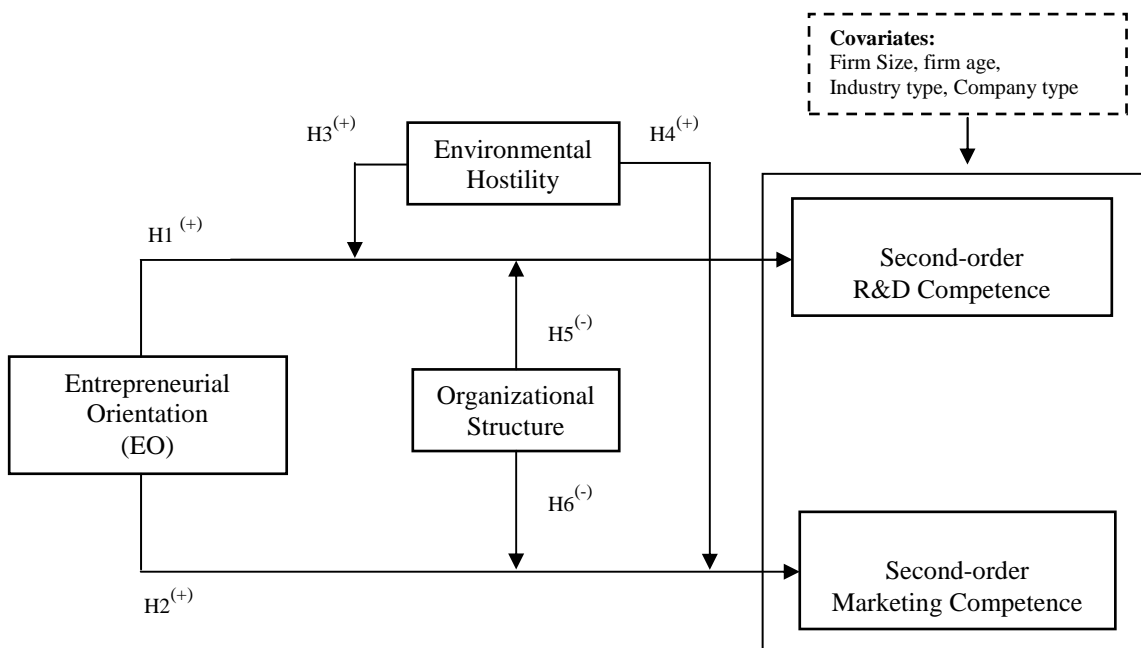


**ABSTRACT**

The influence of Entrepreneurial Orientation (EO) on a firm’s performance and success is broadly recognized. Similarly, second-order competences—defined as the firm’s competence to build new competences—as a critical resource of a firm’s competitive advantage are also important to a firm’s success. However, the direct association between EO and second-order competences remains largely elusive. Our study investigates in what ways and how EO associates with second-order R&D and Marketing competences while accounting for specific contingencies. We mainly argue that a firm’s manifestation of EO behavior benefits second-order competences; yet, while such gained effects are enhanced as environment hostility increases, these benefits are diminished by organizational structure. Analysis of data, collected using a web-based survey from executives of firms from different industries, using regression modeling, provide support to our main arguments and some support to the contingency factors. Important and novel theoretical and managerial implications emerge from this study.

**KEY WORDS**

**Second-order Competences, Entrepreneurial Orientation, Resources, Organizational Structure, Environmental hostility.**



**Figure 1: A schematic model of second-order competences and contingent factors in context of firm-level entrepreneurial behavior.**

**THEORETICAL FRAMEWORK**

We present a research synthesis of a firm-level entrepreneurial framework that is inspired by Miller,(1983, 2011) and Covin and Slevin (1989). Entrepreneurial Orientation (EO)—viewed in this study as a composite formative construct (Covin and Lumpkin, 2011) that summates a firm’s manifestation of innovativeness, risk taking, proactiveness—has been theoretically articulated and

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empirically tested to have a moderately large influence on firm performance (Rauch, Wiklund, Lumpkin, and Frese, 2009). The association between EO and a firm's second-order competences (SOC) remains under-researched, and we propose that this is a crucial element of the black box of the EO-performance relationship that needs urgent unpacking. By second-order competences of the firm, we refer to a firm's capacity to be "identify, evaluate, and incorporate new technological and/or customer competences into the firm" (Danneels, 2002:1097). Said differently, it is the firm's ability to build new competences such as second-order R&D and marketing competences that explore and build new technologies and new markets respectively (Danneels, 2008).

This research framework adopts the Resource-Based View of the firm (RBV) argument in that it is only when the firm successfully secures valuable, rare, inimitable and non-substitutable, collectively known as internal (VRIN) resources, that it would be able to sustain its competitive advantage and economic rent performance (Penrose, 1958; Barney, 2001; Barney, 1991; Barney, Ketchen, and Wright, 2011). To that end, we examine two forms of a firm's SOC as beneficially influenced by a firm's EO behavior, as reflected by its Innovativeness, proactiveness, and risk-taking. We further argue that such gained benefits influenced by two contingent factors 1)-a firm's external environment hostility and 2)- organizational structure, illustrated in (Figure 1). We acknowledge that (EO) is "a strategic construct whose conceptual domain includes certain firm-level outcomes and management-related preferences, beliefs, and behaviors as expressed among a firm's top-level managers" (Covin, Green, and Slevin, 2006:57).

