340) also hint at this idea when they define dynamic capabilities as “patterns of collective activity”. Furthermore, scholars have argued that regarding dynamic capabilities as sets of organizational

routines enables measurability through observability (i.e., routines might be observed in practice) (Di Stefano *et al.*, 2014, p. 313; Helfat *et al.*, 2007, p. 37). Consequently, dynamic capabilities might be understood as sets of organizational routines (Amit and Zott, 2001; Aragón-Correa and Sharma, 2003).

The notion of dynamic capabilities as organizational routines does have important implications for the nature of dynamic capabilities. The concept of organizational routines and the role of routines in organizations have been discussed extensively in the literature (Nelson and Winter, 1982; Collis, 1994; Dosi *et al.*, 2008; Cohen *et al.*, 1996; Winter, 2003; Gilbert, 2005; Dosi *et al.*, 2000; Cyert and March, 1963; Stene, 1940). Cohen *et al.* (1996, p. 683) define an organizational routine as “executable capability for repeated performance in some context that has been learned by an organization in response to selective pressures”. First, this definition emphasizes the role of context-dependent learning (Parmigiani and Howard-Grenville, 2011, p. 417), which implies that routines develop within specific trajectories because efficiency is gained by building on familiar knowledge (Sydow *et al.*, 2009). If we define dynamic capabilities as organizational routines they themselves might develop within specific trajectories (Vergne and Durand, 2011; Gilbert, 2005). Second, the definition states that routines are repetitive phenomena. Repetitiveness is vital since it explicitly excludes one-time events such as ad-hoc problem solving and instead emphasizes repeated performances (Winter, 2003). Third, the definition states that routines react to selective pressures. This property is also important since it links routines to external aspects such as environmental dynamism. In conclusion, regarding dynamic capabilities as sets of organizational routines enables a more comprehensive understanding in terms of context and organizational learning. However, the question remains how dynamic capabilities enable organizations to adapt to dynamic environments if they are considered to be phenomena that develop in specific trajectories.

By contrast, other scholars have argued that dynamic capabilities are linked to the notion of entrepreneurship (Engelen *et al.*, 2014; Helfat *et al.*, 2007; Wales *et al.*, 2013; Zahra *et al.*, 2006; Teece, 2012, 2014, 2007, 2016). Zahra *et al.* (2006) propose that entrepreneurial activities affect the selection of resources and promote learning. Resources and learning processes seed operative capabilities and organizational knowledge that are linked to dynamic capabilities. On one hand, dynamic capabilities build on organizational routines, whereas on the other, they are generative in nature (Helfat and Peteraf, 2009, p. 95; Eisenhardt and Martin, 2000). However, the specific link

between corporate entrepreneurship and dynamic capabilities remains rather vague. “While entrepreneurs and managers are the key agents of change, dynamic capabilities may also be embedded in organizational routines and may be employed to reconfigure the firm’s resource base by shedding idle or decaying resources” (Zahra *et al.*, 2006, p. 922). Teece (2012) explicitly contrasts routines with entrepreneurial actions of individuals. Moreover, he argues that both aspects might be constitutive of dynamic capabilities. “Dynamic capabilities are not just the gears and drivetrain of the organizational machine; they include the entrepreneurial consciousness, imagination, and human action that guide it. The human action involves sensing, creating and co-creating, seizing, and transforming” (Teece, 2014, p. 339). Teece (2016, p. 214) also hints at the relevance of entrepreneurial managers for dynamic capabilities, but also asserts that research on this issue is still in its beginnings.

In summary, the concept of dynamic capabilities emphasizes fit between the external environment and operative capabilities and routines. Moreover, scholars have explored how dynamic capabilities induce change and found that they modify and generate operative routines and capabilities. However, understanding of the nature of dynamic capabilities seems to be ambivalent (Wohlgemuth and Wenzel, 2015; Schreyögg and Kliesch-Eberl, 2007). On one hand, they are considered as routines that enable repeated execution; alternatively, the notion of routines implies that they develop within specific trajectories underemphasizing their entrepreneurial potential. We argue that in order to resolve this tension between routines and entrepreneurship it is vital to unravel the microfoundations of dynamic capabilities.

