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Influence of middle management on dynamic capabilities

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Abstract

Purpose – The dynamic capabilities (DC) literature focuses primarily on top managers. Although recent studies have drawn attention to middle management's (MM) relevance, these professionals have not been the focus of much attention in the DC literature. The purpose of this paper is to investigate whether and how MM influences DC dimensions.

Design/methodology/approach – Through a qualitative strategy and case-study method, 13 MM professionals from four Brazilian companies embedded in competitive and dynamic contexts were investigated. The "micro-practices" approach was used to operationalize the DC construct.

Findings – The evidence shows that MM influences DC dimensions. This influence appears to emanate from 19 identified and named micro-practices.

Practical implications – By examining how micro-practices (micro-level) influence macro-level DC dimensions, this article raises the significance of including the micro-practices identified herein in management-training programs.

Originality/value – The first relates to the identification of micro-practices within the MM scope. The second relates to the association of micro-practices with management functions. The third relates to the association of micro-practices with DC dimensions. Thereby, this article highlights how DC work in organizations' daily activities. The fourth is the construction of a framework that demonstrates how to integrate the DC micro (micro-practices), meso (managerial functions) and macro (DC dimensions) scopes. Fifth, this paper affirms the emerging research stream that stresses MM's relevance for DC generation.

Keywords Dynamic capabilities, Middle management, Micro-practices, Sense, Seizing, Reconfiguration

Paper type Research paper

Introduction

Dynamic capabilities (DC) are capabilities that organizations possess for building, combining and renewing resources, routines and processes (Teece, 2019). The literature on the subject has gained particular prominence in management studies in recent years (Mohamud and Sarpong, 2016; Murschetz *et al.*, 2020; Schilke *et al.*, 2018). The DC approach has several concepts, and three are considered fundamental. First, DC are associated with the organizational-strategy construct and how to increase the competitive advantage (Teece, 2018a). Second, although DC consider different dimensions or groups of activities (for additional information, see Schilke *et al.*, 2018), three of them, namely, sense, seizing and reconfiguration, are the most cited in the literature in this field. Third, the notion that top management handles developing its fundamental dimensions prevails in the literature. Indeed, Lee and Teece (2014) pointed out that studies have highlighted top management's

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entrepreneurial role in developing DC and that these actors' main contributions are based on their skills and knowledge.

Despite top management's focus on DC (Lee and Teece, 2014), in a recent study, Murschetz *et al.* (2020) highlighted the role of middle management (MM) in the development of its fundamental processes. MM is considered to include professionals who handle geographically dispersed divisions or units and functional managers (marketing, human and financial resources) (Lee and Teece, 2014; Wooldridge *et al.*, 2008). The relevance of MM has been the object of analysis in several conceptual approaches (Berraies, 2019; Schaefer and Guenther, 2016; Tarakci *et al.*, 2018; Wooldridge and Floyd, 2017). However, MM has not been the focus of significant attention in the DC literature. Although Lee and Teece (2014) initially reflected on the relationship between MM and DC while endorsing the relevance and persistent lack of such an association, they did so from an essentially theoretical perspective. These authors pointed out that the subject has not been investigated empirically and highlighted the importance of novel studies that aim to understand the essence of such a phenomenon in the field.

It is necessary to understand how MM exerts an influence on the development of DC. Through a qualitative strategy and case-study method, the article investigated 13 MM professionals from four Brazilian companies. The micro-practices approach was used to operationalize the DC construct. The results show how MM influences DC dimensions. We developed a framework to demonstrate how to integrate the DC micro (micro-practices), meso (managerial functions) and macro (DC dimensions) scopes.

The article makes a contribution to the literature and to management practice. In the theoretical context, it is worth noting that the DC dimensions are considered latent constructs by the literature, that is, analyzed only through other observable variables (Barreto, 2010). Such observable variables were examined in this work in light of an emerging approach, that of micro-practices (Felin *et al.*, 2015; Radaelli and Sitton-Kent, 2016). Studying micro-practices and, at the same time, looking to associate them with the DC dimensions, this article culminates by connecting the micro and macro spheres associated with the dimensions of sense, seizing and reconfiguration. In this vein, we respond to several studies (Peteraf *et al.*, 2013; Tallott and Hilliard, 2016) that emphasized how DC work in organizations' daily activities but did not explain how middle managers can act intentionally to develop them. In this way, we integrated DC (organizational level) with MM (individual and team level) in a contribution to multilevel research (Jiménez-Barrionuevo *et al.*, 2011). Thereby, we contribute to the literature on the strategic influence of MM that has gained prominence in business and academic contexts in recent years (Castañer and Yu, 2017; Tarakci *et al.*, 2018; Way *et al.*, 2018). In regard to managerial practice, by analytically associating the micro-practices of MM with the DC dimensions, this article reveals how DC work in the daily life of organizations and offers implications to actions of MM executives.

Conceptual background

The literature on DC has evolved (Schilke *et al.*, 2018). Currently, they are considered one of the most prominent and influential approaches in management scholarship (Peteraf *et al.*, 2013; Schilke *et al.*, 2018). The firm's capabilities are analyzed in operational and DC (Winter, 2013). Operational capabilities are those that support the company's operations and day-to-day business activities such as marketing, HR management, etc. DC handle prospective opportunities or threats (sense), preparing the company to respond to change (seizing) and executing change through the transformation of operational capabilities (reconfiguration) (Teece, 2007; Teece *et al.*, 2009). Although such dimensions are not the only ones under which DC can be addressed, the dimensions of sense, seizing and reconfiguration (Teece, 2018a, b) are the most utilized dimensions of DC (Schilke *et al.*, 2018). We follow this path, but our focus is the role of managers, mainly MM, in the development of these dimensions.

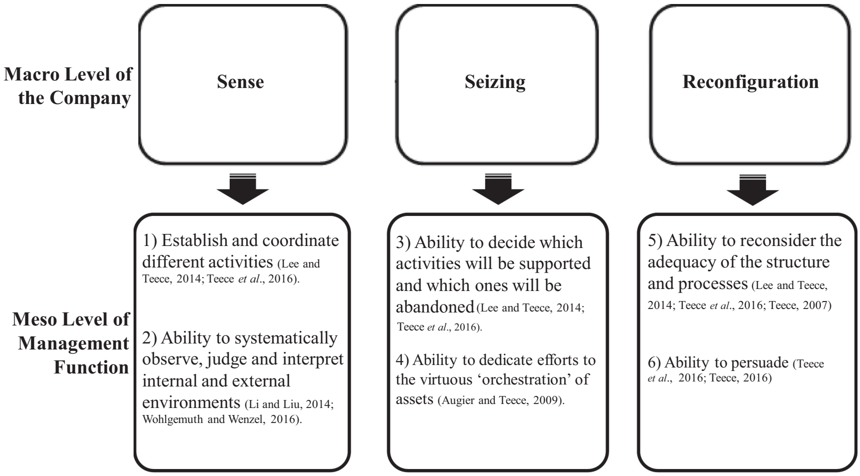
Managers are central elements in the DC approach (Teece, 2007, 2014, 2018b). Indeed, the management team handles the work of perceiving and acting on opportunities (Teece, 2018a, b). Managers can perceive and evaluate opportunities and threats (sense), and these activities seek to continuously and systematically bring, analyze and interpret information available in the environment in an unorganized manner (Pavlou and Sawy, 2011; Teece, 2018a). Such tasks involve the inclusion of both formal and informal processes of searching and analyzing systematized and nonsystematized information available from a range of sources (Li and Liu, 2014; Teece, 2018b). In this sense, managers must have the skills required to establish and coordinate different activities involving all professionals in the organization (Lee and Teece, 2014; Teece, 2016). In other words, through this coordination between different hierarchical levels, managers would have more chances to perceive opportunities as well as threats (Teece, 2016). Apart from that, managers must also dedicate themselves to the systematic observation, judgment and interpretation of internal and external environments, realizing from their analysis possible latent demands (Li and Liu, 2014; Wohlgemuth and Wenzel, 2016).