By linking EO and a firm's second-order competences, while accounting for two important and widely used organizational contingencies – namely, environmental hostility and organizational structure- our objective is to offer a parsimonious framework to deepen our understanding, in context of firm-level entrepreneurship, of what and how a firm's manifestation of EO behavior and decision making styles influence second-order competences. A firm's SOC contribute to the larger firm's VRIN internal resources necessary to sustain the firm competitive advantage and generate economic rent (McGrath, MacMillan, and Venkataraman, 1995; McGrath, Tsai, Venkataraman, and MacMillan, 1996). Such specific resources reflect the firm capacity of being entrepreneurial as influenced by strategic decision choices managers make (Galunic and Rodan, 1997). Said differently the firm's various entrepreneurial and strategic *behavior & decision styles* (Lumpkin and Dess 1996; Miller, 1983) would influence these firm internal "inducements" (Penrose, 1958) as the firm critical means to achieve corporate business goals.

This study contributes (1) to entrepreneurship literature by proposing an improved parsimonious model of EO and SOC association. In doing so, we respond to call of Zahra (2007) and Wiklund, Davidsson, Audretsch, and Karlsson (2011) as we integrate an emerging phenomenon and a promising theory - competence development and resource-based view perspective- respectively. (2) The model integrates two factors that have been consistently viewed of important influences on organizations (Burns and Stalker, 1961; March and Simon, 1958; Mintzberg, 1973; Mintzberg, 1979;

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Thompson, 1967; Thompson, 1961). In doing so, our model proposes an extended understanding of EO and SOC association that accounts for contingencies and with measureable magnitudes. And finally (3), we hope to broaden our understanding on how, and in which way, SOC's could be viewed as entrepreneurial opportunities that a firm can pursue while developing its competence-based competitive advantage that, in turn, invites economic rent and growth. In particular, a firm's ability to extend its competences are "specific and identifiable processes" (Barreto, 2010:260) with core role to changing key internal firm elements, change according to market changes and rely on existing and new knowledge (Eisenhardt and Martin, 2000). Consequently, assumptions of development of a firm's SOC's are of dynamic nature and (re)engineered through idiosyncratic path dependencies as the firm exhibits entrepreneurial predisposition and postures to sustain and extend strategic competitiveness.

### **Towards a moderated Entrepreneurial Orientation and firm competences framework**

Firm-level entrepreneurship reflects forward thinking to strategic insights and actions towards the future in ways not seen or done by competitors. Yet, these innovative futuristic insights (Miller, 1983) bear elements of high risk and uncertainty of their success (Miller, 1983; 2011). Taking into account heterogeneity of information distribution among firms, not all firms possess the same and complete information, and thus, with '...some irreducible uncertainty remains in an industry, firms will be unable to anticipate perfectly which particular changes in an industry will cause a revolution or which firm or firms will be the sources of this change' (Barney, 1986:796). This, in turn, will differentiate the leading firm (s)-those that have successfully developed, through their strategic forward-thinking and efforts, idiosyncratic capacities and resources to earn a Schumpeterian – competition leading position in the industry. Other firms that possess different idiosyncratic resources and capacities would have the ability to adapt and follow the lead, while those that lack either, will simply disappear.

So the entrepreneurial firm puts efforts and mobilizes necessary resources to clarify such ambiguity and reduce uncertainty of these insights by securing the rightful information; the latter two remain largely unexplored by the competitors (Amit and Schoemaker, 1993). This is achieved from sensing and capture various signals and aspects of its environment (Covin and Miller 2014; Covin and Lumpkin, 2011) and from having the appropriate structure (Miller, 2011). As such, a firm's EO behavior creates the tendency to explore new competences that lead to promising future performance, and also, to prevent the firm from falling into a "competency trap" (Levinthal and March, 1993) and ultimately demise.

Competence development of the firm is a pivotal concept in entrepreneurship but extant literature on it lacks consensus on how it is impacted with a range of entrepreneurial phenomena, and an integrative parsimonious predictive model is yet to emerge. Nevertheless, Covin & Slevin (1991) and Zahra, Nielsen, and Bogner (1999) insightfully put forth models that captured cascade effects of firm-level entrepreneurship behavior while accounting for specific contingent factors of

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“competence”, external environment” and “internal organization factors”, among other factors. However, empirical support to validate their proposed models, to our knowledge, is yet to be achieved.

Towards that end, this study develops, and then, tests, an integrative and a revised model of firm-level entrepreneurial behavior to that of Zahra, Nielsen, and Bogner (1999) and Kokash and Hughes (2014). Informed by resource-based view of the firm (Penrose, 1958) and the Schumpeterian competition (Schumpeter, 1950), and contrary to advocated position of entrepreneurship literature on firm’s competences (Dess, Ireland, Zahra, and Floyd, 2003; Zahra, Nielsen, and Bogner, 1999), it is theorized that a firm’s EO yields direct influence on a firm’s second-order competences. Additionally, while such an effect is positively influenced by environmental hostility, it is, however, negatively influenced by organizational structure.