## 2.2. *Microfoundations of dynamic capabilities*

In the last few years scholars have called for unravelling the microfoundations of dynamic capabilities (Abell *et al.*, 2008; Barney and Felin, 2013; Felin and Foss, 2005; Felin *et al.*, 2012; Felin and Foss, 2009; Felin *et al.*, 2015; Salvato and Rerup, 2011). Felin *et al.* (2012) state that microfoundations are mechanisms that explain abstract phenomena such as dynamic capabilities on a lower analytical level. “The microfoundations aspect has to do with the treatment of individual actors in the context of organizational routines and capabilities, especially issues of motivation and agency” (Winter, 2013, p. 121). A contribution that provides a coherent understanding of dynamic capabilities as a microfoundations issue is provided by Salvato and Rerup (2011). The authors distinguish between the organizational, the group and the individual level. Further, they argue that

dynamic capabilities operate on organizational routines by aligning them with dynamic environments. They also argue that individual behaviors underpin routines on the individual level. However, the authors point out that the link between individual behaviors, routines and dynamic capabilities still needs further exploration. Consequently, we address this research gap.

Microfoundations research is particularly concerned with individuals' contributions to dynamic capabilities. Several scholars have recognized the role of managers in creating and maintaining capabilities (Adner and Helfat, 2003; Helfat and Martin, 2015; Salvato and Rerup, 2011; Salvato, 2009). Unraveling managerial microfoundations, including aspects such as cognition (e.g. Gavetti, 2005; Eisenhardt *et al.*, 2010; Helfat and Peteraf, 2015), human capital (e.g. King and Tucci, 2002; Rothaermel and Hess, 2007) and social relationships (e.g. Acquaah, 2007; Kemper *et al.*, 2013) seems to be relevant.

There are reasons why microfoundations research is beneficial for understanding the nature of dynamic capabilities. Abell *et al.* (2008), for example, argue that collectivist explanations are common in management science and further argue that causal explanations typically require elaboration of the micro level to create a coherent understanding of the phenomenon. Felin *et al.* (2015, p. 589) explain that considering microfoundations enables scholars to understand the constituents (e.g., individuals, routines, structures) that underpin organizational phenomena. According to the authors, explanatory black boxes, therefore, are prevented.

In summary, scholars have called for unravelling the microfoundations of dynamic capabilities. As management research typically neglects the role of microfoundations, consideration of lower level entities that constitute dynamic capabilities might create additional insights (Wilden *et al.*, 2016). More specifically, we argue that entrepreneurial initiatives are a microfoundation of dynamic capabilities that constitutes their generative character. In the following, we review research on corporate entrepreneurship that enables us to provide a coherent understanding of entrepreneurial initiatives as a microfoundation of dynamic capabilities.

### 2.3. *Corporate entrepreneurship*

The term corporate entrepreneurship has received widespread attention (Kuratko *et al.*, 2015). One reason for this interest might be that corporate entrepreneurship is believed to augment exploration (Ireland and Webb, 2007) and firm performance (Lumpkin and Dess, 1996; Rauch *et al.*, 2009). Furthermore, the interest of scholars in corporate entrepreneurship seems to rely on the notion that



it is a way to overcome inertia and create market-firm-fit (Ahuja and Lampert, 2001; Lant and Mezias, 1990). Ahuja and Lampert (2001), for example, find that organizations tend to favor familiarity, maturity and propinquity, which prevents the attainment of breakthrough innovation and that corporate entrepreneurship provides a way to overcome those traps.