The mobilization and coordination of resources to respond to threats or opportunities depend on a manager's tasks and decisions (seizing). The seizing dimension refers to the structures, procedures, activities and incentives necessary for the company to make decisions and act upon identified opportunities and threats as quickly as necessary. This dimension includes decisions about designing solutions for customers, interacting with other companies in the production chain and outsourcing strategic activities such as R&D (Barreto, 2010; Hodgkinson and Healey, 2011; Li and Liu, 2014; Schilke *et al.*, 2018; Teece, 2018b). At this stage, managers must decide which activities to support and which to discontinue based on the likelihood of satisfactory returns (Lee and Teece, 2014; Teece, 2016). Furthermore, targeting the effective use of opportunities, managers must dedicate efforts to the virtuous "orchestration" of assets in organizations, a skill also known as intrapreneurship (Augier and Teece, 2009). They must be able to make decisions, for instance, about which technologies to purchase and which market segments to exploit, which products to buy or which new assets to develop. The manager needs established decision-making rules and resource-allocation processes (Teece, 2007).

Finally, reconfiguration refers to the manager's decisions and actions to change operational capabilities in order to remain competitive. Managerial reconfiguration skills would relate to the capacities that managers have to periodically reconsider the adequacy of the company's structure and processes for pursuing the selected opportunities (Lee and Teece, 2014; Teece *et al.*, 2016; Teece, 2007). At this stage, managers must persuade other members of the organization and partners as well that the chosen path is the most promising at the moment, and this requires strong leadership skills (Teece *et al.*, 2016; Teece, 2016). These skills are manifested in a manager's abilities in regard to activities related to people management. Among the activities, establishing and communicating a sharp vision for the organization, directing the team toward a shared vision of a shared future and motivating members about ongoing projects can be highlighted (Augier and Teece, 2009; Teece *et al.*, 2016).

Although the literature on DC approaches managers from an undifferentiated perspective, it does not emphasize the influence derived from middle managers. It is possible to see, within a general perspective, their potential influence on the fundamental dimensions (sense, seizing and reconfiguration). Figure 1 expands this reflection.

In the literature, it is possible to find indirect evidence of middle managers' performances in micro-practices of the sense, seizing and reconfiguration dimensions, as in Figure 1, taking MM as among the top-level executive group and first-level supervisory group (Wooldridge



Note(s): Developed by the authors

Figure 1.
DC dimensions and their association with managers' functions as considered by the literature from an undifferentiated perspective

et al., 2008). Concerning sense, Floyd and Wooldridge (1997) highlighted the role of coordinating middle managers' information between senior executives and the first level of supervision, as part of MM's functions is to assess external changes and present to companies information about competitors, suppliers, customers and new opportunities. This is particularly true when expecting or promoting technological changes (Taylor and Helfat, 2009). In addition, we emphasize sense, as a MM central characteristic, in regard to an open-minded policy (Stathakopoulos *et al.*, 2019), complemented by the absorptive capacity (Sun and Anderson, 2012).

In regard to seizing, middle managers handle proposing new projects. They also distribute resources for these proposed new projects and for those deliberated by the top level of the organization (Floyd and Wooldridge, 1997). It is the middle manager's role to orchestrate different resources to implement innovations in response to changes in the environment (Taylor and Helfat, 2009). The role of implementing strategy development is not exclusive to technological changes but applies also to different stages of strategic planning (Raes *et al.*, 2011) and strategic vision (Darkow, 2015). Ability, commitment, intrapreneurship and flexibility are all essential to strategic resource allocation, orchestration and strategies (Stathakopoulos *et al.*, 2019).

Regarding reconfiguration, middle managers are essential for convincing senior executives of the need for change. In regard to deliberations, they are responsible for convincing the levels of first-line management and supervision to engage in change (Floyd and Wooldridge, 1997). It is the middle manager's role to influence the other levels to achieve the organization's goals (Rouleau, 2005); they must translate what the top level wants and guarantee its execution (Dechurch *et al.*, 2010), to the extent that one of the activities that highlight MM's functions is the relationship orientation (Anzengruber *et al.*, 2017) and the ability to reassess the organizational structure and renew organizational routines (Tippmann *et al.*, 2014).

Method

Design

A qualitative strategy is appropriate for the in-depth study of complex phenomena that are difficult to distinguish from the context in which they occur (Creswell, 2014; Dubois and Gadde, 2002). Such a lack of distinction between a phenomenon and its context appears to be the case in regard to DC. The DC dimensions are considered latent constructs, seen only through other observable variables (Barreto, 2010). Observable variables, in turn, are "skills, processes or procedures and instructions that support . . . the perception, use and reconfiguration capacities at the firm level" (Teece, 2007, p. 1319). Among the possible observable variables highlighted by the literature, micro-practices or micro-activities stand out (Rouleau, 2005).

Micro-practices are routines resulting from individual actions (Rouleau, 2005) or the day-to-day activities and routines of an organization that contribute to and express, in some way, strategic results (Johnson *et al.*, 2003). Micro-practices are not synonymous with DC, but objective evidence of their possible and various manifestations (Barreto, 2010; Teece, 2018a, b). Several authors have emphasized that micro-practices are idiosyncratic and depend on the circumstances of the environment (Eriksson, 2014; Teece, 2007; Teece *et al.*, 2009). In this way, as previously noted, the DC considered in this study were operationalized through an in-depth analysis of micro-practices.

The method employed was a multiple case study (Yin, 2015b). Felin *et al.* (2015) stressed the value of case studies to research micro-foundations. Lee and Teece (2014, p. 28), in turn, emphasized the necessity for empirical research on MM and DC to be based on "in-depth case studies because of the context-dependent nature of the relationship between management and performance". According to the authors, the research paradigm of DC is still relatively new. Case studies are likely to yield powerful insights at this early stage of theory development, as proposed in this article.

Case selection

The DC phenomenon occurs at the organizational level (Eisenhardt and Martin, 2000). Therefore, the case was developed at the company level. Four organizations were selected. The first company (A) is a privately owned production-goods industry that is family-owned and has been in the market for about 30 years. It focuses on customized equipment demands, especially for the mining industry and currently employs about 200 direct hires. The second company (B) is a family-owned, privately-held consumer-goods company that has been around for 40 years. It manufactures household products, sold to end consumers through retailers and currently has about 900 employees. The third company (C) is in the healthcare sector. Its ownership is nonfamily, and it has been in the market for about 10 years. It provides services for the diagnosis, treatment and prevention of highly complex diseases. It employs 200 professionals. Finally, the fourth company (D) is in the mechanical engineering area, providing services to hydroelectric-power generators. Its ownership is nonfamily, and it has been in existence for around 25 years, employing about 25 people.

Case selection was intentional and took into consideration three primary criteria. The first one was the research aim (Yin, 2015b); the second criterion was theoretical. Scholars of the DC approach emphasize the significance of investigating companies facing high competition and embedded in competitive and dynamic contexts (Helfat *et al.*, 2009; Schilke *et al.*, 2018). The third criterion was geographic accessibility. All four companies are located in the city of Belo Horizonte, Brazil, allowing easy access to the companies and their managers.

Case delimitation

Although the DC phenomenon occurs at the organizational level, several authors have highlighted how its emergence depends on managers' deliberate efforts and decisions (Eisenhardt and Martin, 2000; Teece *et al.*, 2009). In this regard, the micro-practices conducted by MM constitute an empirical analysis unit (Yin, 2015a). The observation units were the middle managers themselves (Yin, 2015b); 13 professionals from four companies (cases) participated in the study. The researchers used the logic of theoretical saturation, obtained when the data collected indicate the existence of confirmatory evidence (Dubois and Gadde, 2002; Yin, 2015b), to define the number of cases and middle managers of each company. Ebneyamini and Sadeghi Moghadam (2018, p. 4) highlighted that "validity . . . and insights generated from qualitative inquiry have more to do with information richness of the cases selected . . . than with sample size".

