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The effect of entrepreneurial orientation on new venture performance: Contingency roles of entrepreneurial actions

Abstract

The performance implication of entrepreneurial orientation (EO) has been the subject of extensive scholarly discussions. However, its application to new venture firms remains unclear. This study examines the EO–performance relationship by drawing insights from the intention–behavior model to argue that the effect of EO on new venture performance is contingent on entrepreneurs' actions (i.e., opportunity discovery, business networking, and institutional support seeking). This study tests this argument using structural equation modeling on a sample of 229 new ventures in a sub-Saharan African country. The findings show that entrepreneurial opportunity discovery fully mediates the relationship between EO and new venture performance and reveals how this indirect effect relationship is strengthened when business networking and institutional support increase. With these findings, the study advances knowledge in entrepreneurship research and provides insights into how entrepreneurial actions can enhance the relationship between EO and new venture performance.

Keywords: Intention–behavior model; Entrepreneurial orientation; Entrepreneurial action; New venture performance; Structural equation modeling

1. Introduction

The performance of new ventures continues to attract significant attention in the entrepreneurship literature (Wang, Thornhill, & De Castro, 2017). While research has revealed several determinants of new venture performance (e.g., Bruton, Su, & Filatotchev, 2018; Burke, Fraser, & Greene, 2010; Jin, Madison, Kraiczy, Kellermanns, Crook, & Xi, 2017; Song, Wang, & Parry, 2010), evidence shows that new ventures face major constraints (e.g., issues of newness, smallness, financial constraints, and limited recognition) that can undermine their survival (Fisher, Kotha, & Lahiri, 2016; Larrañeta, Zahra, & González, 2012). While entrepreneurial orientation (EO) is a major determinant of new venture performance (e.g., Wang et al., 2017), important research questions that remain are how and under what conditions new ventures maximize performance benefits from EO.

Since the early works of Covin and Slevin (1989) and Lumpkin and Dess (1996), studies have explored several EO frameworks, with most focusing on its performance outcomes (e.g., McGee & Peterson, 2019; Wang et al., 2017). Despite the progress made to date, the sum of extant EO research reveals mixed and inconclusive empirical evidence (see, e.g., Anderson, Kreiser, Kuratko, Hornsby, & Eshima, 2015). For example, whereas some studies find that EO is a strong predictor of performance over time (e.g., McGee & Peterson, 2019; Wales, 2016), others provide evidence that EO does not affect performance at all (e.g., George, 2011). This lack of convincing empirical evidence on the EO–performance link has led researchers to begin investigating potential sources of the apparent empirical disjunction (e.g., Engelen, Kube, Schmidt, & Flatten, 2014).

In this respect, studies have identified EO's conceptualization and operationalization (e.g., Anderson et al., 2015; McKenny, Short, Ketchen, Payne, & Moss, 2018), firm type (Wang et al., 2017), and configuration dynamics (McKenny et al., 2018) as possible sources of the empirical inconsistencies. Research further argues that lapses in theoretical specification of the underlying causal mechanisms may account for the existing conflicting empirical evidence (Cui, Fan, Guo, & Fan, 2018; Wales, 2016). While entrepreneurial actions such as opportunity discovery behavior may

be possible mechanisms (Covin & Miller, 2014; Lumpkin & Dess, 1996), theoretical exposition on the processes of entrepreneurial actions that connect EO with performance remains under-developed.

Accordingly, this study draws on the intention–behavior model to explain the entrepreneurial action mechanism that links EO to performance (Wales, Wiklund, & McKelvie, 2015). While EO captures the tendency of entrepreneurs to be proactive in taking risks to exploit product–market opportunities, entrepreneurial activity captures the actions of entrepreneurs to discover and exploit new entry opportunities (Lumpkin & Dess, 1996; van Gelderen, Kautonen, Wincent, & Biniari, 2018). Thus, while EO reflects entrepreneurs' general strategic posture toward an entrepreneurial activity, entrepreneurial actions encapsulate actual manifestations of entrepreneurial activity (Kautonen, van Gelderen, & Fink, 2015). This distinction reflects the intention–behavior model, which contends that an intention is a precursor to manifestation of an action (Ajzen, 2011; Armitage & Conner 2001; Sheeran, 2002). From this perspective, we argue that a proclivity to engage in entrepreneurial activity is a determinant of actual manifestation of entrepreneurial action (Poudel, Carter, & Lonial, 2019; Wales, 2016).

Drawing from the intention–behavior model, previous research on strategic orientations, and Lumpkin and Dess's (1996) call for research that examines causal linkages between EO and new entry behavior, the current study pushes the boundaries of EO research by accounting for entrepreneurial processes through which EO influences new venture performance. From the foregoing arguments, and with reference to a recent conceptualization of EO as "a strategy-making process that provides organizations with a basis for entrepreneurial decisions and actions with the purpose of creating a competitive advantage" (Lomberg, Urbig, Stöckmann, Marino, & Dickson, 2017, p. 973), we specifically examine how entrepreneurial actions serve as boundary conditions to the relationship between EO and new venture performance.

This study makes at least three important contributions to the EO literature. First, it advances EO research by drawing on the tenets of the theory of planned behavior (TPB) (Ajzen, 1991, 2011)

to theoretically specify and empirically validate an EO–entrepreneurial action–new venture performance model that explains how variation in EO (an attitudinal construct capturing intentions of entrepreneurs) influences actionable entrepreneurial opportunity discovery behaviors for an onward effect on new venture performance. This organizing framework is consistent with the TPB argument that intentions precede behaviors (Ajzen, 1991; Krueger & Carsrud, 1993).

Second, in view of the growing scholarly interest in understanding the conditions that are more or less beneficial to new venture performance (Wales, 2016), this study further extends the EO–entrepreneurial action–new venture performance model by integrating social capital theory with TPB to account for the moderating effects of two behavioral contingencies (i.e., business ties and institutional support–seeking behaviors). We specifically show that entrepreneurial ventures' ability to develop and leverage business network ties and capability to gain institutional support for entrepreneurial actions are key contingencies for strengthening the effect of EO on new venture performance through opportunity discovery actions.