Corporate entrepreneurship is “the process whereby an individual or a group of individuals, in association with an existing organization, create a new organization or instigate renewal or innovation within that organization” (Sharma and Chrisman, 1999, p. 18). Corporate entrepreneurship, typically, has been regarded as a firm level phenomenon (Covin and Slevin, 1991; Covin and Miles, 1999; Ireland *et al.*, 2003). However, the definition provided above shows that individuals also play a major role in the attainment of corporate entrepreneurship. Thus, corporate entrepreneurship is not solely an organization level phenomenon, but is also attained by individuals and groups in the organizational context. In the following, we refer to those iterations of the corporate entrepreneurship process as entrepreneurial initiatives. Those initiatives in new products, services and/or businesses arise from internal opportunity recognition (Shane and Venkataraman, 2000; Newey and Zahra, 2009, p. 83). The notion of entrepreneurial initiatives refers to entrepreneurial activities within firms (Kuratko and Audretsch, 2013; Kuratko *et al.*, 2005).

Several sub-streams of research on corporate entrepreneurship have highlighted the relevance of individuals. First, some scholars have specifically focused on individuals’ characteristics in corporate entrepreneurship (Hisrich, 1990; Naffziger *et al.*, 1994; Pinchot III, 1985; De Jong *et al.*, 2015; Ireland *et al.*, 2009; Ates *et al.*, 2015; Hostager *et al.*, 1998; Haynie *et al.*, 2010). Naffziger *et al.* (1994), for instance, argues that personal characteristics and goals as well as the personal and business environment of the corporate entrepreneur might affect decisions to behave entrepreneurially. The authors embed this conceptualization in the larger organizational context. Moreover, Ireland *et al.* (2009) argue that individuals’ beliefs, attitudes and values are antecedents of a corporate entrepreneurship strategy. Second, researchers elaborated the role of diverse employee groups such as middle managers in corporate entrepreneurship (Kuratko *et al.*, 2005; Ren and Guo, 2011; Dutton *et al.*, 1997; Wooldridge *et al.*, 2008; Fulop, 1991; Lassen *et al.*, 2009; Boyett and Currie, 2004; Hornsby *et al.*, 2002). Wooldridge *et al.* (2008), for example, finds that middle managers play a central role in corporate entrepreneurship. More specifically, Kuratko *et al.* (2005) argue that middle managers perceive organizational antecedents (i.e., the context) and,

hence, seize entrepreneurial opportunities and orchestrate relevant resources. Moreover, entrepreneurial behavior of middle managers results in organization level outcomes such as product market diversification, enhancement of innovation capabilities and strategic drifts as well as individual level outcomes. “We believe this area of research (the role of individuals in corporate entrepreneurship, added by the authors) will continue to expand due to the critical importance of behavioral changes that are involved with entrepreneurial activity inside organizations” (Kuratko *et al.*, 2015, p. 248).

To conclude, considering research on corporate entrepreneurship might enable scholars to understand the entrepreneurial microfoundations of dynamic capabilities. Whereas dynamic capability research largely remains on the organizational level, corporate entrepreneurship research shows that understanding this phenomenon requires us to unravel the role of individuals that drive entrepreneurial initiatives (i.e., their microfoundations).

### **3. Model: Entrepreneurial initiatives as a microfoundation of dynamic capabilities**

The purpose of this article is to explain how entrepreneurial initiatives represent a microfoundation of dynamic capabilities. We develop a model of how entrepreneurial initiatives represent a microfoundation of dynamic capabilities (Figure 1). In defining the levels involved, we rely on the conceptualization of Salvato and Rerup (2011) and consider the organizational, the group and the individual level. The following chapters explain step-by-step the specific links and mechanisms of how entrepreneurial initiatives represent a microfoundation of dynamic capabilities.

