

# A THEORETICAL INTEGRATION OF ENTREPRENEURIAL ORIENTATION AND COMPETITIVE REPERTOIRE: THE CAPABILITY THEORY PERSPECTIVE

Journals of Business & Management Studies

Vol. 1: Issue 3

Page 23–37 © The Author(s) 2025

Received: 31 August 2025

Accepted: 17 September 2025

Published: 31 October 2025



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## ABSTRACT

Entrepreneurial orientation (EO) is a well-established construct in entrepreneurship, as is competitive repertoire in competitive dynamics. However, limited scholarly attention has been given to the relationship between these two influential organizational constructs. This article makes a significant advancement in that direction by offering a theoretical integration of EO and competitive repertoire through the lens of capability theory. In this study, we argue that EO drives competitive repertoire by positioning EO as a high-level dynamic managerial capability and competitive repertoire as a low-level ordinary capability. Next, we draw causal inferences to establish competitive repertoire as a pure process mediator of the EO-firm performance relationship. Furthermore, this study introduces three relevant moderators of the relationships among EO, competitive repertoire, and firm performance. Finally, we present five testable propositions and conclude by discussing implications, limitations, and future directions for this emerging stream of research.

## KEY WORDS

Entrepreneurial Orientation, Competitive Repertoire, Firm Performance, TMT Heterogeneity, Competitive Pressure, Environmental Munificence

Entrepreneurial orientation (EO), defined as a manager's capability that guides a firm's daily entrepreneurial activities, has been the primary construct for decades in entrepreneurship studies (Wales, 2016). Simultaneously, competitive repertoire, defined as a coherent set of activities carried out by a firm in a given year, has emerged as a central focus in competitive dynamics research (Smith et al., 2005; Chen & Miller, 2015). While it is intuitive to integrate EO and competitive repertoire (Zahra et al., 2014), to the best of our knowledge, there has been limited scholarly effort to examine the relationship between EO and competitive repertoire. As a result, some important research questions remain unanswered because of the absence of integration of EO and competitive repertoire. For instance, in EO literature, one of the critical questions is whether there is a pure process variable that helps explain how EO influences firm performance (Wales et al., 2013). Separately, in competitive dynamics research, what are the capability antecedents of competitive repertoire (Hughes-Morgan et al., 2018)? Therefore, the motivation of this study is to answer those critical questions through the integration of EO and competitive repertoire literature with the capability theory lens. Furthermore, we argue that this synthesis also helps bridge the academic and practitioner worlds, given that competitive repertoire serves as the playbook for how firms compete in the market.

Scholars use EO to predict firm performance. Several meta-analyses have confirmed the positive relationships between EO and performance (Rauch et al., 2009; Soares & Perin, 2020). However, the widespread effect sizes and mixed results raise several concerns. First, existing EO conceptualizations are inconsistent. Historically, scholars have developed two ‘competing’ EO conceptualizations: the 3-item reflective EO and the 5-item formative EO (Covin & Slevin, 1989; Lumpkin & Dess, 1996). Recently, scholars also stated that EO, as an organizational attribute, reflects the capabilities or dominant logic of its top managers (Covin & Lumpkin, 2011; D’Souza & Fan, 2022; Wales, Covin, & Monsen, 2020). Second, the mixed effect sizes might be caused by the distal EO-performance relationship. Put differently, studies that incorporate potential mediators in the EO-performance relationship might help address the concerns of the mixed findings (Wales et al., 2013). Furthermore, among the extant mediator studies of the EO-performance relationship, no study has examined the ‘pure separate processes’ that help articulate the underlying mechanism of how EO influences performance. Third, in the area of moderators in the EO-performance relationship, research focuses more on external moderators like the industrial environment, and less on internal ones like the heterogeneity of the top management team.

Separately, in the scholarship of competitive repertoire, scholars have their attention mostly focused on the antecedents of competitive repertoire. While one meta-analysis identifies precursors like previous performance, slack, and market growth at different levels (Hughes-Morgan et al., 2018), no study examines how a firm’s entrepreneurial activities drive competitive repertoire. Further, the same meta-analysis also confirms the inconsistent wealth effect of competitive repertoire. The authors contend that the variability in wealth outcomes could be attributed to the insufficient examination of moderators in competitive repertoire studies. Thus, the boundary of the relationship between competitive repertoire and performance deserves additional attention.

In sum, scholars stated that ‘...the specific links between EO and competitive strategy have been ignored, even though logic would suggest that companies with a strong EO are likely to pursue aggressive, bold competitive strategies’ (Zahra, Wright, & Abdelgawad, 2014, p 484-485). In response to the call by Zahra et al. (2014) and to address the gaps in the extant EO and competitive repertoire scholarship, this study employs the capability lens and theoretically integrates EO with competitive repertoire to answer three under-explored research questions. First, does EO drive competitive repertoire? Second, is competitive repertoire a mediator of the EO-performance relationship? Third, how do moderators within the capability framework impact the relationships between EO, competitive repertoire, and firm performance?

This paper provides a conceptual framework that integrates EO, competitive repertoire, and firm performance to answer the abovementioned research questions. We first posit the positive relationship between EO as a high-level dynamic managerial capability and competitive repertoire as a low-level ordinary capability. Next, we posit competitive repertoire as a pure process mediator in the focal relationship between EO and performance. Finally, consistent with the capability research stream, we introduce three moderators to develop the boundary conditions of our main propositions. By doing so, we contribute to the EO literature by proposing that a firm’s competitive repertoire is an important immediate outcome of EO. Further, the competitive repertoire is a pure process mediator of the EO-performance relationship. We also contribute to competitive repertoire research by introducing EO as an important high-level capability antecedent to the competitive repertoire. Finally, we also contribute to the practitioner’s world. Given that the competitive repertoire is more relevant or intuitive to managers in their daily business, the propositions developed in this study allow them to better understand and apply the EO concept to support their competitive actions within their firm’s competitive repertoire.