Third, we make an empirical contribution by collecting primary data from new ventures operating in a unique and under-researched context in sub-Saharan Africa (Ghana). By employing structural equation modeling (SEM) and path-analytic techniques to test our proposed model (e.g., Acosta, Crespo, & Agudo, 2018; Cui et al., 2018; Mahrous & Genedy, 2019), we advance EO research by accounting for measurement error in the specification and interpretation of the effect of EO on new venture performance. Fig. 1 introduces the study's conceptual model.

-Figure 1 about here-

2. Theoretical background and hypotheses

2.1. EO and new venture performance

EO captures the "methods, dispositions, practices, and decision-making styles managers use to act entrepreneurially" (Lumpkin & Dess, 1996, p. 136). Since the seminal work of Miller (1983), EO has developed into one of the most researched topics and applied firm-level phenomena in the entrepreneurship literature (Anderson et al., 2015), thus becoming a significant strategic orientation

for firm growth and survival. With EO as a focal construct, research has mainly centered on its conceptualization and consequences. Two major conceptualizations of EO have emerged in the entrepreneurship and strategy literature, each making significant theoretical and empirical contributions to research in its own way (Covin & Lumpkin, 2011).

The first conceptualization is Covin and Slevin's (1989) unidimensional view that explains the common effect of the EO dimensions. According to Covin and Slevin (2011, p. 863), "EO can be understood as a sustained firm-level attribute represented by the singular quality that risk taking, innovative, and proactive behaviors have in common." The second conceptualization presents EO as a multi-dimensional construct (see Lumpkin & Dess, 1996), in which the EO dimensions are modeled to independently to affect business performance. Despite the differences in conceptualizations, firm-level EO connotes the entrepreneurial characteristics and philosophical dispositions of firms.

The consequences of EO have also received considerable attention in extant literature. In addition to traditional outcome variables such as accounting, financial, and market-based performance measures (McGee & Peterson, 2019; Wang et al., 2017), research has modeled EO to influence other outcomes, such as knowledge generation (Kreiser, 2011), strategic alliances (Marino, Strandholm, Steensma, & Weaver, 2002), strategic learning (Anderson, Covin, & Slevin, 2009), technology commercialization (Li, Guo, Liu, & Li, 2008b), and, most recently, firms' financial decisions (Vaznyte & Andries, 2019). Studies examining EO's influence on business performance, however, contend that the relationship may be surrounded by contingencies and intervening mechanisms (Cui et al., 2018; Lee, Zhuang, Joo, & Bae, 2019). For example, Wang et al. (2017) argue that EO's effect on performance is dependent on new ventures' cognitive, regulative, and normative legitimacy levels.

2.2. The intervening role of entrepreneurial opportunity discovery

Miller's (1983, p. 771) classic work on EO argues that "an entrepreneurial firm is one that engages in product–market innovation, undertakes somewhat risky ventures, and is first to come up

with ‘proactive’ innovations, beating competitors to the punch.” More recently, EO has included a firm’s orientation to entrepreneurial decision making that can lead to new entry, with new entry capturing a firm’s manifest discovery and exploitation of product–market opportunities (Lumpkin & Dess, 1996). However, as an attitudinal construct, capturing the intentions of senior managers, EO may not always directly affect performance (Rauch, Wiklund, Lumpkin & Frese, 2009). In taking a cue from the intention–behavior model, which views intention as an immediate antecedent of behavioral action, we argue for a mediation model in which EO serves as a precursor for the discovery of entrepreneurial opportunities (Anderson & Eshima, 2013; Wales et al., 2015) and then entrepreneurial opportunity discovery affects performance.

We provide two explanations to support this contention. First, EO captures firms’ general tendencies and strategic dispositions to engage in entrepreneurial activities (e.g., Covin & Wales, 2019); thus, EO serves as a driver of firms’ abilities to discover and exploit entrepreneurial opportunities. Given their general disposition to entrepreneurial opportunities, entrepreneurially oriented firms are likely to engage in activities that enable them to spot gaps in the marketplace (Wang, Dass, Arnett, & Yu, 2020). EO firms’ proclivity to proactively innovate and take on risk may serve as an important driver to new market opportunity discovery (Patel, Kohtamäki, Parida, & Wincent, 2015). For example, proactiveness describes opportunity-seeking and forward-looking orientations that drive firms to pursue entrepreneurial endeavors and activities ahead of the competition (Covin & Wales, 2012).

Second, entrepreneurship research has underscored the need to include key organizational outcomes (e.g., new venture creation) in the analysis of entrepreneurial opportunity processes (Short, Ketchen, Shook, & Ireland, 2010; Smith, Matthews, & Schenkel, 2009). Alvarez and Busenitz (2001) argue that entrepreneurially oriented firms have the propensity to take risk to translate new products and services into market opportunity (in the form of new venture creation) to generate new wealth. For example, greater EO disposition would enable a firm to identify emerging and underexploited customer needs and spot market gaps ahead of the competition. With successful

exploitation of such new market opportunities ahead of the competition, EO firms are able to diversify their revenue streams, minimize vulnerability of their revenue to competitive encroachment, and exploit their early market entry to serve innovative consumer market segments ahead of competition. Given that consumers of new products and services tend to have a propensity to pay premium prices, EO firms are therefore also more likely to recoup their investments ahead of competitive entry (Sundqvist, Kyläheiko, Kuivalainen, & Cadogan, 2012). Some studies have argued that EO firms can prolong their dominance in a new market by erecting entry barriers for competitors, such as increasing switching costs for consumers and raising product quality benchmarks for future market players (Becerra, Santaló, & Silva, 2013; Davcik & Sharma, 2015). We argue that increases in such entrepreneurial actions can help EO firms increase their profitability, margins, and market share. Thus:

H1. New ventures' ability to discover and exploit new market opportunities positively mediates the effect of EO on new venture performance.