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#### *3.1. Operative capabilities consist of bundles of organizational routines*

Following prior research, we assume that an organization is built of operative capabilities that consist of bundles of routines (Pavlou and El Sawy, 2011; Winter, 2003). This argument is, for instance, supported by Dosi *et al.* (2008, p. 1167) and Dosi *et al.* (2000, p. 4) who argue that routines might be regarded as building blocks of capabilities. A more illustrative example is

provided by Peng *et al.* (2008). The authors analyze data from 189 manufacturing plants in six countries and identify ‘improvement’ and ‘innovation’ as critical capabilities that influence operational performance. Moreover, the authors explain that those capabilities consist of bundles of diverse routines such as process management (improvement-capability) or cross-functional product development (innovation-capability). Another empirical example is provided by Dutta *et al.* (2003) who find that the pricing capability in a Midwestern manufacturing firm consists of bundles of routines such as data gathering, documenting prices and recalling information from those documents. Therefore, as shown in Figure 1, we exemplarily display an operative capability that is underpinned by a bundle of routines (i.e., illustrated by several layers). Moreover, as routines are collective phenomena they reside on the group level, but still expand to the individual level as individuals perform those routines (Feldman and Pentland, 2003).

### 3.2. *Environmental dynamism reduces fit of operative routines*

Research has extensively discussed how operative routines relate to dynamic environments (Henderson and Clark, 1990; Zollo and Winter, 2002; Schreyögg and Kliesch-Eberl, 2007, p. 916). The understanding of this link is deeply connected to the notion of inertia. Routines provide guidance for organizational behavior, but might also develop within specific trajectories. Several streams of literatures emphasize this argument (Sydow *et al.*, 2009, p. 696 ff.; Schreyögg and Kliesch-Eberl, 2007, p. 916 ff.). Researchers of path dependency, for instance, argue that feedback effects of trial-and-error decisions result in dynamically self-reinforcing processes. Those processes eventually lead to fixed decision patterns and lock-ins (Sydow *et al.*, 2009; Arthur, 1989; Vergne and Durand, 2011). This point of view is also shared by Zahra *et al.* (2006, p. 928) when they propose that operative routines are difficult to change when they have been used repeatedly in a similar manner. In a contemporary case study, Wenzel (2015) shows that the funeral industry in Berlin (Germany) stabilized its strategic premises and action patterns (i.e., routines) even though the market changed radically. This environmental change was due to discount funeral homes entering the market and the rise of the internet that leveraged marketing capabilities of those discount funeral homes. Consequently, revenues dropped and the funeral industry “buried itself”. The decline in revenues reflected the reduced fit between internal routines and the external context in which the organization operates (Helfat *et al.*, 2007, p. 7)

Given the assumption that routines develop within specific trajectories, fit of those routines is reduced when profound changes in the external environment occur (Vergne and Durand, 2011, p. 374). The reason that firms develop routines is because specific actions are amplified by positive feedback effects (Levitt and March, 1988, p. 320). However, in dynamic environments demand might vary, competitors may offer more attractive products, governments and the industry might initiate regulations and technology and product requirements might change (Bourgeois and Eisenhardt, 1988; McCarthy *et al.*, 2010). Consequently, current routines are no longer adequate and have to be changed (Gilbert, 2005). However, radical change that is not aligned with routines might be inhibited, i.e., environmental change causes variation in the valuation of opportunities that a company might pursue. In addition to that, firms can only pursue some of those opportunities. If environmental dynamism diminishes the value of pursuable opportunities, fit decreases (Helfat *et al.*, 2007).

Empirical findings show that environmental dynamism does indeed reduce fit of operative routines (Collinson and Wilson, 2006; Glasmeier, 1991; Haveman, 1992; Jansen *et al.*, 2006; Nadkarni and Narayanan, 2007; Argote, 1982). In an analysis of saving and loan associations in California, for example, Haveman (1992) shows that organizations that adapt to rapid and substantial changes in the external environment have a higher propensity to realize short-term financial returns and long-term survival. Moreover, Collinson and Wilson (2006) analyzed two Japanese organizations and showed that inert routines did result in major problems when environmental turbulence occurred.