In the proceeding theoretical background section, we first discuss the capability theory. Our discussion centers on the hierarchical levels of capability, the core tenets of capability theory, and the moderators examined in the relationship between capability and firm performance. Next, in the EO section, we first survey EO conceptualizations and characterize EO as a dynamic managerial capability. We then discuss EO outcomes, both distal performance outcomes and proximal mediator outcomes. Finally, we inspect the competitive repertoire literature and characterize competitive repertoire as an ordinary capability.

## THEORETICAL BACKGROUND

### ***Capability Theory: Hierarchical Levels, Core Tenets, And Moderators***

**Capability levels.** Capability as a firm's embedded routines helps value creation through converting inputs into outputs (Winter, 2003). Scholars also refer to capability as a firm's ability to conduct certain business activities in a trustworthy way that meets minimum acceptable requirements (Helfat & Winter, 2011). A firm without capability cannot exist as a viable business and will not survive (Prahalad, 1993). Capability theory states that capabilities have hierarchical levels (e.g., ordinary capability, dynamic capability, and dynamic managerial capability) (Collis, 1994; Teece, 2014). Specifically, ordinary capability, as the lowest level of capability, is defined as how a firm makes its living. Firms use the ordinary capability to perform their basic business functions like meeting customer demands, aligning potential market needs through developing new products or services, and producing goods and services in the most efficient way (Daspit & D'Souza, 2017). Ordinary capability focuses on short-term results, and the processes or routines associated with ordinary capabilities are well known or easily understood, not only internally by employees but also externally by competitors (Irwin, Gilstrap, et al., 2022). As a best practice, scholars state that ordinary capability can be bought (Eisenhardt & Martin, 2000). The nature of rents for ordinary capability is efficiency and effectiveness through exploiting the existing routines and processes.

Next, dynamic capability as a high-order capability is a firm's capacity to extend, modify, and change the existing ordinary capability through reconfiguring internal and external resources. Firms rely on dynamic capabilities to generate new routines that align with the changing business environment. The micro-foundations of dynamic capabilities consist of identifying opportunities in a changing environment, seizing or investing in the identified opportunities, and materializing or benefiting from opportunities through risk management and process transformation (Teece, 2007). Thus, unlike ordinary capability, dynamic capability is change-oriented and long-term (Zahra & George, 2002). The processes or routines associated with dynamic capability are typically unknown to competitors in the market and therefore are a key source of sustainable competitive advantage for a firm. The nature of rents for dynamic capability is from Schumpeter's 'destructive creation'. In other words, the intellectual roots of dynamic capability are the same as those for EO.

Finally, firms also need dynamic managerial capability to change their dynamic capability. Scholars define dynamic managerial capability as 'the capabilities with which managers build, integrate, and reconfigure organizational resources and competencies' (Adner & Helfat, 2003, p.1012). The underpinnings of dynamic managerial capabilities have been shown to include managerial cognition (e.g. knowledge structure, mental processes, and emotions), managerial social capital (e.g. social network ties, network features, and relationships), and managerial human capital (e.g. education, and work experience) (Helfat & Martin, 2015). Relying on those micro-foundations, senior managers play a central role in creating and exercising dynamic managerial capability and act like entrepreneurs to drive strategic change initiatives of a firm's dynamic capability promptly to align the requirements of the external environment (Zahra, Sapienza, & Davidsson, 2006).

**Core tenets of capability theory.** In sum, capabilities can be grouped by their levels. Built upon the hierarchical levels of capability, scholars both conceptually and empirically articulate several core tenets of the capability theory. First, high-order capability like dynamic managerial capability drives low-order ordinary like ordinary capability. Second, while both low-order and high-order capabilities have positive influences on the firm performance, high-order capability has a higher effect size. Third, the relationship between capability and performance is moderated by environmental dynamism such that the positive effects of dynamic capability are more pronounced in a higher dynamic context.

**Moderators of the dynamic capability and consequences.** Capability scholars recognized the importance of moderators in the relationship between capability and outcomes, where outcomes include firm performance, changes in resources, and learning (Schilke, Hu, & Helfat, 2018). Recently, a thorough review by Schilke et al., (2018) confirmed that environmental dynamism is the central moderator in capability studies. This is understandable given that the concept of dynamic capability is developed in the context of the changing business environment (Teece et al., 1997). Scholars also examined other environmental moderators like the industry sector, geographical area, or economic context, and competitive intensity (Fainshmidt et al., 2016). In addition to environmental moderators, scholars inspect organizational moderators such as size, structure, culture, strategy, other organizational capabilities, and others (Schilke et al., 2018).

After examining organizational capabilities at different levels, elucidating the core tenets of capability theory, and surveying the moderators, we now review the EO literature and make the case for characterizing EO as a dynamic managerial capability.

### ***Entrepreneurial Orientation and Its Outcomes***

**EO conceptualizations.** Historically, scholars have tried to understand the role of entrepreneurship in a firm's performance by either examining entrepreneurs' personality traits or inspecting the firm's behaviors or processes (Covin & Slevin, 1989; Gartner, 1989). The shortcomings of the traits approach include difficulties in measuring hidden personalities and the malleability of one's temperament. In other words, we do not know which traits are responsible for successful entrepreneurship, and even if we know those traits, we are not sure how to cultivate those traits. In contrast, the behavior or process perspective believes that entrepreneurial firms have distinctive processes when compared with conservative firms (Miller, 1983). The benefits of the process approach consist of the ease of observing and the possibility that firms can be trained to adopt entrepreneurial processes. Similarly, the process approach also depends on whether there is a scale or method that can capture a firm's entrepreneurial activities. And this led to the birth of EO.