2.3. Business ties and institutional support as boundary conditions

The realization and exploitation of opportunities usually involve multiple and complementary assets and actions (Foss & Klein, 2012), which means that firms must possess the necessary resources to effectively exploit market opportunities to ensure performance. However, new ventures usually suffer from the liability of newness and may not possess costly resources (relative to established firms) to effectively capture opportunities (Wang et al., 2017). As such, less complex and demanding resources, such as business ties and institutional support, emerge as alternative resources for exploiting new opportunities. First, we view business ties as action-based resources that entrepreneurs can use to their advantage. Thus, to pursue and exploit new market opportunities, entrepreneurs will need to take actions in upgrading their network capabilities (Zhou, Barnes, & Lu, 2010) by building relationships with customers, suppliers, competitors, and collaborators. Second, the support available in the institutional environment can affect the effectiveness of entrepreneurial actions (Shirokova, Osiyevskyy, & Bogatyreva, 2016). For

example, factors such as access to capital and formal and informal institutional frameworks can influence entrepreneurial intentions and subsequent behaviors (Engle et al., 2011). We therefore argue for the inclusion of these boundary conditions in the current framework.

2.3.1. The moderating role of business ties

Business ties refer to firms' informal associations and connections with business organizations, including buyers, suppliers, competitors, customers, and other market players (Sheng, Zhou, & Li, 2011). Business ties serve as an important strategic opportunity for firms to gain information on market gaps, customer needs, and survival, especially when institutional frameworks are weak, newness and resource constraints are a liability (Li, Poppo, & Zhou, 2008a), and environmental uncertainties and complexities are common (Li & Zhou, 2010). Accordingly, we view business ties as an important strategic resource that, when combined with opportunity discovery, will enhance firm performance.

New ventures are usually characterized by key resource constraints, including financial resources (Fisher et al., 2016; Wang et al., 2017). Developing good relationships with business partners can be an important tool in overcoming these constraints and help entrepreneurs effectively exploit opportunities and gain advantages (Ebbers, 2014). Through business ties, new ventures can reduce transaction costs while enhancing resource exchange, knowledge transfer, and information sharing (Li, Zhou, & Shao, 2009) among and between partners. Thus, through information sharing and knowledge exchange from business networks, entrepreneurs will gain contextual information and specific industry knowledge about how to effectively expedite opportunity exploitation (Ozgen & Baron, 2007). With these associated benefits, firms may also be able to acquire resources below market price and exchange resources to effectively exploit opportunities (Stam, Arzlanian, & Elfring, 2014). Specifically, ties with buyers can help firms track changes in consumers' demand and needs (Luo, 2003), which subsequently facilitates exploitation of opportunities that reflect the new changes in customer tastes and preferences. Moreover, owing to the liability of newness often associated with new market opportunities (e.g., Carayannopoulos, 2009; Wang et al., 2017), new

ventures need to deal with the problem of legitimacy from stakeholders when introducing new products and processes. Building good connections with buyers, competitors, and collaborators can help mitigate the burden of legitimacy (Elfring & Hulsink, 2003), as relationships with other companies will signal credibility and legitimacy about firms' operations and product/service offerings to other stakeholders (see Wang & Bansal, 2012). Therefore, the success of opportunity capture and exploitation on new venture performance depends on the extent to which entrepreneurs develop and leverage ties with their buyers, suppliers, competitors, customers, and other industry players. Thus:

> **H2.** The presence of business ties strengthens the positive indirect effect of EO through opportunity discovery on new venture performance.

2.3.2. The moderating role of institutional support

Entrepreneurial activities, such as opportunity discovery and exploitation, are usually explained at the micro-level with determinants such as emotions, cognitions, and entrepreneurs' personal characteristics (e.g., Shepherd, Wiklund, & Haynie, 2009; Vaghely & Julien, 2010). However, certain entrepreneurial phenomena should also be explained within contexts and institutional frameworks. Such contexts include the economic, political, and cultural arrangements of the country or industry (Williams & Shahid, 2016). To this end, institutional theory highlights the role of institutions in the effective functioning of markets (North, 1990). Li and Atuahene-Gima (2001, p. 1125) explain that institutional support "reflects the extent to which administrative institutions provide [backing] for firms." Institutional arrangements and settings affect almost all entrepreneurial activities and processes, including marketing, financing, information and knowledge acquisition, and property rights (e.g., Fogel, Hawk, Morck, & Yeung, 2006; Khoshmaram, Shiri, Shinnar, & Savari, 2020), in such a way that less supporting institutional arrangements, or even their absence, can reduce the quality and growth of entrepreneurial initiatives. We therefore submit that the availability of institutional support in a country affects the efficacy of opportunity exploitation on firm performance.

Specifically, institutional support affects how entrepreneurial firms can respond to their target customers' needs and market gaps and the value they put on the identified opportunities (Webb et al., 2011). Thus, the availability of public policy and business support programs (including financial and non-financial) can enhance entrepreneurial competencies and affect how firms convey the benefits and value of their products to customers, access to resources, product distribution, property rights, and the protection of investments (Nakku, Agbola, Miles, & Mahmood, 2020; Webb, Ireland, Hitt, Kistruck, & Tihanyi, 2011). For example, the absence of institutional support (e.g., licensing) and industry regulations could negatively affect firms' innovativeness in introducing new products, acquiring relevant resources, communicating the value of their products through advertising, and distributing these products to their target markets (Amankwah-Amoah & Debrah, 2017; Shu, Wang, Gao, & Liu, 2015).

Moreover, the availability of institutional support in the business environment is an indication of the provision of relevant business policies, industry information, and safety nets such as tax breaks and subsidies (Sheng et al., 2011). Such support can provide firms with slack resources and help reduce information asymmetry, administrative barriers, and constraints, so that they can take on risk and have the latitude to innovate during the process of opportunity exploitation (Fuentelsaz, González, Maícas, & Montero, 2015). In effect, the effectiveness of opportunity discovery on the performance of new ventures is contingent on the availability and strength of administrative institutions within which firms operate. Thus:

H3. The presence of institutional support strengthens the positive effect of EO through opportunity discovery on new venture performance.