Instruments

The in-depth semi-structured interview, considered one of the essential evidence-gathering techniques, was used as a data-collection instrument (Creswell, 2014; Yin, 2015b). Table 1 presents the semi-structured interview script utilized with the middle managers.

Field procedures

Initially, to ensure that the companies selected as cases represent competitive and dynamic markets (Helfat *et al.*, 2009; Schilke *et al.*, 2018), the researchers conducted interviews with members of the top management of each company. For the present study, CEOs, managing partners and members of the board of directors were considered members of top management. For the CEO of company A, the capital-goods segment in Brazil is usually "challenging to establish . . . It is an extremely competitive market". For the person in charge of company "B", ". . .in this market, it cannot be said that it is even a year ahead of [the competitor]". The time "is short because both the competitors and we are launching products all the time". According to company C's leader, the "market is highly dynamic, especially today when we live in this healthy area with the inflow of foreign capital". Finally, Company

Construct	Dimension	Open question
DC	Sense	OQ1 How do you find opportunities and threats? OQ2 What are the primary sources of information to help you recognize opportunities, investment needs and changes in the company? OQ3 Is there a formal or informal information search and analysis process in the company? If so, which one? OQ4 How is information about opportunities and threats transmitted to professionals at different hierarchical levels?
	Seizing	OQ5 How are decisions made in your company? Who are the professionals responsible for making them? OQ6 Which criteria are considered in regard to organizational decisions related to market opportunities and threats? OQ7 Are there formal or informal processes for defining actions that aim to exploit opportunities and resolve threats?
	Reconfiguration	OQ8 How are investments and strategic changes conducted in the company? What is your participation in these processes? OQ9 How often are the company's structures and processes evaluated in regard to market opportunities and threats? What is your influence on this movement?

Note(s): Developed by the authors

Table 1.
Interview script

D's director points out how, in his sector, there are competitors of "equal or smaller size and companies of a much larger size than ours". Only after the interviews with top managers and the identification of each company's fit with the case selection's theoretical criteria were middle managers chosen and interviewed. The theoretical criteria were used for the literal replication of the cases.

Data analysis

Data analysis followed the representative elements of a "systematic combining" based on abductive logic (Dubois and Gadde, 2002, 2014). "Systematic combining is a process where theoretical framework, empirical fieldwork, and case analysis evolve simultaneously" (Dubois and Gadde, 2002, p. 554) and is an effective analytical technique when the researcher's aim is to discover new factors and relationships (Dubois and Gadde, 2002). It represents precisely the exploratory and integrated relationship between the micro-practices (micro), managerial functions (meso) and DC dimensions (macro) elements of the study's methodological objective. The data analysis took place as follows. Initially, a more deductive analytical framework guided the data collection. Dubois and Gadde (2002) emphasized the significance of the analytical framework in the "systematic combining" process.

Although deductive, the analytical structure was tight and evolutionary. It was tight because it reflected the preconceptions of the literature in this area. At the same time, it was evolving because the empirical data were posteriorly extrapolated to the underlying literature. The empirical data inductively brought about changes in the theory; systematic combining is "indeed closer to an inductive than a deductive approach" (Dubois and Gadde, 2002, p. 559). If such a characteristic can elicit criticism based on an eventual incompleteness of practices in regard to the theoretical dimensions of interest, this induction allowed the possibility of exploring micro-practices that may eventually be associated with the management functions of the meso level and DC macro context.

In other words, due to the exploratory nature of this research and given the paucity of studies that relate micro-practices to managerial functions and these to DC dimensions, the data analysis process was nonlinear. The empirical data for the micro-practices were extrapolated to managerial functions and DC dimensions, while the conceptual framework was, at the same time, expanded and adjusted because of the process. Abductive logic allowed going back and forth "between empirical observations and theory", thereby expanding the "understanding of both theory and empirical phenomena" (Dubois and Gadde, 2002, p. 555).

Two complementary perspectives guided the categorization of the data (Skjott Linneberg and Korsgaard, 2019). The first was deductive and based on thematic criteria in which collected data were initially distributed to three key headings: sense, seizing and reconfiguration. Each sentence or paragraph was distributed to one of the categories and, within these, to the corresponding management function. The second perspective followed a more inductive logic in which categorizations followed "'directly' from the data" (Skjott Linneberg and Korsgaard, 2019, p. 263). The inductive approach was used to categorize and name micro-practices for which definitions were unavailable in the earlier literature. Skjott Linneberg and Korsgaard (2019, p. 263) emphasized how researchers can "develop codes from the data by using phrases or terms used by the participants themselves". This perspective was also used complementarily when the data suggested new encodings unavailable in the first perspective. The association between both codifications allowed a better exploratory and abductive match between theory and practice (Dubois and Gadde, 2002, 2014; Skjott Linneberg and Korsgaard, 2019).

Data description

The data description followed "the descriptive analysis between the cases" (Yin, 2015b). In such a report, the "information of the individual cases is scattered throughout . . . the section" (Yin, 2015b, p. 190). Empirical evidence suggests that middle managers develop a total of 19 fundamental micro-practices. The first relates to MM's activities to "capture relevant information about competitors, suppliers, customers, opportunities and changes that are happening in the market" (#1). The commercial manager of Company A points out "how the customers themselves are motivators. The customer says, 'Look, supplier C . . . has a way of acting that adds much more value . . . than you. This is feedback that happens daily'" (Interviewee 1). Such information is provided by MM members in weekly meetings with the team and then brought to the attention of top management. The middle manager for company B also captures information from the environment. Interviewee 2 explains how information about the movements of competitors, suppliers and customers comes through "sales managers . . . and representatives". Also, according to this interviewee, "the commercial department has contact with retail directly, with the end customer, with the points of sale, with stores, visiting stores, talking with buyers, etc". It is the manager's role to check this kind of information.

The second micro-practice relates to the act of MM to "seek externally systematized data, such as market research conducted by specialized companies" (#2). Field data suggest that company B can do this; the company's industrial manager (Interviewee 3), points out that "we cannot have the basics. We need to have [a substantial] flow of information within the company". He explains, "in the commercial part, . . . we have research data. . . . we have everything that happens in [our] sector in Brazil. We can measure, analyze". According to Interviewee 4 (Company B's commercial representative), it is "necessary to consult the market to know whether a competitor is thinking about doing anything". A third micro-practice relates to "market research conducted with customers/dealers" (#3). Company B also demonstrates this attribute. According to Interviewee 4, "when we go to launch a product, . . . we go there, via the manager . . . to say: 'look, which product is more accepted?'" The results of such consultations conducted directly by managers are taken by them to senior management for decision-making on the characteristics of new products to be launched in the market.

The fourth micro-practice is associated with MM's activities for "getting sensitive information about competitors and customers through social networking" (#4). Interviewee 5, project manager for company D, described this action. "The trading partners . . . give us market reading. [That is] where dealerships are moving around the boom". According to her, the company "seeks this operational orientation to . . . prepare itself". The fifth micro-practice relates to activity undertaken to "Assess a company's competitive positioning" (#5). Interviewee 6 (company C) explains, "if I go toe-to-toe with big [companies], I am bound to be bought by them tomorrow. There is no way to compete . . . in the same segment . . . of who is much stronger than us". The sixth micro-practice is associated with activity that aims to "evaluate customer characteristics, needs, trends, changes and preferences regarding products/services" (#6). This skill is clarified in several ways. Interviewee 3 (company B) illustrates: "I [see] people [who] come to the store to buy by looking at US prices to see whether the guy makes [the same price]. So, I understand that practically everything has become commodities". In addition, Interviewee 5, referring to the performance of company D, highlights how she has focused on providing services according to the current trend: "What is the boom of the moment?"

