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EXPLORATION AND EXPLOITATION: DRIVING ORGANIZATIONAL CAPABILITY AND ORGANIZATIONAL CHANGE TOWARD COMPETITIVE ADVANTAGE

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Abstract

There are two important aspects that usually influence the organizational competitive advantage, i.e. organizational capabilities and organizational change. This study aimed to frame the role of organizational capabilities and organizational change based on exploration and exploitation in the form of balancing and ambidexterity toward organizational competitive advantage, and justify that the organizational capabilities and organizational change are becoming important in organizational competitiveness, and those are becoming more effective if there are complementary relationships between exploration and exploitation. For this purpose, a systematic thematic approach is applied by collecting, synthesizing, reviewing, and understanding previous related scientific articles. Sustainable competitive advantage of firms may lay in the firm's ability to simultaneously balancing exploration and exploitation. Organizations that focus exclusively either on exploration or exploitation, as well as neither on exploration nor exploitation, may become obsolete. Balancing both exploitation and exploration activities creates an ambidextrous organization and allows this organization to be creative and adaptable at the same time, and it can drive organizational capabilities and organizational change in generating the realization of superior competitive organizations.

Keywords: *organizational capabilities, organizational change, exploration and exploitation, ambidexterity, competitive advantage.*

JEL Codes: *M10, M16, M21, M31.*

Introduction

In today's competitive environment, the dynamic environment is undergoing rapid and multidimensional changes for any organization, particularly business organizations. This condition keeps taking place in daily organizational activities, and they are successful only when they constantly adapt to those environmental changes. In this regard, the ability to adapt and respond to those environmental changes has become a crucial factor for the success of an organization (Burchell, 2011). Therefore, organizations are expected to adapt to the changing paradigm by implementing both reactive and proactive changes (Lis et al., 2018), by changing their management styles (Szelągowski, 2014) and by managing the required internal changes (Lichtenthaler, 2016).

Due to its complexity, the organization must effectively solve challenging problems of the environment with organizational capabilities and organizational change. Hosseini et al., (2018) argued that organizational resources and capabilities are the main aspects for organizations to gain competitiveness. Organizational capabilities are defined as a firm's ability to deploy its resources, both tangible and intangible, to complete a task or activity that will improve organizational performance (Teece et al., 2009), whereas CEIIK & OZSOY (2016) defined organizational change as related to the planned or non-planned changes in structure, systems and workers.

One domain that responds to the changing environment is how organizations

are dynamic enough to change in response to unexpected organizational environments. Dynamic organizations must have the ability to change in line with changes in the environment by optimizing their capabilities and resources. This implies that organizations that incorporate environmental initiatives into strategic decisions improve their performance while also protecting the environment (Ahmed & Streimikiene, 2021).

As a result, organizations would need to simultaneously augment their ability to optimize and renew their capabilities and resources to react to changing environments and must continuously to adapt the environmental changes to a better situation⁴⁰. This enables the appropriate balancing of exploration and exploitation proposed by March (1991) is considered to be applied, so that resulting an ambidextrous organization in a such dynamically changing environment faced by organizations. Based on the literature review (Popadiuk & Bido, 2016), there are at least two aspects in the study of exploration and exploitation strategies: one regarding the internal environment and another regarding the external environment. In terms of the internal environment, the emphasis is on organizational resources and capabilities. Otherwise, from the perspective of the external environment, that is about the pursuit of an advantageous competitive position.

Therefore, it seems reasonable to propose a study of organizational capabilities and organizational change related to exploration and exploitation, that aims to frame the role of those factors in creating ambidextrous organizations toward organizational competitive advantage. Furthermore, this study is expected to contribute to business operations in analyzing the unstable environment, formulating and implementing strategies as well as producing more policies in business strategies.

This study is a literature review that provides a framework of organizational competitiveness. The methodological tool to answer this purpose is by applying a systematic thematic approach of collecting and

synthesizing previous scientific²⁴ articles from wide literature sources about organizational capabilities and competitive advantage, organizational change and competitive advantage, especially a deeper understanding of balancing exploration and exploitation, and organizational ambidexterity. These stages generate a path to the framework, namely linking organizational capabilities and organizational change toward ideal competitive advantage through exploration and exploitation presented by a matrix.