In addition to the two moderating-effects hypotheses (H2 and H3), we contend that institutional support and business ties will jointly moderate the relationship between firms' opportunity discovery activities and their performance outcomes. First, as already noted, forming business ties help firms share knowledge and acquire new resources and proprietary assets that lower transaction costs and facilitate exploitation of entrepreneurial opportunities in the market

(Gronum, Verreynne & Kastelle, 2012; Stam et al., 2014). Yet the effects of business ties and opportunity discovery on firm performance may be limited at low levels of institutional support (Sheng et al., 2011; Sigmund, Semrau, & Wegner, 2015). For example, although ties with business associations provide firms with information on industry-specific standards (e.g., Kotabe, Jiang, & Murray, 2011), absence of institutional support in the form of protection for brands, property rights, and investments implies that the benefits of new product development will diminish (see Rosenbusch, Gusenbauer, Hatak, Fink, & Meyer, 2019; Shu et al., 2015). Second, prior studies show that though business ties help strengthen the performance benefits of entrepreneurial innovation, this benefit is cancelled out under conditions of unfavorable public policy and regulatory institutional regimes (Wu, 2011). Thus, entrepreneurs who have developed ties with other business stakeholders to exploit opportunities will benefit more from such relationships only if institutions function properly.

Similarly, while leveraging business ties enables firms to easily acquire external resources for new venture growth, the availability and effectiveness of institutional support can help reduce environmental risk and uncertainty (Xu & Meyer, 2013) when making investment decisions with these resources. As such, the relationship among high opportunity discovery, greater business ties, and strong institutional support will lead to high new venture performance. Thus:

H4. The indirect positive effect of EO through opportunity discovery on new venture performance is strongest when both business ties and institutional support are high.

3. Method

3.1. Study setting

To test the hypothesized relationships, we examined the entrepreneurial activities of new ventures operating in a sub-Saharan African economy (i.e., Ghana). The rational for and appropriateness of using Ghana as a context is threefold. First, the business landscape of Ghana is dominated by privately owned small and medium-sized enterprises (SMEs) that are relatively

young, contributing to almost 88% of economic activities and businesses (OECD, 2008). For example, the 8% growth in Ghana's gross domestic product (GDP) in 2015 was attributed to the performance of small businesses (Amankwah-Amoah, Boso, & Antwi-Agyei, 2018). Accordingly, research on the challenges and growth prospects of these enterprises is important. Second, Ghana's recent economic and political climate as a liberal open market economy, high growth rate in GDP, favorable trade policies, and democratic dispensations have attracted foreign investment from the sub-region and other parts of the world (African Development Bank Group, 2018; Amankwah-Amoah et al., 2018). These investments, among other things, have given rise to entrepreneurial activities within the past decade. Third, as are most developing economies, Ghana is characterized by institutional weaknesses and fluidity, which have the potential to affect the success of entrepreneurial firms (Adeleye & Boso, 2016). Although such institutional weaknesses could be detrimental to firm survival, recent research suggests that they can become a source of competitive advantage, especially for firms that are able to develop complementary capabilities to overcome such impediments (Gao, Zuzul, Jones, & Khanna, 2017). With these institutional characteristics, economic prospects, and outlook, Ghana provides a unique setting to broaden understanding of the EO–performance relationship.

3.2. Data collection

Primary data came from new ventures operating in multiple industrial sectors. We developed the sampling frame from the Ghana's company register database and Business Directory (Acquaah, 2007). We contacted 600 new ventures listed in the two directories to elicit participation. In accordance with prior entrepreneurship studies (e.g., Boso, Story, & Cadogan, 2013; Wiklund & Shepherd, 2011), we used the following criteria to select the firms: independent firms that are not part of any group of companies; companies that were owned and controlled by individual (or a team of) entrepreneurs, or at least with majority ownership; and firms that employed between 5 and 500 full-time staff. After several telephone calls, 400 firms agreed to participate in the study.

Accordingly, 400 survey questionnaires were sent to the selected firms either by email or in person (with the help of research assistants). The key informants included CEOs and/or business owners and finance directors/managers. To reduce the effect of possible common method bias (CMB), two groups of respondents answered the questionnaires. Specifically, the CEOs and/or the business owners provided information on the EO, opportunity discovery, business ties, and institutional support constructs, and the finance directors/managers provided information on the new venture performance indicators. After several rounds of reminders and visits to the firms, 229 completed questionnaires were received, representing a 57% response rate.

3.3. Measure development

We adapted indicators used to measure latent constructs in the conceptual model from the entrepreneurship and strategic management literature. The study's constructs include both multi- and single-item indicators. All multi-item variables were measured with 7-point rating scales. We reworded some of the items to ensure they fit the study's context and were understood by key informants in a pilot study. Consistent with extant EO research, we conceptualized EO as a three-dimensional construct, capturing elements of innovativeness, proactiveness, and risk taking. Subsequently, we adapted Covin and Slevin's (1989) validated nine-item scale to measure the extent to which the new ventures were innovative, proactive, and risk taking in their business operations. We operationalized opportunity discovery as the ability of new venture firms to pursue and exploit new opportunities in their targeted market. We measured this construct by adapting scales from Ozgen and Baron (2007), specifically asking informants to rate the extent to which selected statements described their ventures' opportunity discovery activities.

We used the business ties scale of Sheng et al. (2011) to capture the business network ties construct. The scale assesses the extent to which entrepreneurs established relationships with other business partners such as buyers, customers, distributors, competitors, and collaborators. We adapted measures of institutional support from Li and Atuahene-Gima (2001). Using four measurement items, the institutional support scale captures the extent to which the new ventures

receive assistance and support from governments, such as finance, licensing, and technology policies. Consistent with previous strategic entrepreneurship research (e.g., Drnevich & Kriauciunas, 2011; Wiklund & Shepherd, 2003), we measured new venture performance by the ventures' performance relative to competitors with respect to sales, sales growth, market share, profit growth, and overall firm performance.