The seventh micro-practice relates to "making decisions in a shared way" (#7). Company A's strategic planning manager (Interviewee 7) emphasizes how the company "had been back for some time with practices of sharing the budget . . . with managers"; as such, an initiative is critical "for people to see what is happening". The same is true for company B. Interviewee 8 states, "Let us put an example. [The] reduction of product mix. . . . Personally, it was a painful thing. . . . Who helped me in this decision? We have a finance manager who helped me visualize this". In company C, MM has been participating in strategy development since 2014, according to Interviewee 6. He explained how MM was included in decision-making meetings. "This year, for instance, we had more than one meeting [with middle management members]. . . . Before, it was [only] presented to them. . . . So, we felt that we needed to change, because the commitment, the commitment was a little distant".

The eighth micro-practice relates to "developing performance indicators" (#8). This can be seen in the performance of MM in companies A and C as Interviewees 7 and 9 explain, respectively. "We begin to see and project the company based on [indicators]. . . . We try to make [the indicators] every two months . . . in extensive meetings with the entire management and leadership team", says Interviewee 7. In company C, the "middle management has been participating in the implementation of strategies since 2016" (Interviewee 9). She explained that she asked the coordinators for an opinion "on what was completed, what was not completed [and] why it was not completed. Pervasive work". The ninth micro-practice is entitled "managing partnerships with stakeholders" (#9) and can be seen in the performance of companies A and D. Interviewee 10 points out how partnering with a Chinese company has given company A otherwise inaccessible opportunities. It "is making the [company] more eligible in the proceedings. . . . From the moment you have . . . consortium [with Chinese companies], it enables the company to enter . . . projects of 100 million, 200 million". This was also seen in company D. To participate in bids, the organization established partnerships run by the company's project manager. She "is not an engineer, but conducts an engineering contract. How? Process management, project management", says Interviewee 13, managing partner of the company (Interviewee 11).

The tenth micro-practice relates to "encouraging the internal exchange of information" (#10). "First thing we have to have [is] an extremely open relationship where . . . we can exchange perceptions", argues Interviewee 10. According to him, "The correspondence has to be both ways". Interviewee 7 illustrates how information exchange usually occurs in company A. When a new initiative is related to operational areas, he and the director of the administrative and financial sector usually hold meetings with the people involved. "What we foster [is that] we have sat with the areas involved. 'Look, . . . I will start an improvement there in production . . . Do you have anything to comment on?'" (Interviewee 7). In company B, information exchange is structured through a process. When a "leader leaves a meeting, he needs to unfold the information with his team, as well as bring what his team demands to that meeting too", says the human resources manager (Interviewee 12).

The 11th (gaining legitimacy for innovative ideas [#11]) and 12th (setting up a business plan for analyzing novel ideas [#12]) micro-practices were seen exclusively in company A. Interviewee 7 explained the importance of securing the directors' support for new ideas. He concludes by emphasizing that "if you do not have a [director] buying the idea, the idea will not go forward". The importance of the business plan is that it not only focuses on new ideas but also on solving problems. "When there is . . . some crucial point, . . . the first thing is the planning of the idea, which goes through an analysis of [its] viability", argues Interviewee 7. According to him, the plan is "very cool because people see the impacts. . . . This allows people . . . to start thinking more [strategically] about the business". The 13th micro-practice (systematizing internal information to support decision-making [#13]) was observed in the management performance of company D. Interviewee 5 defends how the systematization of objective and subjective information can contribute to the decision-making process in a company. In doing so, the project manager must create "a scenario of how that project was done regarding planned and accomplished . . . so that we can decide whether or not to continue".

In regard to the 14th micro-practice (often talking about strategic issues (top management and middle management) [#14]), Interviewee 5 explains how interaction occurs between hierarchical levels in company D. "Each one knows exactly how the other thinks . . . So, when one gets to know about an opportunity . . . we quickly start talking about it". The situation is similar in company C. The company's human resources manager (Interviewee 13) points out how managers at different levels interact frequently. "The closeness that managers have with their directors is great". Evidence of the fifteenth micro-practice (initiating process changes [#15]) was found exclusively in company A. Interviewee 7 emphasizes that "the company was about to seek judicial recovery. Thus, the company "engaged in the idea [of] restructuring strategic planning". To this end, it changed the process by bringing "managers into strategic planning", which did not exist previously in the company.

The 16th micro-practice (Identifying investment needs to improve the ability to sense and seize opportunities [#16]) was observed in managers for companies A and C. Interviewee 7 is one of them; he explained that, for the company to achieve new service projects, some internal resources need to be reconfigured because "besides having shorter deadlines, [service projects] require skills other than those we are working on". In company C, the necessity for investments was found in the marketing and communication sectors. "The idea is that we have [a] market monitoring daily. Someone focused, a focused structure to follow all these movements" (Interviewee 6).

To some extent, the 17th micro-practice can also be associated with the sense dimension (sharing and discussing information about new ideas with superiors, peers and subordinates (#17). Company A exemplifies this: "In fact . . . one thing . . . that I demand a lot . . . is sharing", says Interviewee 7. According to him, this idea of sharing is a process that must be developed "gradually. . . . It is not something that you change with a 'key'". The penultimate micro-practice, related to the act of MM to "actively take part in the implementation of necessary changes (#18)" was observed in company C. An example can be seen when the company bought another one from the same sector in 2015. "When we had the incorporation, we made a task force. . . . We had to divide how the practical part would work" (Interviewee 9); all managers were involved. Finally, the 19th micro-practice (discussing difficulties in seizing opportunities with superiors, peers and subordinates [#19]) is found in an example given by Interviewee 7 (company A). "If we have doubts", stresses the manager, this "is already a point of attention". In his words, "we argue a lot. . . . Is the strategy adequate? Is the operational strategy, right?" Table 2 summarizes the 19 micro-practices identified in the study.

Analysis and discussion

This section abductively analyzes and discusses micro-practices in light of the theoretical categories of dynamic capabilities dimensions and management functions. Regarding the sense dimension, field evidence shows two fundamental findings. The first is that MM can develop six different practices at the micro-level that appear to be associated with the DC sense dimension (#1, #2, #3, #4, #5 and #6). In effect, they receive information related to what is happening and the likely movements of various stakeholders in the future (Pavlou and Sawy, 2011; Teece, 2018b). They do this by searching for and analyzing systematized and nonsystematized information that is available from a range of sources (Li and Liu, 2014; Teece, 2018a, b). The second finding is that MM micro-practices, although also associated with middle managers' functions to develop and coordinate different activities (Management Function 1 – MF1), seem more closely associated with their actions to perform systematic observation, judgment and interpretation of internal and external environments (Management Function 2 – MF2). While the first function of management is seen in micro-practices #1 and #3, the second function is seen more intensively in the performance of the middle managers through all six of these micro-practices (# 1, # 2, # 3, # 4, # 5 and # 6). Table 3 summarizes the micro-practices at the micro-level associated with the meso context of managerial functions and the macro level of the DC sense dimension.