Competitive Advantage and Organizational Capabilities

Competitiveness is associated with the market mechanism and it explains the ability to produce and sell products in order to operate profitably and meet the competition (Shirinyan et al., 2020). The main goal of a firm's competitiveness is how organizations gain and maintain the sustainability of competitive advantages. According to Porter (1985), competitive advantage is a firm's ability to achieve returns that are consistently higher than the industry average. Competitive advantage is founded on an organization's complex of competencies, skills, and strategic assets, or, on the astute management of physical and intellectual²⁴ resources that comprise the main capability³⁴ of the business (Teece et al., 2009). Sustainable competitive advantage is a type of competitive advantage that leverages organizational capabilities, is valuable to customers, is difficult for competitors to imitate and copy, and provides the organization with competence and competitiveness (Hosseini et al., 2018).

Organizations require a variety of resources to survive, and in making optimal use of these resources, they must be equipped with and strengthened with the necessary capabilities. An organizational capability is an organization's ability to use organizational resources effectively and efficiently and to carry out a set of tasks with the ultimate goal of achieving the organization's goals (Helfat & Peteraf, 2003).

6 According to Grant (1991), capabilities are the source of competitive advantage, whereas resources are the source of capabilities. 15 Moreover, Grant (1991) defined capabilities as a firm's ability to deploy its resources, whether tangible or intangible, to perform a task or 41 activity in order to improve performance. Capabilities are the complex bundles of skills and knowledge and experience exercised by a firm 25 through organizational processes that allow the firm to organize activities to make the best use of its resources (Ramon-Jeronimo et al., 2019). Whereas Helfat & Peteraf (2003) argued that capabilities are an organization's capacity to perform a coordinated number of tasks while utilizing organizational resources to achieve a specific outcome.

Organizations are compelled to develop competitive strategies as a result of competitive environmental dynamics. Therefore, organizations in the current industry trend are highly concerned with developing their capabilities in order to lift their businesses to meet the radical market changes occurring around the world (Nayeemunnisa & Gomathi, 36 20). The creation and novel application of resources and capabilities are emphasized in the development and implementation of these strategies (Wójcik, 2015).

Companies are faced with a competitive fact in which making new capabilities allows them to organize disruptive value innovation, survive, and prosper in a dynamic competitive environment (Wójcik, 2015). The effectiveness and efficiency that organizational members can contribute to do the work determined by organizational capability. As a result, developing organizational capabilities for improving performance is a major goal in organizational management.

According to Dosi et al., (2008), organizational capabilities are rapidly becoming recognized as an important, if not the most important, key to organizational success.

Tee 7 et al., (2009) emphasized the significance of organizational capabilities and

investigated their relationship with the firm's sustainability and competitiveness through the perspective 17 a firm's resource-based view (RBV). The RBV examines internal resources and capabilities to determine the factors that influence a firm's competitive advantage and performance (Ramon-Jeronimo et al., 2019). The principle of an o 43 nization's capabilities is the combination of its resource base in such a way that it meets the criteria of value, rarity, inimitableness, and non-substitutability, or a competitive barrier (Wójcik, 2015).

Competitive Advantage and Organizational Change

Environmental uncertainty and the pursuit of competitive advantage force organizations to change. According to researchers, environmental concerns are increasingly having a significant impact on an organization's day-to-day operational processes and competitiveness (Ahmed & Streimikiene, 2021). Changes in an organization's environment, such as the latest technology trends or customer expectations, necessitate the revision of its strategies and processes (Lichtenthaler, 2016). Changes involve factors in both an organization's internal and external environments (Aravopoulou, 2018).

Organizations concerned with change are organizations striving to gain a sustainable competitive advantage. As a result, organizations must adapt to their natural environment and select a change framework that is consistent with their structure and strategies (CEIİK & OZSOY, 2016). Organization 26 must continue to adapt in order to survive, outperform in the marketplace, and achieve a sustainable competitive advantage (Çetinkaya et al., 2019). Furthermore, organi- 20 tions have to plan and implement strategies to maintain a competitive advantage in a dynamic business environment where the successful implementation of organizational change becomes critical (Çetinkaya et al., 2019). WANG & ZENG (2017) argued that successful change needs intensive and careful observation, planning, and implementation.