In conclusion, operative routines are considered phenomena that develop within specific trajectories. Even though these routines have proved beneficial in a specific environment, environmental dynamism might reduce fit of operative routines and the capabilities they constitute.

### *3.3. Entrepreneurial initiatives are triggered and informed by operative routines in relation to environmental dynamism*

Previously we argued that environmental dynamism might reduce fit of operative routines and capabilities. Therefore, we propose that entrepreneurial initiatives might be a suitable means to meet and anticipate the changes in the environment. Subsequently, they might modify those operative routines or create new ones.

As indicated in Figure 1, we propose that entrepreneurial initiatives are informed and triggered by the response of operative routines to environmental dynamism. Actors in organizations perceive operative routines because they are often involved in those routines (Feldman and Pentland, 2003). Moreover, those actors might perceive dynamism in the external environment (Teece, 2007). Matching internal routines with the external environment might lead to the perception that operative routines do not fit anymore. This perception might trigger an entrepreneurial initiative that strives to change the operative routines in order to realign them with the requirements from the external environment.

A production manager, for instance, knows the specific production routine because her work is part of this routine (e.g., she knows which tasks have to be accomplished and which products to be made). This manager, in observing the external environment, may notice that competitors offer customized products and that customers prefer those customized products. Consequently, she might consider whether the present production routine could be realigned to enable similar customization or whether it is necessary to adapt the routine, for instance, by applying a new production framework that is more flexible and faster. Additionally, she might think about cultural and political contingencies linked to the production routine that might ease or exacerbate the implementation of a new production framework.

Research on corporate entrepreneurship does support those arguments. First, it has been shown that entrepreneurial initiatives are informed and triggered by environmental dynamism (Miller, 1983; Zahra, 1993). Stopford and Baden-Fuller (1994), for instance, argue that opportunities and threats that emerge from dynamic environments trigger corporate entrepreneurship. Hornsby *et al.* (2009, p. 238) explain that entrepreneurial initiatives are “pursued in light of environmental opportunities and threats, with the purpose of creating a more effective alignment between the company and conditions in its external environment.” Similarly, Ireland *et al.* (2009, p. 30) propose that environmental dynamism is positively related to the propensity of individuals to pursue corporate entrepreneurship.

Second, corporate entrepreneurship research has shown that entrepreneurial initiatives also depend on internal context characteristics. Those characteristics might also emerge within organizational routines. Kuratko *et al.* (2005), for instance, explain that the perception of organizational antecedents such as managerial support, work discretion, reward, time availability and boundaries shape entrepreneurial behavior of middle managers. This view relates to a larger

movement that elaborates environments that are conducive to entrepreneurial initiatives (Kuratko *et al.*, 1990; Hornsby *et al.*, 2002; Hornsby *et al.*, 2013; Kuratko *et al.*, 2014; De Jong *et al.*, 2015; Alpkhan *et al.*, 2010). Burgelman (1983a) takes a strategic perspective and highlights how the structural context leads to adjustment of behavior in operational units to create balance with corporate strategy. Ren and Guo (2011) explain that the attention structure of firms affects whether middle managers perceive opportunities and consequently trigger entrepreneurial initiatives. Courpasson *et al.* (2014) shows how a manager's entrepreneurial initiative depends on interaction with other individuals as well as shared norms and rules. Briefly, research on corporate entrepreneurship has shown that internal contextual aspects (that might emerge from and within organizational routines) inform and trigger entrepreneurial initiatives.

Moreover, Figure 1 shows that entrepreneurial initiatives are both individual and group level (i.e., collective) phenomena. Therefore, we conceptualize them both on the individual and the group level. Wales *et al.* (2011) hints at this idea when he argues that corporate entrepreneurship is not homogeneously dispersed across the firm, but might reside in specific units or even specific individuals. In analyzing entrepreneurial initiatives in ten firms, Stopford and Baden-Fuller (1994) find that those initiatives develop in several steps. First, individuals and small teams work on new ideas that are mainly independent of the larger organization. Second, those initiatives spread across the organization and result in strategic renewal. Third, those initiatives are embedded in the wider organizational context. As shown in this study, we regard entrepreneurial initiatives as starting from individual action and then spreading across the organization affecting the group level (Burgelman, 1983b). Figure 1 indicates this point of view with a spiral that starts from the individual level and then moves to the group level.