The origin of EO is from Miller's (1983) study of Canadian firms. With a sample of fifty-two firms, Miller (1983) stated that entrepreneurship is about how firms renew themselves and their markets through innovative, risk-taking, and proactive processes. Inspired by Miller (1983), scholars have developed two different EO conceptualizations. Covin & Slevin (1989) offer a 3-item reflective EO scale and state that a firm's strategic postures or processes can be measured by its innovativeness, risk-taking, and proactiveness, and entrepreneurial firms are those that exhibit all three EO activities at the same time. Differing from the reflective concept of EO (Covin & Slevin, 1989), Lumpkin & Dess (1996) argue that each EO factor influences firm performance independently. In other words, they posit that EO provides a profile of an entrepreneurial firm. Their formative EO conceptualization consists of innovativeness, risk-taking, proactiveness, autonomy, and competitive aggressiveness. Specifically, innovative activities refer to exploring processes that may deviate from the industry norms and enable firms to enjoy the first-mover advantage by entering a new market. Risk-taking practices include borrowing heavily or committing large resources to uncertain projects. Proactive processes mean firms' routines to scan the market and predict future needs. Firms that accept autonomous activities have their employees speak out about their new ideas and experiment with them. Finally, competitive aggressiveness refers to combative activities like price-cutting when competing in the market.

Recently, to reconcile two different EO conceptualizations, the reflective 3-factor and the formative 5-factor, Wales, Covin, & Monsen (2020) conceptualize EO as an organizational attribute that can be manifested at multiple levels. Particularly, at the organizational leadership level, EO can be manifested as the entrepreneurial top management team style, at the organizational level as the entrepreneurial organizational configuration, and the market level as the entrepreneurial new entry initiatives. Separately, D'Souza & Fan (2022) characterized EO as a dynamic managerial capability and offered a moderated mediator framework of the EO-performance relationship.

**Characterizing EO as a dynamic managerial capability.** In the capability theory section, we defined dynamic managerial capability as the 'regenerative' capability that impacts and revamps a firm's dynamic capability. Building upon this conceptualization, we argue that traditional EO conceptualizations, regardless of whether it is Covin & Slevin's 3-item reflective or Lumpkin & Dess's 5-factor formative, all agree that EO, in a metaphysical term, describes the propensity of managers to take risky, innovative, proactive, competitively aggressive, and autonomous activities. Thus, in this study, we define EO as an organization's dominant logic or top managerial beliefs and characterize EO as a dynamic managerial capability. Further, we state that EO can be operationalized by the five items and other induced items discussed in Lumpkin & Dess (1996) (Covin & Lumpkin, 2011; Matsuno, Zhu, & Rice, 2014; Wales et al., 2020).

There are several reasons for our definition and the associated EO measure. First, scholars agree that a firm's dominant logic is the dynamic managerial capability of its top managers (Bettis & Prahalad, 1995). Second, EO conceptualization decides EO measurement, and different measurement methods have different validity challenges. For instance, when EO is conceptualized as either traits of top management or a firm's entrepreneurial processes, scholars rely on scales or instruments to survey the key informants (Covin &

Slevin, 1987). Recently, scholars have argued that the ritualized use of surveys makes replication difficult and, in turn, knowledge accumulation challenging (Fischer et al., 2023). Third, scholars suggest that EO as an organizational attribute requires more dimensions (Covin & Wales, 2019). In sum, when EO is conceptualized as a firm's dynamic managerial capability, scholars can leverage public datasets like the 10-K reports, the earnings call transcripts, and others to operationalize EO objectively through content analysis.

After characterizing EO as a dynamic managerial capability and discussing the benefits of the associated operationalization method, we attend to the discussion of EO outcomes, given that we will include performance to develop the mediator proposition.

**The outcomes of EO.** EO consequences can be distal firm performance or proximal mediators. In the proceeding paragraphs, we center our discussion on the potential reasons for the mixed EO-performance findings and articulate the importance of finding a pure process mediator for the EO-performance relationship.

**The performance consequence of EO.** Not surprisingly, findings of EO-performance results are mixed, though meta-analyses confirmed the positive linear relationship (Rauch et al., 2009; Soares & Perin, 2020). We argue that the mixed findings are driven by varied EO conceptualizations and inadequate mediator studies. First, scholars developed a few EO conceptualizations and suggested different measurement methods accordingly. For example, surveys are used to operationalize EO when studies adopt the 3-item reflective EO perspective (Covin & Slevin, 1989). Separately, the configuration approach is proper when researchers apply the 5-item formative EO (Lumpkin & Dess, 1996). Finally, when EO is conceptualized as a dynamic managerial capability, scholars also use content analysis to operationalize EO because management communication, either 10-K or earnings call transcripts, reflects the dynamic managerial capability of a firm (Short et al., 2010). In sum, EO conceptualization drives the EO operationalization method. Different EO conceptualizations are the main reason for the mixed EO-performance results.

In addition to EO conceptualization, we contend that inadequate studies of mediators in the EO-performance relationship might be another reason for the mixed findings.