3.4. Controls

Considering the study context and in line with previous entrepreneurship research (e.g., Boso et al., 2013; Hmieleski, Carr, & Baron, 2015), we included relevant venture and industry-level control variables in the study, including venture size, venture experience, industry type, competitive intensity, and environmental dynamism. We measured venture size by the number of full-time employees in each venture and venture experience by the number of years the new venture had been in operation. The natural logarithm of both firm size and experience helped correct for skewness. We used a dummy variable to categorize the industries into manufacturing (0) and services (1). We adapted the external environment scales of Jaworski and Kohli (1993) to capture the competitive intensity and environmental dynamism variables. Details of the measurement items with their respective factor loadings and reliability indicators are available in Table 1.

- Table 1 about here -

4. Analyses

4.1. Reliability and validity assessment

We conducted confirmatory factor analysis (CFA) using maximum likelihood (ML) estimation method to assess reliability and validity of the multi-item measures. Following previous suggestions (e.g., Bagozzi & Yi, 2012; Kline, 2015), we relied on approximate fit heuristics to evaluate the model fit. Thus, we used relative fit indices, including non-normed fit index (NNFI) and comparative fit index (CFI); non-centrality-based measures, such as root mean square error of approximation (RMSEA); and absolute fit index, such as standardized root mean square residual (SRMR) of model fit to further assess model fit. Accordingly, our CFA provided the following

acceptable model fit for the data: χ^2/df = 1.47; NNFI = 0.92; CFI = 0.93; RMSEA = 0.045; SRMR = 0.054.

As Table 1 shows, the standardized factor loadings for each item are significant at the 1% level, providing support for convergent validity. Furthermore, the Cronbach's alpha and composite reliability (CR) values for each construct exceed the required benchmarks of 0.70 and 0.60, respectively, confirming internal consistency of the items used to measure the constructs (Hair, Babin, & Krey, 2017; Hair, Black, Babin, & Anderson, 2014). Following Fornell and Larcker's (1981) recommendations, we assessed discriminant validity of the measures to determine whether the average variance extracted (AVE) for each construct exceeded the highest shared variance (HSV) of each pair of constructs or the square of any of the inter-construct correlations displayed in Table 2. Specifically, the lowest AVE is 0.54, while the HSV is 0.121 (0.348^2). As all the AVEs are greater than the HSV between each pair of constructs, we can safely conclude the discriminant and convergent validity of the study constructs.

- Table 2 about here -

4.2. CMB assessment

Although the data came from multiple sources, concerns about potential CMB in the dataset may arise given the cross-sectional nature of the study. Accordingly, we followed statistical procedures to test for the presence of CMB in the data (Chang, Van Witteloostuijn, & Eden, 2010; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Specifically, we estimated three competing CFA models. In model 1, we estimated a method-only model in which all indicators were loaded on a single latent factor. The model obtained the following fit indices: χ^2/df = 8.23; NNFI = .15; CFI = 0.20; RMSEA = 0.17; SRMR = 0.15. In model 2, we estimated a trait-only CFA model in which each measurement item was loaded on its respective latent factor, with the following fit indices: χ^2/df = 1.47; NNFI = 0.92; CFI = 0.93; RMSEA = 0.045; SRMR = 0.054. Finally, in model 3 we examined a method-and-trait model, in which we estimated model 1 and model 2 together; it yielded the following fit statistics: χ^2/df = 1.35; NNFI = 0.93; CFI = 0.95; RMSEA = 0.039; SRMR

= 0.047. Subsequently, we compared the three models to determine which one fit the data best. The findings indicate that models 2 and 3 are superior to model 1 and that model 3 is not substantially better than model 2, suggesting that CMB is highly unlikely to distort the study findings.

4.3. Structural model estimation

We used SEM and ML estimation to test a system of nested structural models in path analyses in LISREL 8.71 (e.g., Patel et al., 2015). Following established practice, we computed averages for each multi-item construct to generate single indicants. However, for the dependent variables (opportunity discovery and new venture performance), we adopted the full information approach, using the indicants of the latent constructs for model estimation instead of mean values. This approach reduces a potential problem of model under-identification due to insufficient information (see Hair et al., 2017). To avoid multicollinearity issues, we mean-centered the constructs used to generate the interaction terms before computing their product terms. Accordingly, we created three interaction terms: (1) opportunity discovery × business ties, (2) opportunity discovery × institutional support, and (3) opportunity discovery × business ties × institutional support.

Subsequently, we estimated six models, with opportunity discovery as the dependent variable in model 1 and new venture performance as the dependent variable in models 2–5. In all estimations, we controlled for the mediator (opportunity discovery) and the outcome variable (firm performance). Accordingly, model 1 estimated the effect of EO on opportunity discovery. In model 2, we tested the direct effect of EO on firm performance. Model 3 included the direct effects of opportunity discovery and the two moderators (business ties and institutional support). In model 4, we added the interaction effect variables (opportunity discovery × business ties and opportunity discovery × institutional support), and in model 5, we estimated the effect of the three-way interaction term on new venture performance. Finally, we estimated model 6 (i.e., 6a and 6b) to test the full moderated-mediation model, where opportunity discovery is the dependent variable in

model 6a and new venture performance is the outcome variable in Model 6b. Thus, the SEM estimation procedure allowed us to simultaneously test Eqs. (1) and (2):

$$\textit{Opportunity discovery} = \beta_0 + \beta_1 DYM + \beta_2 COM + \beta_3 SZE + \beta_4 EXP + \beta_5 INDS + \beta_6 EO + \mu_t, \quad (1)$$

$$\textit{New venture performance} = \beta_0 + \beta_1 DYM + \beta_2 COM + \beta_3 SZE + \beta_4 EXP + \beta_5 INDS + \beta_6 EO + \beta_7 DISC + \beta_8 BT + \beta_9 IS + \beta_{10} BT \times DISC + \beta_{11} IN \times DISC + \beta_{12} IN \times DISC \times BT + \mu_t, \quad (2)$$

where DYM is environmental dynamism, COM is competitive intensity, SZE is firm size, EXP is entrepreneurial experience, INDS is industry type, DISC is opportunity discovery, BT is business ties, and IS is institutional support.