In summary, we have shown that entrepreneurial initiatives in organizations are a vital microfoundation that disrupts organizational routines and restores their fit with dynamic environments. Individuals perceive fit between operative routines and capabilities and match them with the external environment. If those routines no longer fit, these individuals may initiate entrepreneurial initiatives that eventually reach the group level.

### *3.4. Entrepreneurial initiatives disrupt operative routines*

Finally, we explore how entrepreneurial initiatives affect routines. We call the mechanism by which entrepreneurial initiatives affect operative routines “disruption” (see also Antoncic and

Hisrich, 2003) – disruption quickly modifies operative routines or generates new routines. Thus, disruption enables the adaptation of routines to the changing requirements of the environment. Antoncic and Hisrich (2003, p. 13), for instance, highlight how entrepreneurial behavior applies disruptive changes to routines since it represents a departure from the norm. Disruption implies that schemata and accepted repertoires of behavioral patterns that are incorporated in routines are challenged. The organization might be unwilling to accept those changes, most likely resulting in resistance to change. There are two ways for entrepreneurial individuals and groups to execute this mechanism successfully. First, they might try to convince top management of the need for change by selling issues and building coalitions (Dutton *et al.*, 2001; Ren and Guo, 2011). Second, they might siphon off resources and develop ideas covertly. In such a case, by the time the entrepreneurial initiatives is discovered, it is too late to stop it – for instance, because significant investments have been already redirected elsewhere or because a step back would result in major losses (Knight, 1967, p. 493).

There is also rich empirical support for the disruption mechanism of entrepreneurial initiatives (Abetti, 1997; Augsdorfer, 2005; Burgelman, 1983b; Lassen *et al.*, 2009; Courpasson *et al.*, 2014; Ettlie *et al.*, 1984). Abetti (1997), for instance, describes how a team of entrepreneurial actors at the electronics firm Toshiba successfully developed and introduced the first laptop, despite the fact that top management did not support or fund this product development and its distribution. Thus, its development took place “under the table”.

Reconsider the example of the production routine introduced above. Assume the production manager decides that it is vital to change the production framework. She might start to talk about this issue with colleagues and those colleagues themselves might talk to others. Some might even ask external experts that are familiar with the new production framework. Additionally, the respective group will create drafts of how the new framework should look and they might start selling their ideas to management in order to get funding and approval (i.e., the initiative becomes a collective phenomenon). Moreover, political and cultural dynamics might arise when different groups with different interests (e.g., maintaining versus changing the original framework) interact. The entrepreneurial initiative modifies the production framework and, thus, disrupts the underlying production routine. Since the new framework enables the flexible production of customized products, as demanded by customers and as offered by competitors, the modified routine exhibits an improved fit with the external environment.