Organizational change involves changes in organizational processes such as process changes, technological changes, rule and regulation changes, or organizational culture changes (Hashim, 2014). Organizational change occurs as result of changes in business activities and results from managerial perceptions, choices, and actions and occurs when the driving forces are stronger than the restraining forces. Organizational change can be viewed as a series of procedures that improve the organization's effectiveness by altering its internal patterns of behavior and organizational ability to adapt in a different way to move the organization to a better situation (CEIHK & OZSOY, 2016).

Typically, the idea of organizational change is more closely related to changes in mission, restructuring processes, mergers, partnership, and so on (Helmer & Mills et al., 2008). It covers a wide range of time periods, interests in broad patterns (industrial/professional patterns) or organization-specific evolutions, and types of changes such as technological, mergers, and downsizing (Alvesson & Sveningsson, 2007).

Exploration and Exploitation, Organizational Ambidexterity

Exploration and exploitation concepts have become increasingly dominant in organizational analyses of new technologies, processes of implementation, and organizational learning (Acevedo & Díaz-Molina, 2019). March (1991) defined exploration as the development of new products, resources, knowledge, and opportunities, and it is associated with radical changes and learning through experimental work, whereas exploitation is associated with incremental changes and learning through local search. In terms of environmental dynamics, it is possible to conclude that pursuing exploration is more effective in changing environments, whereas pursuing exploitation is more valuable in highly competitive environments.

To be successful in the long term of their competitiveness, organizations must consider the balancing of exploration and exploitation.

As a result, companies must construct a careful tradeoff between exploitation and exploration (Gonzalez & De Melo, 2018). Thus, as described by March (1991), the need for an appropriate balance between exploration and exploitation has resulted in the concept of ambidexterity, defined as an organizational ability to explore and exploit simultaneously while achieving high organizational performance. This implies that ambidextrous organizations are more likely to be able to refine existing resources while also developing new competencies in an unstable environment. Therefore, firms lacking ambidexterity are less likely to respond to environmental pressures effectively (Acevedo & Díaz-Molina, 2019). Furthermore, in order to become successful at ambidexterity, leaders must be able to organize resource allocation between old and new business areas (O'Reilly & Tushman, 2013).

Linking Organizational Capabilities and Organizational Change

The recent intensification of changes in the business and industrial environments has concerned many traditional strategy approaches for the development of organizational capabilities. Organizational capabilities have become critical for analyzing a firm's resources and capabilities for organizational surveillance in a highly competitive and dynamic environment (Nayeemunnisa & Gomathi, 2020).

According to Andreeva & Chaika, (2006), there are three levels of organizational capabilities, from simpler to complex, namely functional capabilities, capabilities related to dynamics, and creative capabilities proposed by Collis, (1994) and zero-level capabilities, first-level capabilities, and higher-level capabilities proposed by Winter (2003). Moreover, (Andreeva & Chaika, 2006) proposed functional capabilities, core capabilities, and dynamic capabilities, whereas Rouseva (2009) implicitly proposed two levels, namely lower capabilities and higher capabilities.

Furthermore, organizational change is the result of changes in business activities as

well as managerial perception, choice, and activity (Daft, 2010). Organizational change is the process by which organizations transition from their current state, which describes how the organization functions before the change, to their future state, which describes how the organization should function after the change (Duffy, 2013).

Several types of organizational change are presented about the different criteria/characteristics of change (Aravopoulou, 2018), such as the depth and scope of change, the source of change, the order of change, the timing of change, the intensity of change, the tempo of change, the need for change, and the level of change. Dempster (1978) also categorized these changes as organizational change, which is any alteration of people, structure, or technology. By considering the number of changes that are undertaken in organizations, it could be argued that organizational change occurs in an organization, including changes in processes, strategy, structure, culture,

behaviors, attitudes, skills and abilities, and leadership styles.