Table 2.
An identification number and description of the 19 micro-practices

Identification number	Micro-practice description
#1	Capture relevant information about competitors, suppliers, customers, opportunities and changes that are happening in the market
#2	Seek externally systematized data, such as market research conducted by specialized companies
#3	Market research conducted with customers/dealers
#4	Getting sensitive information about competitors and customers through social networking
#5	Assess a company's competitive positioning
#6	Evaluate customer characteristics, needs, trends, changes and preferences regarding products/services
#7	Making decisions in a shared way
#8	Developing performance indicators
#9	Managing partnerships with stakeholders
#10	Encouraging the internal exchange of information
#11	Gaining legitimacy for innovative ideas
#12	Setting up a business plan for analyzing novel ideas
#13	Systematizing internal information to support decision-making
#14	Often talking about strategic issues (top management and middle management)
#15	Initiating process changes
#16	Identifying investment needs to improve the ability to sense and seize opportunities
#17	Sharing and discussing information about new ideas with superiors, peers and subordinates
#18	Actively taking part in the implementation of necessary changes
#19	Discussing difficulties in seizing opportunities with superiors, peers and subordinates

Note(s): Developed by the authors

Concerning the seizing dimension, empirical data show how middle management contributes through seven micro-practices (#7, #8, #9, #10, #11, #12 and #13). All seven identified micro-practices influenced, in a certain way, the decision-making about the opportunities and threats (Li and Liu, 2014; Schilke *et al.*, 2018; Teece, 2018b; Viana *et al.*, 2018). Furthermore, empirical evidence suggests that MM executes both functions, according to the general literature on management, derived from the association with dynamic capabilities. Middle managers have the skills to decide which activities will be supported and which should be abandoned (Management Function 3 – MF3) (Lee and Teece, 2014; Teece, 2016). Four MM micro-practices seem to contribute precisely in this direction (#7, #10, #12, #13). Concurrently, middle managers dedicate efforts to the virtuous "orchestration" of assets (Management Function 4 – MF4) (Augier and Teece, 2009). Such attributes are clarified by five micro-practices (#7, #8, #9, #10, #11). Table 4 summarizes the micro-practices at the micro-level, associating them with the meso context of managerial functions and the macro level of the DC seizing dimension.

Finally, field data also suggest that MM contributes through six micro-practices to the DC reconfiguration dimension (#14, #15, #16, #17, #18 and #19). They contribute to the continuous alignment, realignment and reconfiguration of tangible and intangible assets (Johnson *et al.*, 2003; Schilke *et al.*, 2018; Teece, 2018a, b). Moreover, it is possible to note that part of the reconfiguration micro-practices can also be theoretically related to other DC dimensions. Indeed, consider how "initiating process changes" (#15), "identifying investment needs" (#16) and "actively taking part in the implementation of necessary changes" (#18) help develop the companies' dimensions of sense and seizing by shedding light on the need for adaptations, enhancements and reconfigurations that are critical to the effectiveness of

	Meso level of management function	Micro-level/micro-practices of MM
Company macro-level (Sense)	1) Establish and coordinate different activities (Lee and Teece, 2014; Teece, 2016)	#1: Capture relevant information about competitors, suppliers, customers, opportunities and changes that are happening in the market *Such information is brought by members of middle management in weekly meetings with the team and then brought to the attention of top management.* (Interviewee 1 – Company A) #3: Market research conducted with customers/dealers *The results of such consultations carried out directly by the managers are taken by them to senior management for decision making on the characteristics of new products to be launched on the market* (Interviewee 4 – Company B)
	2) Ability to systematically observe, judge and interpret internal and external environments (Li and Liu, 2014; Wohlgemuth and Wenzel, 2016)	#1: Capture relevant information about competitors, suppliers, customers, opportunities, and changes that are happening in the market "*Look, the supplier C . . . has a way of acting that adds much more value . . . than you*" (Interviewee 1 – Company A) "*The commercial department has contact with retail directly, with the end customer, with the points of sale, with stores, visiting stores, talking with buyers, etc*". (Interviewee 1 – Company B) #2: Seek externally systematized data, such as market research conducted by specialized companies "*We cannot have the basics. We need to have . . . [*a substantial*] flow of information within the company*". (Interviewee 3 – Company B) #3: Market research conducted with customers/dealers "*When we go to launch a product, . . . we go there, via the manager . . . to say: 'Look, which product is more accepted?*'" (Interviewee 4 – Company B) #4: Getting sensitive information about competitors and customers through social networking

(*continued*)

Table 3.
Micro-practices at the micro-level associated with the meso context of managerial functions and the macro level of the DC sense dimension

Table 3.

Meso level of management function	Micro-level/micro-practices of MM
	"*The trading partners . . . give us market reading. [That is,] where dealerships are moving around the boom*" (Interviewee 5 – Company D)
	#5: Assess a company's competitive positioning
	"*If I go toe-to-toe with big [companies], I am bound to be bought by them tomorrow. There is no way to compete . . . in the same segment . . . of who is much stronger than us*" (Interviewee 6 – Company C)
	#6: Evaluate customer characteristics, needs, trends, changes and preferences regarding products/services
	"*I [see] people [who] come to the store to buy by looking at US prices to see whether the guy makes [the same price]. So, I understand that practically everything has become commodities*" (Interviewee 3 – Company B)

Note(s): Developed by the authors

Table 4. Micro-practices at the micro-level associated with the meso context of managerial functions and the macro level of the seizing dimension of dynamic capabilities

	Meso level of management function	Micro-level/micro-practices of MM
Company macro level (Seizing)	3) Ability to decide which activities will be supported and which will be abandoned (Lee and Teece, 2014; Teece, 2016)	#7: Making decisions in a shared way "*Let us put an example. [The] reduction of product mix. . . . Personally, it was a painful thing. . . . Who helped me in this decision? We have a finance manager who helped me visualize this*". (Interviewee 8 – Company B) "*This year, for instance, we had more than one meeting [with middle management members]. . . . Before, it was [only] presented to them. . . . So, we felt that we needed to change, because the commitment, the commitment was a little distant*". (Interviewee 6 – Company C) #10 Encouraging the internal exchange of information *What we foster [is that] we have sat with the areas involved. "Look, . . . I will start an improvement there in production . . . Do you have anything to comment on?*" (Interviewee 7 – Company A) #12 Setting up a business plan for analyzing novel ideas, opportunities and problem-solving "*When there is . . . some crucial point, . . . the first thing is the planning of the idea, which goes through an analysis of [its] viability," argues Interviewee 7. The plan is "very cool because people see the impacts. . . . This allows people . . . to start thinking more [strategically] about the business*". (Interviewee 7 – Company A) #13 Systematizing internal information to support decision-making *The project manager must create "a scenario of how that project was done regarding planned and accomplished . . . so that we can decide whether or not to continue*". (Interviewee 5 – Company D)
	4) Ability to dedicate efforts to the virtuous "orchestration" of assets (Augier and Teece, 2009)	#7: Making decisions in a shared way *The company "had been back for some time with practices of sharing the budget . . . with managers"; as such, an initiative is critical "for people to see what is happening*". (Interviewee 7 – Company A) #8 Developing performance indicators

(*continued*)

Table 4.

Meso level of management function	Micro-level/micro-practices of MM
	"We begin to see and project the company based on [indicators]. . . . We try to make [the indicators] every two months . . . in extensive meetings with the entire management and leadership team". (Interviewee 7 – Company A)
	"On what was completed, what was not completed, [and] why it was not completed. Pervasive work". (Interviewee 7 – Company C)
	#9 Managing partnerships with stakeholders
	It "is making the [company] more eligible in the proceedings. . . . From the moment you have . . . consortium [with Chinese companies], it enables the company to enter . . . projects of 100 million, 200 million". (Interviewee 10 – Company A)
	To take part in bids, the organization set up partnerships run by the company's project manager. She "is not an engineer, but conducts an engineering contract. How? Process management, project management," says Interviewee 13, managing partner of the company". (Interviewee 11 – Company D)
	#10 Encouraging the internal exchange of information
	"First thing we have to have [is] an extremely open relationship where . . . we can exchange perceptions." The "correspondence has to be both ways". (Interviewee 10 – Company A)
	When a "leader leaves a meeting, he needs to unfold the information with his team, as well as bring what his team demands to that meeting too". (Interviewee 12 – Company B)
	#11 Gaining legitimacy for innovative ideas
	"If you do not have a [director] buying the idea, the idea will not go forward". (Interviewee 7 – Company A)

Note(s): Developed by the authors

the capabilities of sense, seizing opportunities and searching for threat solutions. Additionally, such micro-practices appear to influence organizational learning indirectly, drawing attention to skills related to the dimensions of sense and seizing.