## 4. Discussion

### 4.1. *Implications for research*

This paper provides several contributions for research. First, it contributes to research that elaborates on the nature of dynamic capabilities (Schreyögg and Kliesch-Eberl, 2007). Many scholars define dynamic capabilities as high level routines that shape operational routines (Winter, 2003; Eisenhardt and Martin, 2000). However, Teece, (2012, 2014, 2016) argues that routines are not the only components that constitute dynamic capabilities and that entrepreneurial behavior of individuals should also be considered. We develop this insight by outlining the mechanisms by which entrepreneurial initiatives might constitute a microfoundation of dynamic capabilities. We believe that two aspects have to be considered in order to understand this tension between entrepreneurship and routinization. First, applying a microfoundations lens shows that entrepreneurial initiatives might reside on the individual and group level. As indicated in our model, the mechanism of how dynamic capabilities exert their entrepreneurial effect resides on those levels. A microfoundations lens is a suitable way to examine the nature of this tension. This is in line with Teece (2012, 2014, 2016) who emphasized the role of entrepreneurial managers (i.e., the individual level) for dynamic capabilities. Moreover, we provide an alternative approach to this tension than prior research. Wohlgemuth and Wenzel (2015), for instance, find that higher routinization occurs at strategic levels whereas operational levels are less routinized. Our conceptualization offers an alternative logic to considering this tension between routinization and entrepreneurship by distinguishing between the organizational, the group and the individual level. Second, our approach also underlines that routinization and entrepreneurial initiatives are not mutually exclusive. If organizations succeed in embracing entrepreneurship, entrepreneurial initiatives might become repetitive and, thus, patterned. This idea is also consistent with perspectives that regard dynamic capabilities as semi-structured routines (Eisenhardt and Martin, 2000; Eisenhardt and Sull, 2001). In summary, our model might offer one potential resolution for the tension between entrepreneurship and routinization in dynamic capability research. We hope that it contributes to an improved conceptual clarity within dynamic capability literature.

Second, this paper contributes to microfoundations research. Scholars have called for a more detailed understanding of the roles individuals play as microfoundations of phenomena such as dynamic capabilities (Wilden *et al.*, 2016). Felin and Foss (2005), for instance, state that they are



frustrated about the neglect of the role of individuals in this literature. Salvato and Rerup (2011) also ask for clarification of the role diverse actors play in shaping higher level entities. We contribute to this research gap by exemplifying entrepreneurial initiatives in organizations as a microfoundation of dynamic capabilities. Past research has particularly focused on cognition as a microfoundation of dynamic capabilities. However, we argue that cognition results in behavior and that behavior might influence organization level phenomena. Thus, behavior is a vital element that should gain more attention in microfoundations research (Salvato and Rerup, 2011). Finally, prior research on the microfoundations of dynamic capabilities has largely focused on top management as “lonely heroes” shaping capabilities (Adner and Helfat, 2003; Helfat and Martin, 2015). By contrast, research on corporate entrepreneurship has also highlighted the role of middle managers that act in an entrepreneurial way and fundamentally change organizations (Kuratko *et al.*, 2005; Kuratko *et al.*, 2015). Thus, by examining entrepreneurial initiatives in organizations, we not only consider top management as influencers of dynamic capabilities, but extend microfoundations research to other managers and employees (Wooldridge *et al.*, 2008; Renzl *et al.*, 2013). This extension shifts the role of top management from “lonely heroes” to inspiring leaders that shape the corporate context within which capability-building occurs (Di Stefano *et al.*, 2014).

Third, this paper contributes to research on corporate entrepreneurship. Kuratko *et al.* (2005), for instance, claims that research should elaborate how middle managers’ entrepreneurial behavior influences organizational outcomes. We provide a model of how those entrepreneurial initiatives are embedded in the larger organizational context. Our model also integrates the notion of corporate entrepreneurship in the management literature and shows paths for fertilization between those literatures (Amit and Zott, 2001; Baker and Pollock, 2007; Zahra *et al.*, 2006; Barringer and Bluedorn, 1999).

#### 4.2. *Implications for practice*

This paper also offers several managerial implications. The concept of dynamic capabilities has, typically, remained rather vague especially when it comes to its practical relevance (Arend and Bromiley, 2009). Our model provides several implications of how organizations might facilitate entrepreneurial initiatives and, thus, support the attainment of dynamic capabilities. For instance, organizations should support actors in sensing the external environment in order to be able to

assess fit of operative routines with the external environment. Tools that support the integration of external knowledge (e.g., customer feedback forms, market surveys, communities of practice with external participants) might be an example of how this could be accomplished.