In this study, the conceptual framework of organizational capabilities and organizational change are linked in the form of a competitive advantage matrix, which is based on the two levels of organizational capabilities implicitly proposed by Rousseva (2009), namely lower capabilities and higher capabilities and the type of organizational change proposed by Aravopoulou (2018), namely a continuous process associated with the strategy, structure, culture, behavior, and people of the organization. The process is about the ability of the organization to change continuously from a static organization to a dynamic organization.

The conceptual framework matrix of organizational capabilities and organizational change is shown in figure 1. The main idea of this matrix is a description of the competitive advantage position of the organization, shown in four quadrants (Q1, Q2, Q3, and Q4).

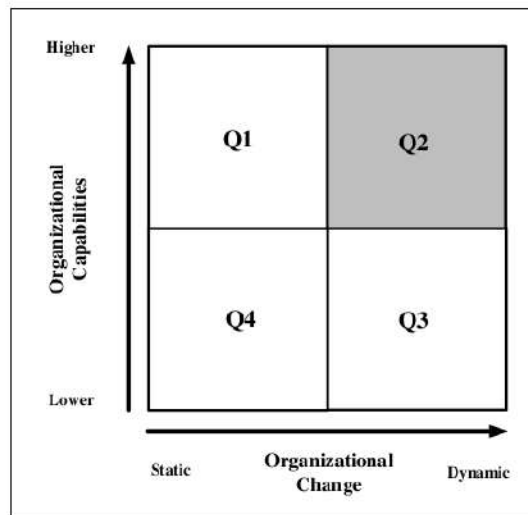


Figure 1. Organizational Capabilities and Organizational Change Matrix

Starting first with Q4, which is the intersection of static organizational change and lower organizational capabilities, it shows the position of organizations with low competitive position and no competitive advantage. In daily activities, this organization is not supported by organizational capabilities and cannot respond to environmental changes. These organizations face difficulties adapting to changes in the environment due to organizational inertia-resistance or a lack of inclination to change, and this will lead to organizational decline (Jones, 1995), which is the deterioration of an organization's resource base and performance over a sustained period of time (Ribeiro Serra et al., 2017).

Weitzel and Jonsson's model of organizational decline has identified five stages of decline, namely the blinded stage, inaction stage, faulty action stage, crisis stage, and dissolution stage (Jones, 1995). Based on this model, organizations in Q4 are in a crisis stage, and even if they are not addressed, organizations will enter a dissolution stage. These organizations face difficulties adapting to changes in the environment, and organizations will result in organizational decline (Jones, 1995). This deals with significant results that require the immediate attention of organizations and can identify their potential resources and capabilities and restructure them to create value for the firm. If not handled early and dealt with properly, the gradual decrease in business may put organizations on a slope towards organizational failure.

Furthermore, quadrant (Q1), which is the intersection of static organizational change and higher organizational capabilities, describes the ability of individual organizations to innovate internal resources and capabilities without being followed by continuously responding to a changing business environment. Otherwise, the intersection of dynamic organizational change and lower organizational capabilities shown in Q3 describes the competitive advantage position of firms with a high dynamic response to such changes in the dynamic environment, followed

by a low ability to deploy new resources and capabilities.

Responding to environmental change generally includes optimizing organizational capabilities and anticipating changes over time as well, so firms need to change strategy and consider their capabilities as success factors for the future. Hence, the ideal quadrant for the competitive advantage of an organization lies in Q2, which is the intersection of dynamic organizational change and higher organizational capabilities. This represents organizations with highly competitive advantage in achieving competitive advantage and maintaining sustainable competitive advantage. Organizations in this quadrant can be considered as organizations that have the ability constantly to deploy their resources, tangible or intangible (Grant, 1991), optimally to utilize organizational resources (Helfat & Peteraf, 2003), simultaneously implement organizational change (Çetinkaya et al., 2019).