**The mediator consequences of EO.** Mediators are the underlying mechanisms that explain how EO influences firm performance (Baron & Kenny, 1986). The extant mediator studies in the EO literature focus on organizational learning and dynamic capability (D'Souza & Fan, 2022; Wales et al., 2013). The main argument is that the EO processes help knowledge accumulation and capability building and, in turn, positively influence firm performance (Hughes et al., 2018). The potential drawback of this approach is how to objectively measure learning or capability. Given that every organization has its unique routines and there exist inconsistent learning or capability scales, the results from the survey methods make knowledge accumulation impossible. To overcome this limitation, scholars suggest identifying and examining 'isolating conceptual pure process' (Wales et al., 2013, p. p374). We argue that competitive repertoire is such a kind of isolating pure process that is manifested as a firm's ordinary capability. Further, scholars can measure competitive repertoire objectively through content analysis of competitive action datasets like Ravenpack ([www.ravenpack.com](http://www.ravenpack.com)).

Thus far, we have reviewed the capability theory, the theoretical lens of our framework. We have also surveyed EO and performance. In the next section, we move to the final important component of our framework: competitive repertoire.

### ***Competitive Repertoire: An Overview***

In this section, we start with the 'Austrian' school of strategy that functions as the theoretical root of competitive repertoire. Then we characterize competitive repertoire as the ordinary capability of a firm. While the core tenet of capability theory supports that EO, as a high-level dynamic capability, drives competitive repertoire as a low-level ordinary capability, the capability theory does not tell us whether this influence is positive or negative. Thus, we end this section by briefing the main lens of competitive repertoire: the Awareness-Motivation-Capability model (AMC).

**The 'Austrian' school of strategy.** The 'Austrian' school of strategy is based on the 'Austrian' school of economics and provides the theoretical root for competitive repertoire scholarship. To better explain the 'Austrian' school of strategy, we compare it with the traditional industrial organization (IO). First, the emphasis of the 'Austrian' economics differs from that of the IO economics. IO economists examine the

structure-conduct-performance framework (Bain, 1968) and state that the generic competing strategy can be cost leadership, differentiating, and niche players (Porter, 1980). To identify their optimal market positions, firms need to conduct not only an analysis of strengths, weaknesses, opportunities, and threats (SWOT) but also a five forces analysis (Porter, 1997). In sum, the market assumption in the IO-based strategy is static, and the role of the entrepreneur is ignored.

In contrast, economists of the ‘Austrian’ school focus on the ‘creative destructive’ market process (Schumpeter, 1934), and emphasize the role of the entrepreneur. The ‘Austrian’ school of strategy states that the only way to gain profit is to continuously explore entrepreneurial opportunities in the market (Jacobson, 1992). Thus, the market assumption in the ‘Austrian’ view is disequilibrium, given that an equilibrium market provides zero entrepreneurial opportunity. Further, profits are temporal because imitators can quickly reduce the first-mover benefits. To gain competitive advantages, firms must continuously pursue entrepreneurial opportunities through the dynamic managerial capability that is characterized by innovative, risk-taking, proactive, autonomous, and competitive aggressive activities in the market for entrepreneurial benefits (Helfat & Martin, 2015; Lumpkin & Dess, 1996). Those EO activities also help develop a firm’s competitive repertoire. In other words, firms compete with each other through their distinctive competitive repertoire in the market.

**Characterizing competitive repertoire as an ordinary capability.** To understand competitive repertoire, we need to understand what a competitive action is first. A competitive action is an actual market-oriented activity that a firm uses to compete (Miller & Chen, 1996). Scholars use different criteria to classify competitive actions. For instance, Ferrier (2001) classified six types of competitive moves: pricing actions, marketing actions, new product actions, capacity actions, service actions, and signaling actions. Separately, scholars categorized competitive activities into eight types based on results from content analysis: market entry and exit, acquisitions, alliances, pricing changes, capability adjustments, legal actions, marketing initiatives, and new product development (Li & Yang, 2023). Further, Grimm & Smith (1997) declare four types of competitive actions: entrepreneurial, Richardian, deterrent, and co-optive actions. While scholars have operationalized competitive actions differently, it is still difficult to examine how competitive actions influence firm performance. Instead, scholars suggest leveraging competitive repertoire, defined as a comprehensive group of competitive actions carried out by a firm in a given year (Smith et al., 2005). In other words, firms compete with each other through their competitive repertoires. If an individual competitive action, regardless of how it is classified, is a firm’s routines and processes to meet customer demands, align resources with market requirements, and achieve operational efficiency (Daspit & D’Souza, 2017), then a competitive repertoire is a firm’s competing playbook for short-term competitive advantages. Thus, we position competitive repertoire as a firm’s ordinary capability.

Given that each competitive repertoire is the combination of different competitive moves in a given year, to compare competitive repertoires between firms, scholars developed several constructs to operationalize different dimensions of competitive repertoire. Those specific constructs include competitive repertoire intensity, complexity, nonconformity, simplicity, inertia, duration, unpredictability, and others (Chen & Hambrick, 1995; Ferrier, 2001; Miller & Chen, 1994/1996/1996a)

In this study, we select competitive repertoire intensity, complexity, and nonconformity to develop our propositions, given that those are the most examined competitive repertoire constructs in the competitive dynamic literature. Respectively, intensity is defined as the total number of competitive events in a given year, regardless of the types of competitive actions. Competitive complexity is defined as the diversity of competitive actions in a year. To operationalize repertoire complexity, scholars developed different methods, both single and composite indices. The single diversity index includes Blau’s heterogeneity index, Herfindahl index, and Shannon index. The composite index is the composite of three indices: range, concentration, and dominance (Miller & Chen, 1996a). Finally, competitive nonconformity is the degree of deviation from the annual industry norm in a firm’s repertoire (Miller & Chen, 1996). Nonconformity is also measured as the difference between the proportion of actions of a particular type for a focal firm and its rivals (Ferrier et al., 1999).