Further, empirical evidence suggests that MM is capable of reconsidering the adequacy of the company's structure and processes to pursue the chosen opportunities through three identified and named micro-practices (#15, #16 and #18) (Management Function 5 – MF5) (Lee and Teece, 2014; Teece *et al.*, 2016; Teece, 2007). Finally, MM can persuade other members of the organization through micro-practices #14, #17 and #19 (Management Function 6 – MF6) (Teece *et al.*, 2016; Teece, 2016). That is, field data confirm the observation that MM acts in both functions associated with management in the general literature. Table 5 summarizes the micro-practices at the micro-level, associating them with the meso context of managerial functions and the macro level of the DC reconfiguration dimension.

Concisely, at the micro-level, MM micro-practices appear to be associated with two higher levels. The first level is meso and relates to managerial functions. Middle managers, through their daily micro-practices, are capable of exerting the six fundamental functions highlighted by the literature. The second level is macro and relates to the DC dimensions. Indeed, empirical data suggest that, through their daily micro-practices, middle managers are capable of exerting some influence on dynamic capabilities dimensions. MM influence is clear when, for example, (1) Interviewee 4 does market research to obtain information concerning what is happening at the moment and several stakeholders' likely movements (Sense); (2) Interviewee 7 makes operational plans to expand his ability to make decisions and act as quickly as necessary concerning identified opportunities and threats (Seizing) and (3) Interviewee 9 manages a task force to realign and reconfigure the organization's assets (Reconfiguration).

Among micro-practices, #1, #3, #7 and #10 stand out. In particular, #1 and #3 are associated with both managerial functions related to the Sense DC dimension, and #7 and #10, in turn, are associated with the two managerial functions regarding Seizing. Such observation denotes the highlighted relevance of these micro-practices, not only for managerial functions but also for the DC dimensions associated with them. Concerning the managerial functions, two of them, correlated with the "systematic observation, judgement and interpretation of internal and external environments" (MF2) and "dedicate efforts to the virtuous 'orchestration' of assets" (MF4) proved to be the clearest. That is, they bring together a broader set of routines for their realization (Rouleau, 2005). Both functions merge 11 micro-practices, six and five respectively. A counterintuitive observation relates to the managerial function MF1 (Establish and coordinate different activities). It links only two identified micro-practices, suggesting that daily set-up routines characterize this managerial function less (Rouleau, 2005). When analyzing the relationship between managerial functions and dimensions of dynamic capabilities, there is a relative equilibrium between the MM's daily and routine performance of activities. Indeed, sense (#1 to #6), seizing (#7 to #13) and reconfiguration (#14 to #19) incorporate six, seven and six micro-practices, respectively.

Theoretical implications

This paper offers several contributions. The first relates to the identification of micro-practices within the scope of MM. The second relates to the association of micro-practices with management functions. The DC approach emphasizes six general managerial functions. However, the DC literature disregards specific MM influence. The six managerial functions are also adequate for MM analysis. In other words, although at mixed intensities, MM can perform all six managerial functions indistinctly highlighted by the DC literature. Thereby, this paper sheds lights, at the same time, on those MM functions that are more frequently performed and, within these, for those micro-practices more often employed. The third contribution is related to the association of micro-practices with the DC dimensions. This

Table 5.
Micro-practices at the micro-level associated with the meso context of managerial functions and the macro-level of the seizing dimension of dynamic capabilities

	Meso level of management function	Micro-level/micro-practices of MM
Company macro-level (Reconfiguration)	5) Ability to reconsider the adequacy of the structure and processes (Lee and Teece, 2014; Teece *et al.*, 2016; Teece, 2007)	#15 Initiating process changes "*The company was about to seek judicial recovery.*" *Thus, the company* "*engaged in the idea [of] restructuring strategic planning.*" *To this end, it changed the process by bringing* "*managers into strategic planning,*" *which previously did not exist in the company.* (Interviewee 7 – Company A) #16 Identifying investment needs to improve the ability to sense and seize opportunities "*Besides having shorter deadlines, [service projects] require skills other than those we are working on*". (Interviewee 7 – Company A) "*The idea is that we have [a] market monitoring daily. Someone focused, a focused structure to follow all these movements*". (Interviewee 7 – Company C) #18 Actively taking part in the implementation of necessary changes "*When we had the incorporation, we made a task force. . . . We had to divide how the practical part would work*". (Interviewee 9 – Company C)
	6) Ability to persuade (Teece *et al.*, 2016; Teece, 2016)	#14 Often talking about strategic issues (top management and middle management) "*Each one knows exactly how the other thinks . . . So, when one gets to know about an opportunity, . . . we quickly start talking about it*". (Interviewee 5 – Company D) "*The closeness that managers have with their directors is great*". (Interviewee 13 – Company D) #17 Sharing and discussing information about new ideas with superiors, peers, and subordinates "*. . . One thing . . . that I demand a lot . . . is sharing,*" *says Interviewee 7. According to him, this idea of sharing is a process that must be done* "*gradually. . . . It is not something that you change with a 'key'*". (Interviewee 7 – Company A) #19 Discussing difficulties in seizing opportunities with superiors, peers and subordinates "*If we have doubts,*" *stresses the manager, this* "*is already a point of attention.*" *In his words,* "*we argue a lot. . . . Is the strategy adequate? Is the operational strategy right?*" (Interviewee 7–Company A)

Note(s): Developed by the authors

article also suggests other contributions. Initially, it helps highlight how DC works in organizations on an everyday basis (Tallott and Hilliard, 2016). According to Tallot and Hilliard, “if the development of dynamic capabilities cannot be explained, then how can managers act intentionally to develop them?” (Tallott and Hilliard, 2016, p. 329). Moreover, this paper provides for the construction of a framework that demonstrates how to integrate the DC micro (micro-practices), meso (managerial functions) and macro (DC dimensions) scopes. Finally, there is the still-prevalent notion in which the DC dimensions would be development restricted by top managers. This article contributes empirical evidence while endorsing a hitherto essentially theoretical proposition (Lee and Teece, 2014) that holds that middle managers are also capable of this, and it affirms the emerging research stream that stresses MM relevance to DC generation.

Practical implications

This article identifies micro-practices (micro-level) and examines their association with managerial functions (meso level) and impacts in DC dimensions. It also sheds light on how DC works in organizations’ everyday activities. Thereby, this paper offers several practical implications. The first is to encourage those middle managers interested in developing their companies’ DC to learn how to achieve this in practice. The second is to provide tangible inputs to MM professionals interested in expanding their strategic performance and, thereby, standing out in their company. The third is to provide senior executives interested in delegating tasks with the knowledge necessary to develop high-performance teams necessary for companies facing highly dynamic and competitive markets. The fourth suggests the relevance of including the micro-practices identified herein in management-training programs. Such programs should pay special attention to MM micro-practices that appear to contribute to more than one DC dimension (#15, #16, #18). Although such micro-practices are related mainly to the reconfiguration dimension, they also appear to contribute to the sense and seizing dimensions.

Fifth, considering the six managerial functions, this article elucidates the highlighted relevance of two: “systematic observation, judgement and interpretation of internal and external environments” (MF2) and “dedicate efforts to the virtuous ‘orchestration’ of assets” (MF4). Both bring together 11 of the 19 micro-practices identified herein. On this realization, the present article demonstrates the main functions under which middle managers contribute to DC, suggesting, at the same time, the importance of such professionals to reinforce their performance in regard to them. Beyond that, this article raises the necessity for middle managers to be trained in the other four managerial functions (MF1, MF3, MF5, MF6), thereby expanding the possibilities of action and strategic contributions through micro-practices.