Exploration and Exploitation: Toward Competitive Advantage

One of the more enduring ideas in organizational study is that the long-term success of an organization is dependent on its ability to exploit existing organizational capabilities while also exploring new existing competencies (March, 1991). According to Sinha (2015), exploitation refers to the development of organizational capabilities and resources to organize the present (short-term organizational goals and maintaining a competitive edge), whereas exploration refers to the development of capabilities and resources to organize the future (strategic goals and staying ahead of future competition).

Both exploration and exploitation are essential for the organization (March, 1991), and he contends that a one-sided focus on one of these learning types poses an inherent risk to an organization's survival and sustainability. Firms that succeed at exploitation but not exploration will see their competitive advantages erode over time, whereas firms that excel at exploration but not exploitation will see their

new competencies underperform (Andriopoulos & Lewis, 2009). There is a risk involved in one-sided focus on one of these learning types, which affects an organization's survival and sustainability (Sinha, 2015).

Ignoring the balance between exploration and exploitation is in Q1, which focused on exploration, and in Q3, which focused on exploitation. Organizations in these two quadrants face problems balancing these activities and those are non-ambidextrous organizations. As a result, firms must strike an appropriate balance between exploration and exploitation strategies in order to improve organizational competitiveness.

Earlier studies frequently regarded the trade-offs between these two tasks as unmanageable, but newer research describes ambidextrous organizations needed to exploit existing competencies and to explore new opportunities (Raisch et al., 2009). Obtaining exploitation and exploration allows for success, even survival, but it raises difficult tensions (Andriopoulos & Lewis, 2009). This activity becomes important for the organization's stability as a learning process, because an organization is stabilized through one of the learning mechanisms, resulting either in an exploratory or an exploitative organization (Kang & Kim, 2019).

Popadiuk & Bido (2016), argued that companies face a trade-off between exploration and exploitation: if the organization does not find an appropriate balance between the two edges of the continuum, it may suffer from sub-optimization. Further, Gonzalez & De Melo (2018) argued that exploration supports dynamic optimization and exploitation promotes static optimization. In sum, firms

face choosing between developing new capabilities (exploration) and expanding existing capabilities (exploitation). Another aspect of the trade-off between exploration and exploitation, according to Lavie et al., (2010), is the choice between adaptability and stability. While adaptability is about exploration and stability are associated with exploitation (March 1991).

The success of firms competing in a dynamic environment involves the exploitation of all resources and capabilities, and the exploration of new competencies and capabilities. Firms that increase their external exploration activities by generating external ideas will need to rearrange the interfaces with internal exploitation to convince that the externally explored ideas are successfully exploited within the firm (Lichtenthaler, 2016). Despite the fact that exploitation and exploration are two independent and separated segments with no relationship between them (Guisado-González et al., 2017), both strategies are required to maintain a competitive advantage, and their combination is implied in existing ideas that deal with the organizational dynamic capabilities (Eisenhardt & Martin, 2000).

Therefore, to be successful in an uncertain environment, organizations need to balance exploration and exploitation. In the case of Q1 (figure 2), organizations should make changes in exploiting new concepts and new technological opportunities through continuous improvements. This is connected to the development and improvement of current capabilities for managing organizational change related to the changing environment (He & Wong, 2004). This organizational strategy can bring the organization to Q2.

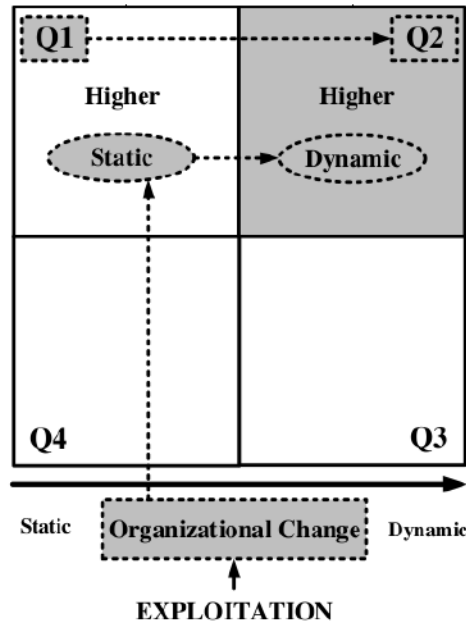


Figure 2. Moving from Q1 to Q2

On the other hand, organizations in Q3 (figure 3) should improve their exploration strategy by exploring new opportunities, seeking new positions in the search space, applying new technological advances, examining new markets, creating new products and exploring numerous new boundaries. These

explorative activities are directly connected to the organizational ability to develop and acquire new knowledge in creating organizational capabilities. This is about how they move from Q3 to an ideal competitive advantage position of Q2.