In sum, this section first defines competitive action, competitive repertoire. Then we characterize them as a firm’s ordinary capability. We also discuss how to operationalize or measure competitive repertoire. Before we develop our propositions, it is necessary to review the major theoretical lens of competitive repertoire: the attention-motivation-capability (AMC) view. We argue that the capability theory only helps to

integrate EO and competitive repertoire, and we need the AMC lens to articulate the positive relationships between EO and competitive repertoire intensity, complexity, and nonconformity.

**The Attention-Motivation-Capability model.** Competitive dynamism scholars borrowed the expectancy-valence motivation theory to inspect market processes or inter-firm competitive moves between firms (Chen & Miller, 1994). The expectancy-valence motivation framework in Vroom (1964) singled out two preconditions of potential reactions. One is the size of the potential reward, and the other is the probability or capability of conducting the necessary actions to achieve the reward. In the context of competitive actions, Chen & Miller (1994) added one more condition: awareness. In total, Chen & Miller (1994) stated that three factors are driving competitive moves. First, a firm needs to be aware of the attack. Second, a firm will assess the potential return of any counterattack moves and will only respond when it believes the return is big enough. Third, the firm must also estimate whether it has the capability or resources to conduct the response.

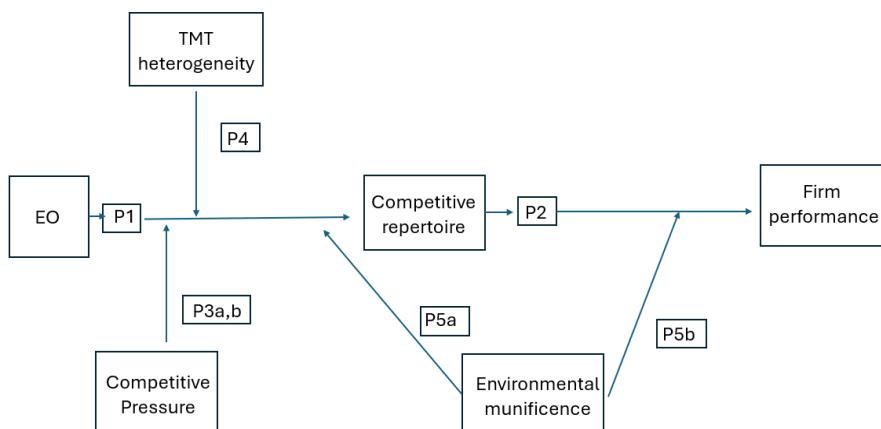
Scholars use the AMC model to analyze both dyadic competitive moves and competitive repertoire. A recent meta-analysis of competitive repertoire borrowed the AMC model to categorize antecedents of competitive repertoire intensity, complexity, and nonconformity into competitive-inducing, inhibiting, and enabling groups (Hughes-Morgan et al., 2018). For example, poor prior performance might induce competitive repertoire intensity; market concentration might inhibit repertoire complexity; and firm slack enables repertoire intensity, complexity, and nonconformity.

In the next section, we will integrate EO and competitive repertoire with the lens of capability theory. We first develop the core relationships between EO, competitive repertoire (intensity, complexity, and nonconformity), and firm performance. Next, based on the nomological framework of the capability theory, we introduce three moderators to further develop the boundary conditions of our theoretical framework. Specifically, we offer competitive pressure as a new moderator.

## PROPOSITIONS: LINKING ENTREPRENEURIAL ORIENTATION AND COMPETITIVE REPERTOIRE

Figure 1 describes our model of theoretical integration of EO and competitive repertoire, including five testable propositions. The figure suggests that EO, as a high-order dynamic managerial capability, influences competitive repertoire (intensity, complexity, and nonconformity) as a low-order ordinary capability. Figure 1 also includes firm performance for two reasons. First, it is important to develop a competitive repertoire as a new pure process mediator of the EO-performance relationship for the EO literature. Second, given the dearth of moderators' studies in the competitive repertoire-firm performance literature (Hughes-Morgan et al., 2018), this inclusion of performance enables us to explicate how environmental munificence moderates the relationship between competitive repertoire and firm performance.

In addition to the main relationships between EO, competitive repertoire (intensity, complexity, nonconformity), and firm performance, Figure 1 also includes three moderators that are within the nomological network of the capability theory and are less examined in the extant EO and competitive repertoire literature. Given that our framework is also subject to other variables like firm size, firm age, slack, and others, it is important to assume that all other related constructs are held constant when this paper develops propositions.



**Figure 1: Integration of entrepreneurial orientation and competitive repertoire**

### ***Entrepreneurial Orientation and Competitive Repertoire***

As discussed before, based on the core tenet of capability theory, EO, as a high-order dynamic managerial capability, drives competitive repertoire as an ordinary capability. Now, we use the AMC model to articulate the positive relationship between EO and competitive repertoire.

Entrepreneurial orientation as a dynamic managerial capability is reflected in a firm's autonomous, risk-taking, innovative, proactive, and competitive aggressive processes. We contend that all those EO dimensions enhance the main drivers of competitive repertoire (awareness, motivation, and capability) and, in turn, positively impact competitive repertoire intensity, complexity, and non-conformity. In other words, EO as a dynamic managerial capability not only induces but also enables competitive repertoire. First, firms with autonomous processes adopt organic organizational structures (Miller, 1983). Employees working in less bureaucratic firms have more freedom to identify, explore, and pursue uncertain market opportunities that might be out of their job description. Thus, autonomy increases the awareness factor and, in turn, drives more competitive moves. Second, firms can select either less-risky exploitative actions or more risky exploration moves. Firms with high EO tend to chase more risky and innovative projects because the top management team is motivated by the first-mover benefits. Put differently, while less risky exploitation activities might increase productivity in the cut-throat markets, risky competitive moves have the chance to make a new market in the blue ocean and enjoy the first-mover benefits (Kim & Mauborgne, 2015). Thus, dominant logic, like risk-taking, increases motivation factors, and risk-taking actions lead to a competitive repertoire consisting of more competitive moves at more complex and more nonconformity levels. Third, proactiveness and competitive aggressiveness processes consist of competitive activities like scanning the market, predicting the competitors' moves, and competing aggressively through price cuts. Those activities increase awareness.