Researchers in entrepreneurship and strategy have broadly advocated for the business environment and structure as influential factors on a firm’s entrepreneurship (Burns and Stalker, 1961; March and Simon, 1958; Mintzberg, 1973; Mintzberg, 1979; Thompson, 1967; Thompson, 1961). In concurrence with previous research, our model integrates these two factors. Most EO research either assessed the influence of environment hostility on EO, and that such research yielded different results (Rosenbusch, Rauch, and Bausch, 2011), or examined hostility as a moderator to EO and performance association (Covin and Lumpkin, 2011). For example, in their meta-analysis, Rauch, Wiklund, Lumpkin, and Frese (2009) found a significantly pronounced effect size of hostility moderating the EO and performance relationship.

Similarly, structure has been theoretically articulated and empirically tested to have a profound influence on the entrepreneurial firm. Burns and Stalker (1961) were the first to theoretically articulate organizational structure on a bipolar dimension ranging between mechanistic versus organic. While the latter is characterized by loose control, increased spread of information and knowledge and informal control mechanisms, the former is characterized by centralized and hierarchical mode of control, limited access to information and with more focus on formal procedures. Theory also suggests that the association between decision making and organizational structure help alleviate levels of uncertainty and ambiguity the organization could face and offer better capability to anticipate, plan, prepare and implement appropriate strategies for product market dynamics and competition (Green, Covin, and Slevin 2008; March and Simon, 1958; Miller, 1983; Mintzberg, 1979). In concurrence with these literatures, in our proposed model, we deploy environmental hostility and structure as moderators.

In general, we assume that a basic competence permits a firm to fundamentally exist within its business environment. We also assume that performance difference among firms is due not only to heterogeneity in these basic competences, but rather to heterogeneity in the set of competences this research labels them second-order competences. A firm’s manifestation of entrepreneurial behavior and decision making style is the root-cause, among others, of heterogeneity of second-order

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competences relative to its competitors as it aims to build a sustainable competitive postures (Alvarez and Busenitz, 2001; Barney, 1991). Therefore, these entrepreneurial postures will have a positive impact on the second-order competences. We predict the following:

- EO positively associates with a firm's second-order R&D competence (H1+).
- EO positively associates with a firm's second-order Marketing competence (H2+).

Additionally, for second-order competences of a firm to work as entrepreneurial growth opportunities it is important to account for hostility and structure moderating influences. Consequently, we predict that:

- Environmental hostility has a positively moderating influence on EO and second-order R&D competence and on EO and second-order Marketing competence (H3+ and H4+ ) respectively
- Organizational structure has a negatively moderating influence on and second-order R&D competence and on EO and second-order Marketing competence (H5- and H6- ) respectively

### **METHODOLOGY**

We test our model in an empirical context that has the firm as our level of analysis and the sample is derived from various industries. Data collected using web-based survey, and in line with similar entrepreneurship research, our addressed respondents were most knowledgeable person inside the organization –the CEO or an executive board member. After contacting 94 companies, only 37 firms accepted to participate, from the following sectors- Healthcare, IT and telecommunication-, yielding our final surveys to a 75 respondents. Given the nature of employed model construct measurements, we used CFA and ordinal logistic regression modeling and non-parametric analysis to test our hypotheses and validate results rigor. Our data analysis 1) confirmed validity and reliability of our model five main constructs as reported by previous research, and 2) supported our model main predicted relationships. Specifically, we found support to: association of EO and second-order R&D and Marketing competences respectively. Additionally, we found partial support to our moderating predictions.

### **DISCUSSION AND CONCLUSION**

This study proposed a theory compelling model, with empirical evidence, to examine what and how VRIN resources- in this study SOCs- can serve as vehicle for entrepreneurial growth opportunities. We argued that a firm's exhibiting entrepreneurial behavior serve to develop firm competences. Building on RBV, and inspired by Miller (1983), Covin and Slevin (1991) , and Zahra and colleagues (1999), we theoretically linked and measured the effect of what and how a firm's SOCs are influenced by its entrepreneurial behavior and decision making styles. This is important to build sustainable competitive postures (Alvarez and Busenitz, 2001; Barney, 1991). Constant changes in business environment render previously developed competences obsolete, and pressure a firm to be

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“competence competent” (Danneels, 2008). Entrepreneurial orientation is one potential avenue for to build such competence-based competitiveness. This study probes for many such research avenues to further unveil other second-order competences a firm can develop, what other moderating roles, in various contexts, hostility and structure might have on the relationship between EO and SOCs, what and how the latter relationship could also be influenced by other contingency factors such as human capital and social capital. Managers could also benefit from proposed model as a tool to help them examine, assess and measure the impact of their decisions that are intended to enhance a firm’s growth, the selection of appropriate growth strategies, structure, and addition (or) deletion of selective competences that ultimately influence performance. Additionally, this approach could offer executive managers an assessment technique to improve selective mechanisms of what and how to allocate critical organizational investment resource, while managing structure and business environment dynamics.

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