In addition, Li and Liu (2014) have emphasized how earlier research has focused on companies in developed markets, and little is known about DC in emerging economies such as Brazil. By studying Brazilian companies embedded in competitive and dynamic markets (Helfat *et al.*, 2009; Schilke *et al.*, 2018), this paper provides these organizations with MM empirical evidence capable of contributing and supporting their growth and development. For instance, in order to increase competitiveness in the global economy, under an organizational scope, Brazilian companies or perhaps others embedded in emerging markets, should not only encourage more middle managers to perceive and act on opportunities and external threats but also boost their performance in the necessary reconfiguration of the organization. Furthermore, the middle managers themselves should expand their activities in those micro-practices that may eventually have a greater relationship with the global market. For example, micro-practices #1, #2, #5 and #6 (Sense), #10 and #13 (Seizing) and #14, #17 and #19 (Reconfiguration) are particularly relevant in those cases compared to others.

Limitations

This paper is not exempt from limitations. One is related to the restricted use of semi-structured in-depth interviews as instruments for collecting evidence. Other instruments, such as observation and documentation, allowed the triangulation of information and the strengthening of evidence from there. Other critical limitations relate to the micro-practices' names and analysis levels. The names were created inductively and better definitions are plausible. Concerning the level of analysis, whereas some activities seem to be associated with the more-operational MM scope, others appear to be at a level of tactical activity, eventually capable of grouping other different operational actions under it. The micro-practice categorization process was, in conjunction with the MM functions literature, abductive. Therefore, the categorization is subject to failure and calls for improvement. A third limitation relates to within- and across-case analysis. Due to word count, the descriptive analysis followed an across-case pattern. Although Yin (2015b) defended this possibility for multiple studies, this characteristic did not allow the individual analysis of the four cases and their comparison.

Suggestions for future research

New theoretical and empirical studies could not only overcome the research limitations but also expand the search to other possibilities. One is to identify the relationship distinctions between MM micro-practices as DC micro-foundations and those labeled "ordinary capabilities". The study could conduct comparisons between both types in situations in which companies react to changes imposed by the external environment. Such a discussion proves to be relevant. Several authors have pointed to DC as necessary for the renewal of 'ordinary capabilities" (Schriber and Löwstedt, 2020). Second, studies could explore the extent to which DC are eventually more closely associated with top management, while "ordinary capabilities" would be more closely associated with MM and lower/operational hierarchical levels. Third, comparative studies between the top and MM members regarding the similarities and differences in how they influence the DC dimensions are also welcome.

A fourth suggestion is to investigate the relationship and interconnections between managerial functions (MF1 to MF6) and the influence of MM on them. For instance, episodic evidence seems to allude to the fact that middle managers develop skills and critical thinking when performing MF1, in addition to gaining knowledge (MF2). Both functions would, in turn, be essential inputs to the skills middle managers require in order to decide which activities will be supported or which will not (MF3). Alternatively, when performing MF1 and MF2, they develop capabilities to better orchestrate assets (MF4). That is, they develop skills to more effectively distribute physical and human resources between sectors and functions/activities in each sector. The same could happen with the DC dimensions. Novel studies might investigate the relationship between the DC dimensions while analyzing the influence of management functions on them (5th). For the fourth and fifth suggestions, the researchers could also use resources from longitudinal data collections. Such studies allow the identification of changes in micro-practices, management functions and their effects on DC.

The sixth suggestion is to adopt MM micro-practices in research that aims to construct scales that quantitatively allow the measurement of such practices in the context of different organizations. Seventh, building scales that quantitatively measure the influence of micro-practices in MM in the context of different organizations would also be worthwhile. Finally, novel studies should aim to expand the investigation of MM as well as its influence on DC in emerging market contexts such as China, India, Mexico and South Africa, among others. By doing so, researchers would expand the still-inadequate knowledge on both themes in such scenarios and would add empirical contributions related to how MM contributes in practice to DC.

They would also facilitate the analysis of these different contexts to contribute to the underlying literature on MM and DC.

Conclusion

This article aimed to investigate whether and how MM influences the DC dimensions. The literature on DC dimensions, associated at the same time with the impact that managers have on them, supported the research. Thirteen middle managers from four companies embedded in dynamic and competitive markets comprised the study. Field evidence suggests essential research conclusions. The first is that MM undertakes the six managerial functions highlighted by the general literature in this area. The second is that managerial functions have an abductive correspondence with the DC dimensions. The third is that MM can influence DC dimensions through daily activities, as exhibited in 19 identified and named micro-practices.

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References

Anzengruber, J., Goetz, M.A., Nold, H. and Woelfle, M. (2017), "Effectiveness of managerial capabilities at different hierarchical levels", *Journal of Managerial Psychology*, Vol. 32 No. 2, pp. 134-148.

Augier, M. and Teece, D.J. (2009), "Dynamic capabilities and the role of managers in business strategy and economic performance", *Organization Science*, Vol. 20 No. 2, pp. 410-421.

Barreto, I. (2010), "Dynamic capabilities: a review of past research and an agenda for the future", *Journal of Management*, Vol. 36 No. 1, pp. 256-280.

Berraies, S. (2019), "Effect of middle managers' cultural intelligence on firms' innovation performance: knowledge sharing as mediator and collaborative climate as moderator", *Personnel Review*, Vol. 49 No. 4, pp. 1015-1038.

Castañer, X. and Yu, H. (2017), "The role of middle and top managers in the strategy process", *Handbook of Middle Management Strategy Process Research*, pp. 13-32.

Creswell, J.W. (2014), *Investigação Qualitativa e Projeto de Pesquisa: Escolhendo Entre Cinco Abordagens*, Penso Editora, Porto Alegre.

Darkow, I.-L. (2015), "The involvement of middle management in strategy development -Development and implementation of a foresight-based approach", *Technological Forecasting and Social Change*, Vol. 101, pp. 10-24.

Dechurch, L.A., Hiller, N.J., Murase, T., Doty, D. and Salas, E. (2010), "Leadership across levels: levels of leaders and their levels of impact", *Leadership Quarterly*, Vol. 21 No. 6, pp. 1069-1085.

Dubois, A. and Gadde, L.E. (2002), "Systematic combining: an abductive approach to case research", *Journal of Business Research*, Vol. 55 No. 7, pp. 553-560.

Dubois, A. and Gadde, L. (2014), "'Systematic combining'— a decade later", *Journal of Business Research*, Vol. 67 No. 6, pp. 1277-1284.

Ebneyamini, S. and Sadeghi Moghadam, M.R. (2018), "Toward developing a framework for conducting case study research", *International Journal of Qualitative Methods*, Vol. 17 No. 1, pp. 1-11.

Eisenhardt, K.M. and Martin, J.A. (2000), "Dynamic capabilities: what are they?", *Strategic Management Journal*, Vol. 21 Nos 10–11, pp. 1105-1121.

Eriksson, T. (2014), "Processes, antecedents and outcomes of dynamic capabilities", *Scandinavian Journal of Management*, Vol. 30 No. 1, pp. 65-82.

Felin, T., Foss, N.J. and Ployhart, R.E. (2015), "The microfoundations movement in strategy and organization theory", *The Academy of Management Annals*, Vol. 9 No. 1, pp. 575-632, Routledge.

Floyd, W. and Wooldridge, B. (1997), "Management's strategic influence", *Journal of Management Inquiry*, Vol. 34, May, p. 21.

Helfat, C.E., Finkelstein, S., Mitchell, W., Peteraf, M., Singh, H., Teece, D. and Winter, S.G. (2009), *Dynamic Capabilities: Understanding Strategic Change in Organizations*, 1[a]/, Blackwell Publishers, Hoboken, New Jersey.

Hodgkinson, G.P. and Healey, M.P. (2011), "Psychological foundations of dynamic capabilities: reflexion and reflection in strategic management", *Strategic Management Journal*, Vol. 32 No. 13, pp. 1500-1516.