5. Results

The results show that model 6 produces the best model fit: $\chi^2/df = 1.68$; NNFI = 0.82; CFI = 0.93; RMSEA = 0.057; SRMR = 0.037. The results also show that model 6 produces the largest squared multiple correlations for new venture performance ($R^2 = 0.30$); thus, we use model 6 to interpret the study results. H1 posits that opportunity discovery mediates the effect of EO on new venture performance. As the results in Table 3 show, H1 is supported, as the structural path from EO to opportunity discovery is significant at the 5% level ($\beta = 0.18$; $t = 2.53$; $p < 0.05$) and opportunity discovery is positively significantly related to new venture performance ($\beta = 0.17$; $t = 2.71$; $p < 0.01$). Importantly, the significant, positive association between EO and new venture performance ($\beta = 0.17$; $t = 2.56$; $p < 0.05$) disappears when EO's effect on new venture performance is channeled through opportunity discovery (from $\beta = 0.17$ to $\beta = 0.14$). This finding provides empirical evidence supporting our argument that opportunity discovery mediates the relationship between EO and new venture performance.

- Table 3 about here -

H2 and H3 propose that the indirect effect of EO on new venture performance through opportunity discovery is strengthened when business ties and availability of institutional support are

high. To examine this moderated-mediation relationship, we used path analysis to evaluate the moderating effects at one standard deviation above and below the mediator (opportunity discovery) and the two moderator variables (business ties and institutional support). As Table 3 shows, the effect of opportunity discovery on new venture performance is strengthened ($\beta = 0.12$; $t = 2.77$; $p < 0.01$) at higher levels of business ties, in support of H2. For H3, we find no support for the moderating effect of institutional support on the relationship between opportunity discovery and new venture performance ($\beta = 0.04$; $t = 0.72$; $p > 0.10$). However, we find that the conditional effect of institutional support on the relationship between opportunity discovery and new venture performance is strengthened when business ties takes on higher values above the mean ($\beta = 0.13$; $t = 2.57$; $p < 0.05$), providing support for H4.

To better understand the moderation effects, we created interaction plots at one standard deviation above and below the mean values to facilitate interpretation (Figs. 2 and 3). Fig. 2 shows that new venture performance increases at high levels of opportunity discovery and high levels of business ties, while Fig. 3 shows that new venture performance increases significantly only at higher levels of opportunity discovery, business ties, and institutional support. All other combinations are less ideal in maximizing new venture performance. Fig. 4 summarizes the results of the direct, indirect, and moderating effect paths.

- Figures 2, 3, and 4 about here -

To check for the robustness of our findings, we further estimated the hypothesized mediation mechanisms using PROCESS macro (Hayes, 2013). We find positive and significant effects of EO on both new venture performance ($\beta_3 = 0.15$; $t = 2.58$; $p < 0.01$) and opportunity discovery ($b_1 = 0.15$; $t = 2.22$; $p < 0.05$). In turn, opportunity discovery is positively related to new venture performance ($\beta_2 = 0.16$; $t = 2.87$; $p < 0.01$). More important, we assessed the significance of the indirect effect and the total effect of EO on performance through opportunity discovery. For the indirect effect, at a bootstrap-estimated 95% confidence interval, we find a lower bound of 0.001 and an upper bound of 0.077. Similarly, the total effect estimate produces a lower bound of 0.037

and an upper bound of 0.270. As the results of the 95% confidence interval do not contain zero, we conclude that there is a significant indirect effect of EO on new venture performance through opportunity discovery.

6. Discussion

This study advances knowledge on the mechanism linking EO to venture performance by proposing an entrepreneurial intention–entrepreneurial behavior–new venture performance model to argue that entrepreneurial opportunity discovery serves as an intervening process through which EO influences new venture performance. The study further addresses the question of when EO influences new venture performance by drawing on the tenets of social networking to argue that business network ties and institutional support seeking serve as complementary entrepreneurial actions that strengthen the effect of EO on new venture performance through the process of entrepreneurial opportunity discovery.

Evidence from the empirical study of new venture firms in a sub-Saharan African economy shows that the direct effect of EO on new venture performance disappears when this relationship is channeled through entrepreneurial opportunity discovery. Thus, the opportunity discovery process accounts for a significant proportion of unexplained variance in the relationship between EO and new venture performance. Furthermore, our findings indicate that entrepreneurs' efforts to capitalize on business ties and obtain institutional support help facilitate the effect of EO on new venture performance through opportunity discovery. With these findings, we contribute to the EO literature and help improve managerial practice of corporate entrepreneurship.

6.1. Theoretical contributions

Previous research highlights inconsistencies in empirical evidence supporting the relationship between EO and performance (e.g., Cui et al., 2018; Wales, 2016), making it difficult for researchers and entrepreneurs to determine how, and under what conditions, EO is more or less

beneficial to new venture success. To address this gap, this study introduces an actionable entrepreneurial phenomenon as an intervening activity that mediates the relationship between EO and new venture performance. Consistent with previous research (e.g., Lee et al., 2019), we find that while EO may be directly related to new venture performance, this relationship is strengthened when EO is channeled toward exploitation of opportunity discovery under conditions of increased levels of business networking and institutional support. This finding provides empirical support for the importance of investigating immediate entrepreneurial action outcomes of EO (Wales, 2016), while taking into consideration relevant boundary conditions (e.g., Wang et al., 2020).

Regarding the boundary condition of the EO–performance relationship, the study reveals an important finding that advances knowledge on EO research. In particular, while some studies have argued that externally focused (e.g., Boso et al., 2013; De Clercq & Zhou, 2014) and internally focused (e.g., De Clercq, Dimov & Thongpapanl, 2010) social networking helps strengthen the direct effect of EO on performance, we demonstrate that when new ventures are limited by resource constraints and liability of newness, orchestrating strategic relationships with business partners is a useful way to facilitate the effect of EO on new venture performance through the process of opportunity discovery.