Finally, scholars agree that EO as a firm's dynamic managerial capability is more than a rare, valuable, non-imitable, non-substitutable, and operating capability as per the resource-based view (Barney, 1991; D'Souza & Fan, 2022). In other words, EO also increases the capability factor of the AMC model such that a higher capability will lead to higher levels of repertoire intensity, complexity, and non-conformity. In sum, EO functions as both enabling and inducing of competitive repertoire, thus,

**Proposition 1: All else being equal, EO has a positive relationship with competitive intensity, complexity, and non-conformity.**

### ***Competitive Repertoire as The Mediator of the EO And Performance Relationship***

Proposition two is about the mediating role of competitive repertoire in the EO-performance relationship. First, scholars confirm the positive relationship between EO and firm performance with meta-analyses (Rauch et al., 2009; Soares & Perin, 2020). Next, as we discussed in Proposition 1, EO as a high-order dynamic managerial capability drives competitive repertoire as an ordinary capability as per the core tenet of the capability theory. Additionally, EO has a positive relationship with competitive repertoire because EO induces, enables, and promotes competitive activities as per the AMC model. Now, built upon the positive EO-performance relationship and the posited positive EO-competitive repertoire link, we argue that there might exist a 'domino effect' starting from EO to competitive repertoire, and finally to firm performance (Covin & Wales, 2019). Basically, we suggest that the understanding of the EO-firm performance relationship will be embellished by examining competitive repertoire as the underlying mechanism.

Scholars identify several benefits of the competitive repertoire on firm performance. First, customers or consumers will benefit from competitive repertoire intensity, complexity, and nonconformity through new products or services, price cutting, or others. And happy customers lead to higher performance. At the same time, firms might also benefit from dealing with competitive actions in the market because competitive activities from peers or counterparts trigger different types of learning, especially experimental learning (Hughes et al., 2019). When firms are forced to learn and experiment, their performance will increase. This learning argument is supported by a recent meta-analysis, in which scholars affirmed the positive relationship between competitive repertoire and firm performance (Hughes-Morgan et al., 2018). Taken together, researchers find positive relationships between EO and firm performance, EO and competitive repertoire, and competitive repertoire and firm performance. Thus, it is reasonable to conjecture that competitive repertoire is the mediator of the EO-performance relationship, which means that competitive repertoire intensity, complexity, and non-conformity may positively and indirectly impact firm performance when firms have higher EO. Thus,

**Proposition 2: All else being equal, the competitive repertoire is the mediator between EO and firm performance.**

After examining the core propositions of our framework, we introduce some moderators. As discussed before, moderators might also cause mixed findings in the EO-performance relationship (Wales et al., 2013). Scholars state that moderators are about specific contextual variables that can change the magnitude or even the direction of the main relationships in our framework. While scholars have the freedom to treat contextual variables as either control variables or moderators, simply controlling contextual variables ignores the boundary conditions that explicate how those contextual variables impact the relationships between EO, competitive repertoire, and firm performance (Aldrich and Martinez, 2001). In other words, studying moderators helps with knowledge development.

In the next sections, we select three moderators, including both organizational and environmental factors, based on a recent content-analytic review of dynamic capability by Schilke et al., (2018). First, we include TMT heterogeneity as a less-inspected organizational moderator in the capability framework. Separately, EO literature also encourages scholars to pay more attention to internal moderators like TMT heterogeneity. Next, we include two environmental moderators. Our first environmental moderator is competitive pressure. Defined as the total number of competitive actions a firm needs to address in a given year, competitive pressure is a new construct that firms need to face in their daily business world, but has been less inspected in the scholarly world. Our second environmental moderator is environmental munificence because it is the central contingency variable in the dynamic capability scholarship.

***Organizational Moderators: TMT Heterogeneity***

Organizational moderators examined in the dynamic capability literature include organizational firm size, structure, culture, strategy, inter-organizational structure, other organizational capabilities, and others (Schilke et al., 2018). We argue that TMT heterogeneity is one type of organizational capability that is less studied. Scholars define TMT as a small group of executives at the top of a firm. The TMT comprises the CEO and those who report directly to him (Finkelstein, 2009). Given that TMT members differ from each other in their observable and psychological characteristics like age, gender, education, tenure, functional background, financial position, social network position, personality, values, and others, we contend that TMT heterogeneity represents a firm's capability. To measure TMT heterogeneity, scholars first develop scales that measure different education levels, varied years of tenure, and other demographic features. Then, scholars calculate the TMT heterogeneity score after summing up the individual score of each TMT member.

Before we explore the moderating role of TMT heterogeneity in the relationship between EO and competitive repertoire, we first review the extant scholarship on the role of TMT heterogeneity in the competitive repertoire. In the extant competitive repertoire literature, most studies examined how TMT heterogeneity drives competitive repertoire as an important antecedent, and none examined how TMT heterogeneity moderates the relationship between competitive repertoire and its capability precursor. Conceptually, scholars proposed the positive relationships between TMT heterogeneity and competitive repertoire intensity, complexity, and non-conformity (Hambrick, Cho, & Chen, 1996). Empirically, Ferrier (2001) found the positive influence of TMT heterogeneity on competitive repertoire. Separately, a recent meta-analysis found that TMT heterogeneity has a positive relationship with competitive repertoire intensity but a negative relationship with competitive repertoire complexity (Hughes-Morgan et al., 2018).