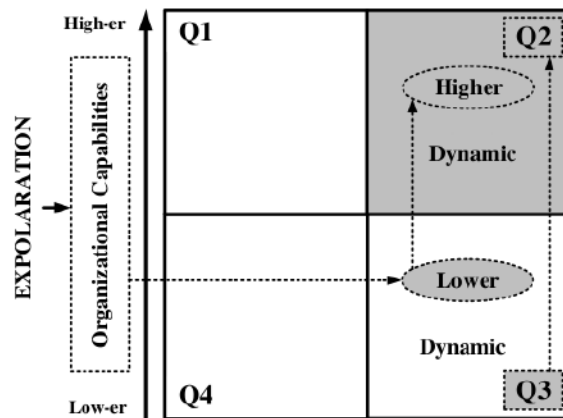


Figure 3. Moving from Q3 to Q2

9 March (1991) proposed that gaining and maintaining an appropriate balance between the activities exploration and exploitation is critical factor for firm survival and prosperity in relation to the balance of exploration and exploitation. 39: exploration process involves a departure from an organization's current knowledge base and skills, and it leads to exploitation and subsequent knowledge application (Lavie et al., 2010). When performing operational capability work, the exploitive capability will be primarily posited in ambidexterity, whereas the exploratory capability will be primarily posited in ambidexterity when undertaking dynamic capability work (Kang & Kim, 2019).

According to Lis et al., (2018), the foundation of the idea of organizational ambidexterity is the balanced combination of exploitation and exploration activities, which allows organizations to be creative and adaptable at the same time, while also operating their businesses in a traditional and proven procedure. The principle of organizational ambidexterity 27: found in the organization's ability to utilize existing assets and capabilities from the mature side of the business in order to achieve a competitive advantage in new markets (O'Reilly & Tushman, 2013).

All these views above are not in line with the company's position in Q4, which focuses neither on exploration nor exploitation. These organizations will experience learning crises of using, maintaining, and balancing these activities, such as the 42: pursuit and acquisition of new resources and knowledge, as well as the

use of current knowledge, resources, and competencies. Thus, Sinha (2023) proposed that organizations should focus on exploration and exploitation activities in order to achieve competitive advantage in the present and grow sustainably in the future.

All this is reflected in the ideal competitive advantage of the firms (Q2), which focuses both on exploration and on exploitation by rapidly pursuing, well combining, and properly balancing these two activities. When the two coexist, it is the most productive organization, and this is an ambidextrous organization (Kang & Kim, 2019).

There is a complementary effect between the two activities: exploration supports dynamic optimization and exploitation promotes static optimization and (Gonzalez & De Melo, 2018). Therefore, it be expected that organizations intensify their exploration activities along with exploitation to achieve competitive advantage (Q2) (figure 4). Consequently, the increase in this activity of exploration and exploitation affects a significant increase in forming new organizational capabilities, causing an increase in the firm's competitiveness. This also implies that exploration and exploitation actions not only improve an organization's operational efficiency (profitability, productivity, and market share), but they also promote innovative performance (environmental adaptation, new market development, new product development, and flexibility) (Peng et al., 2019).