In addition, we advance existing research that suggests that the availability of institutional support facilitates growth of entrepreneurial firms (e.g., Amankwah-Amoah & Debrah, 2017; Nakku et al., 2020) by showing that the availability of this support per se does not strengthen economic value of entrepreneurial strategic posture. Rather, evidence from our three-way interaction analysis shows that the mediating effect of opportunity discovery efforts is more pronounced at higher levels of complementarity between institutional support and business ties. This finding of a higher-order interaction effect resonates with research that examines the significance of both networking and availability of institutional support in enhancing certain entrepreneurial outcomes (Guo, Xu, & Jacobs, 2014; Sigmund et al., 2015). In particular, we show that new venture performance is boosted under high levels of opportunity discovery, business ties,

and institutional support. For example, less institutional support means that new product discoveries and investments made by firms are less likely to be protected from copyright infringement; thus, the inability of new ventures to maximize economic benefits from new product investments is augmented. Similarly, high levels of business ties and institutional support might not drive higher firm performance if firms engage in low levels of opportunity discovery and exploitation.

With these findings, we extend the EO literature by shedding light on a possible configurational model (in which there are multiple contingencies in a single framework) (Covin & Miller, 2011; Wales, 2016) to give further clarification on the nuances of the EO–performance relationship. For example, previous research opines that the effective realization of opportunities involves multiple and complementary assets and actions (Foss & Klein, 2012). In effect, institutional support and environment might not necessarily lead to successful entrepreneurial outcomes (Ge, Stanley, Eddleston, & Kellermanns, 2017) unless other intervening and conditional processes are in place. Thus, by using business ties as a moderating variable, we show that firms may depend on network resources to buffer unfavorable institutional environments to enhance their successes.

6.2. Managerial contributions

This study also advances the practice of new venture management. First, the study reveals that an entrepreneurial strategic posture and continuous pursuit of entrepreneurial opportunity are important determinants of the survival of new ventures. However, evidence shows that while a proclivity to act entrepreneurially might be necessary, it might not be sufficient for new ventures to be successful in the sub-Saharan African market. Importantly, the results suggest that new venture managers and entrepreneurs should channel their entrepreneurial strategic postures into actionable entrepreneurial opportunity exploitation behaviors by identifying customer needs and market gaps, introducing new goods and services, and exploiting new product–market entry prospects to capture greater economic value.

Second, while new ventures are often limited by resource constraints, illegitimacy, and liabilities of newness and smallness, the results show that entrepreneurs and new venture managers who leverage their network relationships with key business partners can strengthen their ventures' abilities to extract greater economic benefits from new market opportunities. In other words, entrepreneurs and new venture managers can leverage their ties with managers in more established firms to attract resources and legitimacy benefits to offset the disadvantages and successfully exploit entrepreneurial opportunities.

6.3. Implications for policy making

This study shows that when institutional frameworks and policies fail to support entrepreneurial activities, new ventures find it difficult to extract economic benefits from their entrepreneurial discoveries. A key lesson for entrepreneurship policy makers is that strong institutions that support and protect new venture investments are key to strengthening entrepreneurs' confidence in an economy; when entrepreneurs and new venture managers perceive institutional support as strong and credible, they are more likely to increase their entrepreneurial opportunity efforts to create new wealth in an economy. Evidence from previous research shows that when new ventures increase new wealth creation, a corresponding increase in new job creation occurs (Kim, ElTarabishy & Bae, 2018), which then helps boost the economic well-being of the society (Carter, 2011). It is therefore imperative that sub-Saharan African policy makers strengthen institutional structures in their economies to increase the support available to new ventures and local entrepreneurs.

6.4. Limitations and future research directions

Notwithstanding this study's contributions, a few limitations warrant future research attention. First, by using opportunity discovery as a mediating mechanism, this study only investigates how opportunity discovery connects EO with new venture performance. Beyond

opportunity discovery, the literature on entrepreneurial opportunity identifies subjective (creation) and objective (discovery) types of entrepreneurial opportunity and argues that the performance outcomes of each opportunity type may be different (Alvarez & Barney, 2007, 2010). To this end, future research might draw on relevant theories to model entrepreneurial opportunity creation as a potential mediating force that links EO to new venture performance. In addition, if data are available, future research could investigate the mediating effect of both discovery and creation in the entrepreneurial opportunity process. An extension of this argument is to test a framework of parallel mediating mechanisms involving both opportunity creation and discovery to determine whether they play a complementary or substitutive role in linking EO to new venture performance.

Second, our study sample is new venture SMEs in a sub-Saharan African market—Ghana—which limits the study's generalizability to other developing and emerging market contexts. Thus, although the Ghanaian context is well justified, generalization of the study's findings should be taken with caution. Moreover, studies using larger and internationally focused ventures (e.g., international new ventures) might produce different findings and operate under slightly different mechanisms. Thus, although we controlled for firm size in this study, future research could consider examining the moderating roles of firm size and type in the interplay among EO, entrepreneurial opportunity discovery, and new venture performance. Furthermore, conditions in developed markets are likely to be different from conditions in developing economies; consequently, current understanding of the link between EO and new venture performance might be enhanced if research examined the relationships across both developed and developing economy settings.

7. Conclusion

This study proposes an EO–entrepreneurial behavior–new venture performance model and use primary data from SME new ventures in a sub-Saharan African market to empirically examine the effect of EO on new venture performance through the process of entrepreneurial opportunity discovery at differing levels of business network ties and institutional support. Evidence from the

study reveals that entrepreneurial opportunity discovery fully mediates the relationship between EO and new venture performance and that this indirect effect relationship is strengthened when business networking and institutional support increase.

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Fig. 1. Conceptual framework.