Now we introduce two competing social psychological lenses to examine both the positive and negative moderating effects of TMT diversity on the EO-competitive repertoire relationship. The information-decision-making theory states that decision quality is a function of what and how information is exchanged within a team (Bantel & Jackson, 1989; van Knippenberg et al., 2004). From this point of view, TMT heterogeneity has a positive moderating effect because TMT diversity brings more information from different perspectives and improves the decision quality of competitive repertoire. Thus,

**Proposition 3a: All else being equal, TMT heterogeneity has positive moderating effects on the positive relationship between EO and competitive repertoire.**

In contrast, the similarity-attraction theory emphasizes the potential negative outcomes of a diversified team (Williams & O'Reilly, 1998). It says that team heterogeneity stimulates not only communication problems but also fault lines or small sectors and, in turn, decreases both the quality and

efficiency of decision-making. Thus, a top management team consisting of a more heterogeneous demographic and cognitive background will reduce the competitive repertoire intensity, complexity, and non-conformity because of increased communication costs, thus,

**Proposition 3b: All else being equal, TMT heterogeneity has negative moderating effects on the positive relationship between EO and competitive repertoire.**

***Environmental Moderators: Competitive Pressure and Environmental Munificence.***

Environmental factors reviewed by Schilke et al., (2018) include industry sector, geographic area, environmental dynamism, and competitive intensity. In this study, we introduce competitive pressure as our first environmental moderator.

**Competitive pressure.** We define competitive pressure as the total number of competitive activities a firm needs to address in a given year. This construct is built upon the theory of similarity (Chen, 1996; Tversky, 1977). It states that the similarity between the two firms is directional. In other words, 'firm A is like B' differs from 'firm B is like A'. Having this asymmetry in the context of competitive repertoire, it is logical to state that each firm has its unique competitive repertoire, given that each has its specific competitors from either the same or different product lines.

After defining competitive pressure, we borrow the attention-based view (ABV) to examine its moderating role in the EO-competitive repertoire relationship. The ABV assumes that the CEO does not have infinite attention and that one needs to consume his/her limited attention to attend to and respond to competitive moves (Ocasio, 1997). The ABC has three principles: attention dimensions, situated attention, and attention distribution. The principle of situated attention provides a perfect lens to explain how competitive pressure drains limited CEO attention more quickly. When a firm faces more competitive activities in the market, its CEO needs to allocate more of his/her attention to identifying, interpreting, and responding to those competitive moves, resulting in less attention to forming or initiating a firm's competitive repertoire. Thus,

**Proposition 4: All else being equal, competitive pressure has negative moderating effects on the positive relationship between EO and competitive repertoire.**

**Environmental munificence.** We introduce environmental munificence as our second environmental moderator. Scholars define munificence as the market capacity and operationalize it as the five-year average growth in net sales and operating income in particular industries grouped at the 4-digit SIC level (Keats & Hitt, 1988). A munificent environment like a high-tech industry provides many opportunities for firms to grow or diversify their business.

We argue that the moderating effects of environmental munificence on the EO-competitive repertoire relationship differ from those on the competitive repertoire-performance relationship. First, in the relationship between EO and competitive repertoire, scholars focused on the competition-inhibiting role of market munificence in competitive repertoire literature. They argue that firms do not need to practice cut-throat competition in a growth market filled with ample opportunities. In other words, instead of digging deeply into a tit-for-tat competition, firms can choose to pursue new opportunities in a munificent market. Further, there is a price tag to develop and launch any competitive action. Firms need to consume resources to increase the competitive repertoire's number, complexity, and non-conformity. Thus, the moderating effect of a munificent market on the EO-competitive repertoire is negative (Hughes-Morgan et al., 2018).

**Proposition 5a: All else being equal, environmental munificence has negative moderating effects on the positive relationship between EO and competitive repertoire.**

Conversely, in the relationship between competitive repertoire and firm performance, we conjecture the positive moderating role of environmental munificence. First, a munificent environment provides more entrepreneurial opportunities than a mature and concentrated environment. In other words, firms that can launch more competitive activities at higher levels of complexity and non-conformity will benefit from such a growth market, given that their competition routines enable them to improve their firm performance through implementing new competitive actions like products and services and, in turn, take advantage of the first-mover benefits. Thus,

**Proposition 5b: All else being equal, environmental munificence has positive moderating effects on the positive relationship between competitive repertoire and firm performance.**

## DISCUSSION AND IMPLICATIONS

There are several motivations for this study. First, Wales et al. (2013) encourage future studies to identify isolated pure processes as a mediator of the EO-performance relationship so that the underlying mechanism of how EO influences performance can be articulated objectively. With the lens of the capability theory, this study first theoretically integrates EO and competitive repertoire. Further, this study posits that competitor repertoire mediates the EO-performance relationship. Second, this study is also motivated by the dearth of research on the capability antecedents of competitive repertoire (Hughes-Morgan et al., 2018). With the capability lens, we posit that EO positively drives competitive repertoire. Finally, this study expands the nomological framework of dynamic capability by introducing three moderators that are within but are less examined in either the EO or competitive repertoire literature.