Jiménez-Barrionuevo, M.M., García-Morales, V.J. and Molina, L.M. (2011), "Validation of an instrument to measure absorptive capacity", *Technovation*, Vol. 31 Nos 5–6, pp. 190-202.

Johnson, G., Melin, L. and Whittington, R. (2003), "Micro strategy and strategizing: towards an activity-based view", *Journal of Management Studies*, Vol. 40 No. 1, pp. 3-22.

Lee, S. and Teece, D.J. (2014), "The functions of middle and top management in the dynamic capabilities framework", *Kindai Management Review*, Vol. 1, pp. 28-40.

Li, D.Y. and Liu, J. (2014), "Dynamic capabilities, environmental dynamism, and competitive advantage: evidence from China", *Journal of Business Research*, Elsevier, Vol. 67 No. 1, pp. 2793-2799.

Mohamud, M. and Sarpong, D. (2016), "Dynamic capabilities: towards an organizing framework", *Journal of Strategy and Management*, Vol. 9 No. 4, pp. 511-526.

Murschetz, P.C., Omidi, A., Oliver, J.J., Kamali Saraji, M. and Javed, S. (2020), "Dynamic capabilities in media management research. A literature review", *Journal of Strategy and Management*, Vol. 13 No. 2, pp. 278-296.

Pavlou, P.A. and Sawy, O.A.E. (2011), "Understanding the elusive black box of dynamic capabilities", *Decision Sciences*, Vol. 42 No. 1, pp. 239-273.

Peteraf, M., Stefano, G.D. and Verona, G. (2013), "The elephant in the room of dynamic capabilities: bringing two diverging conversations together", *Strategic Management Journal*, Vol. 34 No. 12, pp. 1389-1410.

Radaelli, G. and Sitton-Kent, L. (2016), "Middle managers and the translation of new ideas in organizations: a review of micro-practices and contingencies", *International Journal of Management Reviews*, Vol. 18 No. 3, pp. 311-332.

Raes, A., Heijltjes, M., Glunk, U. and Roe, R. (2011), "The interface of the top management team and middle managers: a process model", *Academy of Management Review*, Vol. 36 No. 1, pp. 102-126.

Rouleau, L. (2005), "Micro-practices of strategic sensemaking and sensegiving: how middle managers interpret and sell change every day", *Journal of Management Studies*, Vol. 42 No. 7, pp. 1413-1441.

Schaefer, T. and Guenther, T. (2016), "Exploring strategic planning outcomes: the influential role of top versus middle management participation", *Journal of Management Control*, Springer Berlin Heidelberg, Vol. 27 Nos 2–3, pp. 205-249.

Schilke, O., Hu, S. and Helfat, C.E. (2018), "Quo vadis, dynamic capabilities? A content-analytic review of the current state of knowledge and recommendations for future research", *Academy of Management Annals*, pp. 390-439.

Schriber, S. and Löwstedt, J. (2020), "Reconsidering ordinary and dynamic capabilities in strategic change", *European Management Journal*, Vol. 38 No. 3, pp. 377-387.

Skjott Linneberg, M. and Korsgaard, S. (2019), "Coding qualitative data: a synthesis guiding the novice", *Qualitative Research Journal*, Vol. 19 No. 3, pp. 259-270.

Stathakopoulos, V., Kottikas, K.G., Theodorakis, I.G. and Kottika, E. (2019), "Market-driving strategy and personnel attributes: top management versus middle management", *Journal of Business Research*, Elsevier, Vol. 104, September 2018, pp. 529-540.

Sun, P.Y.T. and Anderson, M.H. (2012), "The combined influence of top and middle management leadership styles on absorptive capacity", *Management Learning*, Vol. 43 No. 1, pp. 25-51.

Tallott, M. and Hilliard, R. (2016), "Developing dynamic capabilities for learning and internationalization: a case study of diversification in an SME", *Baltic Journal of Management*, Vol. 11 No. 3, pp. 328-347.

Tarakci, M., Ateş, N.Y., Floyd, S.W., Ahn, Y. and Wooldridge, B. (2018), "Performance feedback and middle managers' divergent strategic behavior: the roles of social comparisons and organizational identification", *Strategic Management Journal*, Vol. 39 No. 4, pp. 1139-1162.

Taylor, A. and Helfat, C.E. (2009), "Organizational linkages for surviving technological change: complementary assets, middle management, and ambidexterity", *Organization Science*, Vol. 20 No. 4, pp. 718-739.

Teece, D.J. (2007), "Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance", *Strategic Management Journal*, Vol. 28 No. 13, pp. 1319-1350.

Teece, D.J. (2014), "The foundations of enterprise performance: dynamic and ordinary capabilities in an (economic) theory of firms", *Academy of Management Perspectives*, Vol. 28 No. 4, pp. 328-352.

Teece, D.J. (2016), "Dynamic capabilities and entrepreneurial management in large organizations: toward a theory of the (entrepreneurial) firm", *European Economic Review*, Vol. 86, pp. 202-216.

Teece, D.J. (2018a), "Business models and dynamic capabilities", *Long Range Planning*, Elsevier, Vol. 51 No. 1, pp. 40-49.

Teece, D.J. (2018b), "Dynamic capabilities as (workable) management systems theory", *Journal of Management and Organization*, Vol. 24 No. 3, pp. 359-368.

Teece, D. (2019), "Strategic renewal and dynamic capabilities: managing uncertainty, irreversibilities, and congruence", in Tuncdogan, A., Lindgreen, A., Volberda, H. and Bosch, F.van den (Eds), *Strategic Renewal: Core Concepts, Antecedents, and Micro Foundations*, 1ª., Routledge, London, pp. 21-51.

Teece, D.J., Pisano, G. and Shuen, A. (2009), "Dynamic capabilities and strategic management", *Knowledge and Strategy*, Vol. 18, April 1991, pp. 77-116.

Teece, D., Peteraf, M. and Leih, S. (2016), "Dynamic capabilities and organizational agility: risk, uncertainty, and strategy in the innovation economy", *California Management Review*, SAGE Publications, Vol. 58 No. 4, pp. 13-35.

Tippmann, E., Sharkey Scott, P. and Mangematin, V. (2014), "Stimulating knowledge search routines and architecture competences: the role of organizational context and middle management", *Long Range Planning*, Vol. 47 No. 4, pp. 206-223.

Viana, M.C.B., Nóbrega, K.C. and Souza, L.A. (2018), "Influence between Individual Entrepreneurial Orientation, service strategy and business performance", *Journal of Operations and Supply Chain Management*, Vol. 11 No. 1, pp. 80-93.

Way, S.A., Simons, T., Leroy, H. and Tuleja, E.A. (2018), "What is in it for me? Middle manager behavioral integrity and performance", *Journal of Business Ethics*, Springer, Vol. 150 No. 3, pp. 765-777.

Winter, S.G. (2013), "Habit, deliberation, and ACTION: strengthening the microfoundations OF routines and capabilities", Vol. 27 No. 2, pp. 120-137.

Wohlgemuth, V. and Wenzel, M. (2016), "Dynamic capabilities and routinization", *Journal of Business Research*, Elsevier, Vol. 69 No. 5, pp. 1944-1948.

Wooldridge, B. and Floyd, S.W. (2017), "Some middle managers are more influential than others: an approach for identifying strategic influence.", *Handbook of Middle Management Strategy Process Research*, Edward Elgar Publishing, Cheltenham, pp. 56-74.

Wooldridge, B., Schmid, T. and Floyd, S.W. (2008), "The middle management perspective on strategy process: contributions, synthesis, and future research", *Journal of Management*, Vol. 34 No. 6, pp. 1190-1221.

Yin, R.k. (2015a), *Qualitative Research from Start to Finish*, 2nd ed., The Guilford Press, New York.

Yin, R.K. (2015b), *Estudo de Caso: Planejamento e Métodos*, 5th ed., Bookman, Porto Alegre.

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