Moreover, our model shows that the organizational context is important for the emergence of entrepreneurial initiatives. First, these insights emphasize the need to design organizational contexts that enable individuals to multiply their efforts and nurture entrepreneurial initiatives. For instance, organizations might enable individuals that have particular intentions to change operative routines to connect with others that also support this idea. Second, managers should also create a context in which entrepreneurial initiatives flourish. Research on corporate entrepreneurship provides insights on the properties (e.g., rewards, management support, work discretion) of such an environment (e.g. Kuratko *et al.*, 2014). Change managers might also apply those insights in order to facilitate a context that fosters the emergence of entrepreneurial initiatives and actors who are willing drive organizational change (Will, 2015).

#### *4.3. Limitations and future research*

Our study has several limitations, which suggest directions for future research. First, our model specifies entrepreneurial initiatives as a specific microfoundation of dynamic capabilities. Our model, therefore, contributes to research that emphasizes the entrepreneurial nature of dynamic capabilities (e.g. Teece, 2012, 2014, 2016). However, our conceptualization of entrepreneurial initiatives remains rather general in nature. Further research should explore the concise characteristics of diverse entrepreneurial initiatives in relation to dynamic capabilities. The following questions arise: How do different types of entrepreneurial initiatives (e.g., issue selling, bootlegging) interact with operative routines? How do those initiatives become collective and how do “ideas” disperse across the organization? When do entrepreneurial initiatives fail? Furthermore, we conceptualize entrepreneurial initiatives as a specific microfoundation of dynamic capabilities. However, there might be further entrepreneurial microfoundations of dynamic capabilities. Examples are structurally decoupled units that act in an entrepreneurial way, compensation and incentive systems as well as entrepreneurial motivations and cognition (Salvato *et al.*, 2009). Future research might unravel and compare those entrepreneurial microfoundations of dynamic capabilities.

Second, in emphasizing the role of actors below top management, our study remains rather general in nature. Wooldridge *et al.* (2008), for example, state that middle managers exert agency in a completely different way when compared to top management. Lower level employees might also differ from middle managers in this respect. Future research on the microfoundations of dynamic capabilities should clarify how diverse groups of actors, in terms of profession and hierarchical position, execute entrepreneurial initiatives shaping operative routines. This aspect might be a fruitful avenue for research as different actors participate in different routines (e.g., interdependencies between routines in which they participate) providing diverse contexts that might foster or constrain entrepreneurial initiatives.

Third, research on organizational routines might provide insights into the tension addressed in this paper. Eisenhardt and Sull (2001), for instance, explain that routines might also be semi-structured in nature. Those routines serve as frameworks that allow for a diversity of behavior. Thus, a broad spectrum of entrepreneurial behavior exists that seems to be radical in nature from an individual's perspective; however, it is only incremental if we analyze the change in routines. Future research might answer questions that are linked to the structuring of routines: is there a difference in how entrepreneurial initiatives impact structured and semi-structured routines? Is disruption a relevant mechanism in semi-structured routines? Consideration of research that regards routines from a practice perspective might also fertilize this discussion (Feldman and Pentland, 2003; Parmigiani and Howard-Grenville, 2011).

Fourth, our model does not include the notion of time and iteration, opening further opportunities for research: How often does disruption occur? Are infrequent phases of disruption followed by phases of routine stabilization? How do entrepreneurial initiatives evolve over time? Research that applies procedural and temporal perspectives to understand dynamic capabilities might provide interesting insights (Helfat and Peteraf, 2003). This might particularly be interesting since the ontological assumptions of such perspectives (i.e., procedural focus) differ from the assumptions of microfoundations research (i.e., focus on lower level entities and phenomena).

In conclusion, the tension between routinization and entrepreneurship in dynamic capability research is an important issue. Our paper sheds light on this issue by providing a model in which entrepreneurial initiatives represent a microfoundation of dynamic capabilities. However, we believe that this tension deserves further consideration and hope that our paper stimulates research that continues to explore the nature of dynamic capabilities.

## 5. References

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**Figure 1**

Entrepreneurial initiatives as a microfoundation of dynamic capabilities