### *Implications*

This study offers theoretical, methodological, and practical contributions. Theoretically, it integrates two research streams, EO and competitive repertoire, with the lens of capability theory. The potential implications of our theoretical framework are more than a timely reply to the call of integrating EO and competitive strategy discussed in Zahra et al., (2014). First, it contributes to EO literature in several ways. Specifically, it introduces competitive repertoire as an approximal outcome or mediator in the EO-performance relationship. This is a timely reply to the call to identify pure processes in the EO studies (Wales et al., 2013). Next, our proposition development is based on characterizing EO as a high-order dynamic managerial capability and competitive repertoire as an ordinary capability. Our conceptual framework suggests that EO manifestation at the market level shall include competitive repertoire (Wales et al., 2020). In other words, EO manifestation at the market level is more than new entries. Given the paucity of new entries, this study suggests that scholars might consider using competitive repertoire as a complementary or substitute when gauging the magnitude of market manifestation. Thus, this study also extends our understanding of EO as a multi-level manifestation (Wales et al., 2020).

Second, this study also contributes to the competitive repertoire literature by introducing and examining EO as an entrepreneurial capability antecedent of competitive repertoire. Given that there is only one study that connects Porter's generic competing strategy with competitive repertoire in the extant competitive repertoire literature (Hughes-Morgan, 2018; Smith et al., 1997), our study might open a new research genre that inspects how capability, knowledge, and learning drive a firm's competitive repertoire. Separately, the three moderators (TMT heterogeneity, competitive pressure, and environmental munificence) that we include in our framework offer the boundary conditions of the causal chain relationships between EO, competitive repertoire, and firm performance. Further and more importantly, this study introduces competitive pressure as a new external moderator.

In addition to the theoretical contributions to both EO and competitive repertoire literature, our conceptualization of EO as a high-order dynamic managerial capability justifies and enables the use of the content analysis method to operationalize EO, given that managers use public communications like 10-K reports or earnings call to manifest their dynamic managerial capabilities. Thus, this study also has methodological implications if we believe that content analysis is a more objective measure when compared with the traditional survey method. Recently, Putnins & Sauka (2020) did a thorough review of empirical studies addressing the EO-firm performance relationship. Of the total 54 empirical studies included in their review, 53 studies operationalized EO by either surveys or interviews, and only 1 study by the secondary dataset. The potential problems of the ritualized use of questionnaires are well discussed in the context of leadership literature (Fischer et al., 2023). They pointed out that the survey method has problems like representing actual behaviors, reporting bias, and endogeneity issues. They concluded that findings from surveys or interviews are difficult to replicate, making knowledge accumulation impossible.

Finally, this study also offers practical implications. Scholars admit that irrelevance is a bigger concern in entrepreneurship scholarship when academic research is not based on real-world impactful problems like how firms compete in the market (Wiklund, Wright, & Zahra, 2019). Further, constructs, especially those conceptualized at high abstract levels, are not the business language for managers. For instance, managers might find it difficult to understand EO. Conversely, managers, regardless of which firm

they work with, will have their competing playbooks that detail their competitive repertoire. Managers rely on this competitive repertoire playbook to make quick decisions about how to initiate or respond to competitive activities regularly, if not daily. Thus, this study opens up the possibility of developing a prescriptive playbook of competitive repertoire that helps managers compete in the market.

### **Limitations and Future Directions**

This article theoretically integrates EO, competitive repertoire, and firm performance, and offers five propositions after including three moderators. Although it is the first important step to integrate EO and competitive repertoire, this article might be limited in several areas. Our first limitation lies in our parsimonious framework that characterizes EO as a dynamic managerial capability and competitive repertoire as an ordinary capability. What is missing in this model is the role of dynamic capability or low-order dynamic capability (Fainschmidt et al., 2016). We believe that including some dynamic capabilities, like resource orchestration capability, will further articulate the process of how EO leads to firm performance.

Next, this study has limitations in the construct measurement of competitive repertoire. Specifically, we focus on competitive intensity, complexity, and nonconformity to develop our propositions. In other words, our propositions might not hold if a competitive repertoire is operationalized by its simplicity, inertia, and others (Miller & Chen, 1996). Recently, scholars have started to add the temporal (short-term vs. long-term) and passivity (offense vs. defense) dimensions of competitive repertoire (Nadkarni et al., 2016). Further, in addition to the objective measurement of competitive repertoire, scholars also used subjective scales to measure how competitive tension drove competitive intensity (Chen, Su, & Tsai, 2007). Thus, we encourage scholars to develop and test the relationships between EO and other measurements of competitive repertoire.

Finally, due to space limitations, this article does not explore the potential feedback loop between EO, competitive repertoire, and firm performance. Scholars confirm that feedback loops exist in both EO-performance and competitive repertoire-performance relationships. Thus, it is logical to assume that competitive repertoire as a reflection of a firm's competitive routine might influence EO, the firm's entrepreneurial routine. With the lens of the behavior theory of the firm, we encourage scholars to explicate how different competitive repertoires (intensity, complexity, nonconformity, and others) might help adjust EO levels. Additionally, Andrevski & Ferrier (2019) empirically confirmed the inverse U-shaped relationship between competitive repertoire and firm profitability. Thus, will the interaction between EO and competitive repertoire be linear or curvilinear? This is the question of too much of a good thing.

### **CONCLUSION**

This study integrates EO with the competitive repertoire by the capability theory. Further, it introduces three moderators (including competitive pressure, defined as the total number of competitive moves a firm faces in a given year, as a new environmental moderator) to examine the boundary conditions of the relationships between EO, competitive repertoire (intensity, complexity, and nonconformity), and firm performance. Five testable propositions are offered. By doing so, this study affords theoretical, methodological, and practical contributions. Ideas around adding dynamic capability, different measurements of competitive repertoire, and feedback loops are discussed for future development.

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