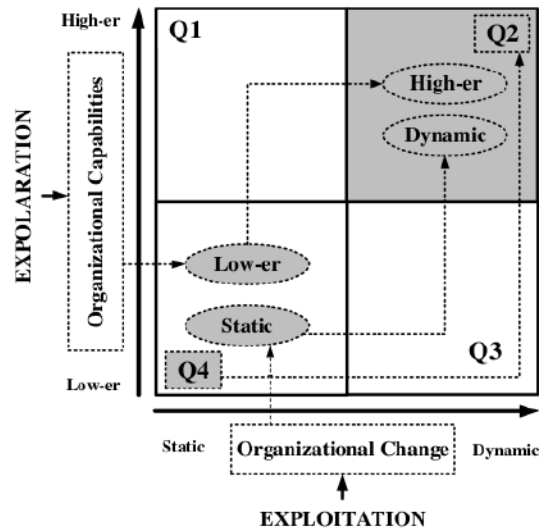


Figure 4. Moving from Q4 to Q2

This means that the right balance between exploration and exploitation results in an ambidextrous organization, defined as an organization's ability to explore and exploit simultaneously while achieving high performance (March, 1991). Thus, a company an ambidextrous organization if it places a relatively equal emphasis on both exploratory and exploitative processes (He and Wong, 2004).

Research on organizational ambidexterity has been conducted in focusing on how organizations implement this activity of exploitation and exploration internally, such as relationships among enterprises' marketing capabilities, market-based innovation and innovation performance (P. He et al., 2021); sustained performance (Raisch et al., 2009); work performance (Kang & Kim, 2019); the development of new high-tech products (Peng et al., 2019); and radical innovation, incremental innovation, operational efficiency (Acevedo & Díaz-Molina, 2019). Whereas, Lis et al., (2018), pointed out that the main search areas of ambidexterity, namely: ambidexterity and ambidextrous organization conceptualization; organizational management context (including managers); innovations, organizational learning processes and creativity; and strategic management aspects.

Although ambidexterity is only one method for exploring and exploiting at the same time (Lavie et al., 2010), it is being refined in organizational processes (Franco & Cerimele, 2018) and it can be viewed as a dynamic adjustment between exploration and exploitation. In this view, ambidexterity allows a firm to adjust over time and eventually survive in the competitive market (Tushman & O'Reil, 1996), and it excels at leveraging existing products to enable incremental innovation and exploring new opportunities to support more radical innovation (Andriopoulos & Lewis, 2009).

As a result, organizations should provide a better understanding of the relationship between their exploration and exploitation capabilities in the face of a radical change in the business environment. While exploitation will address the survival needs of the firm, exploration addresses the sustainable growth of the firm. The ability of a firm to be ambidextrous is at the core of organizational activities to pursue simultaneously exploration by generating new ideas, adopting new processes, and generating new products, and to optimize exploitation capabilities by incorporating knowledge into the organization's activities or even refining all the previous activities.

Obviously, a great advantage of being an ambidextrous organization is having the ease of simultaneously using both exploration and exploitation to do tasks with greater efficiency and enable a firm to adapt over time. Organizations build up contextual ambidexterity through routines derived from normalization of processes, normalization of skills, and normalization of results. In other words, organizations should have to create ambidextrous capabilities and perform ambidextrous activities after taking their resources and capabilities into consideration if they hope to create and maintain the greatest value of competitiveness.

Conclusion

Organizational capabilities and organizational change have considered purposed as strategic action of organizations that play a role in gaining competitive advantage. Constantly renewing internal resources and proactively managing radically changing external environments toward business success is dependent on not only organizational capability and organizational change but also the relationship with the activities of exploration and exploitation. Organizations that do not have the ability to explore and exploit both organizational capabilities and organizational change will not be able to gain and maintain competitive advantage, and vice versa. Balancing both

exploitation and exploration activities can give an ambidextrous organization, and this allows organizations to be creative and adaptable at the same time, promoting the realization of organizational competitiveness. This implies that those complementary factors are important lever factors for driving the superior sustainability of a firm's competitive advantage in a potentially changing and unpredictable environment.

This study is not without limitations. This study is based on only on a literature review, so it would be significant if the process of driving competitive advantage by those lever factors supported by either empirical evidence or case studies of firms. Moreover, this study still ignores several aspects of the ambidexterity dichotomy, such as internal or external, contextual or structural, organizational or individual, differentiation or integration, static or dynamic, and flexible or stabilized. Considering the dichotomy of ambidexterity, implications for more future studies and research by scholars within those lever factors is to be proposed. The results of the next study generate more understanding of the role of exploration and exploitation in driving organizational capabilities and organizational change to firm agility in environmental change.

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