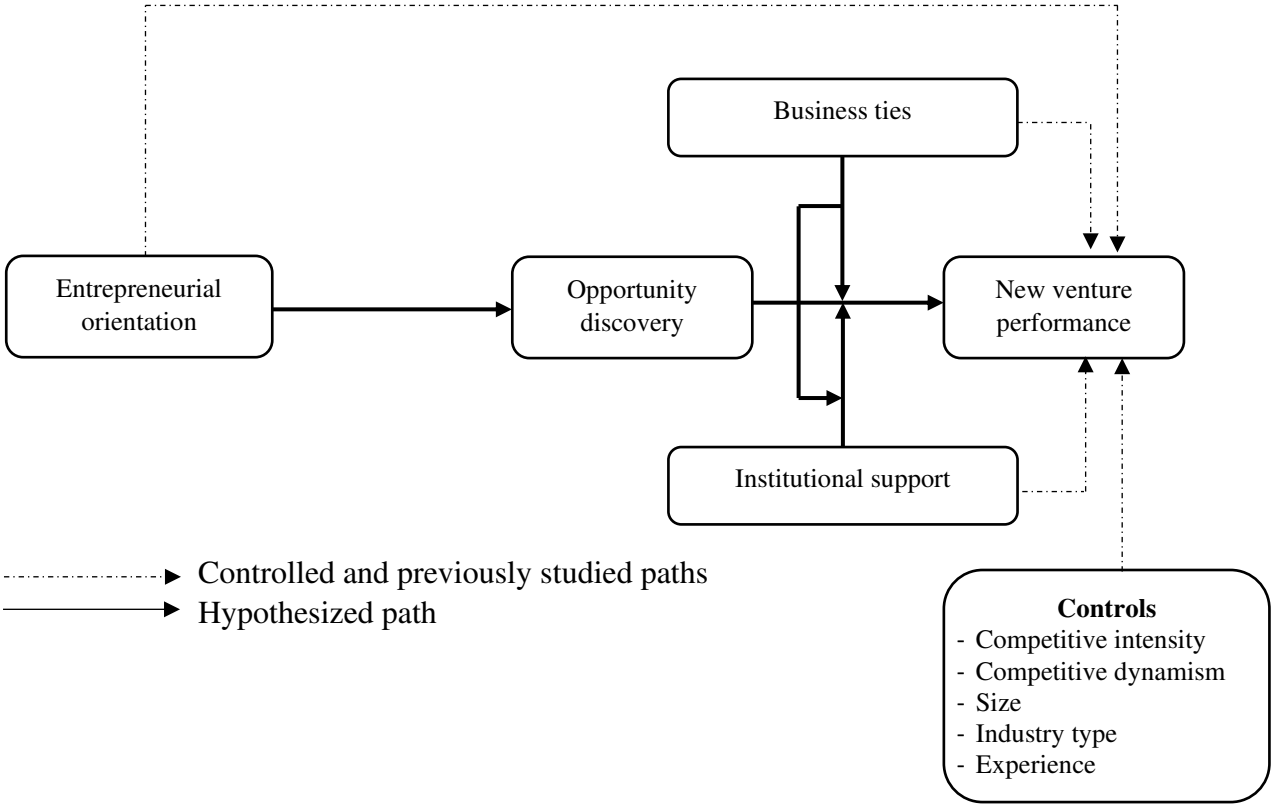


Fig. 2. Two-way interaction between opportunity discovery and business ties.

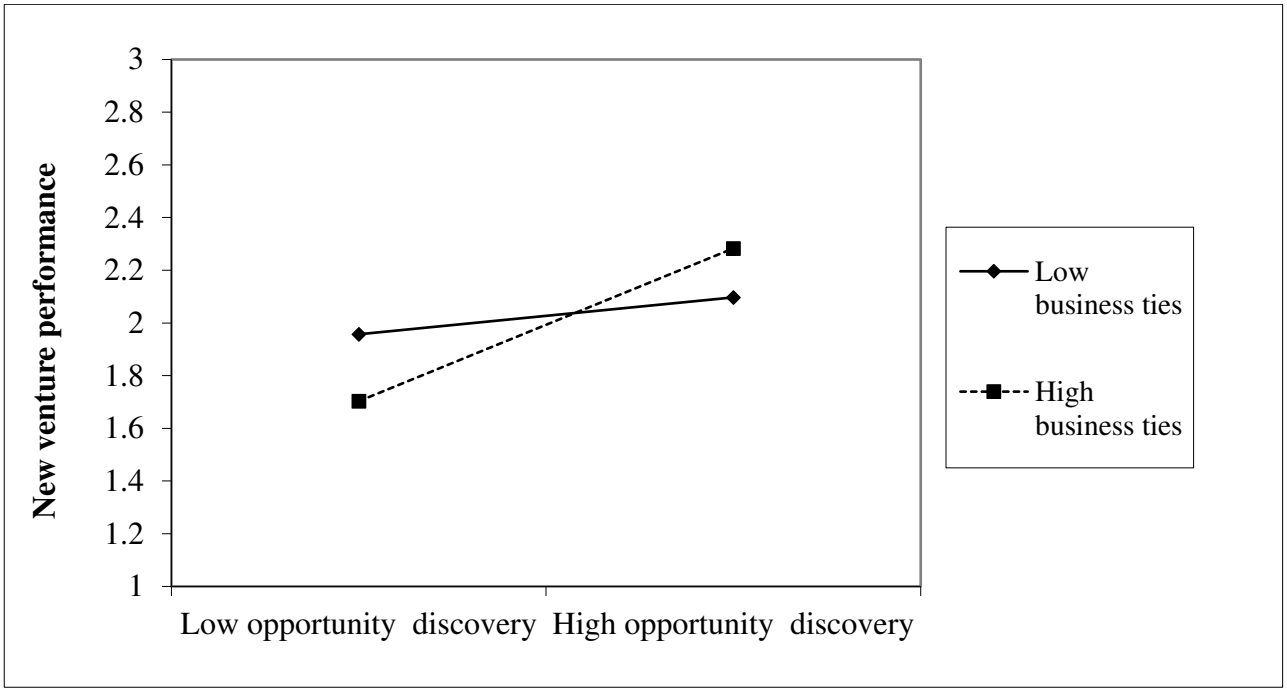


Fig. 3. Three-way interaction among opportunity discovery, business ties, and institutional support.

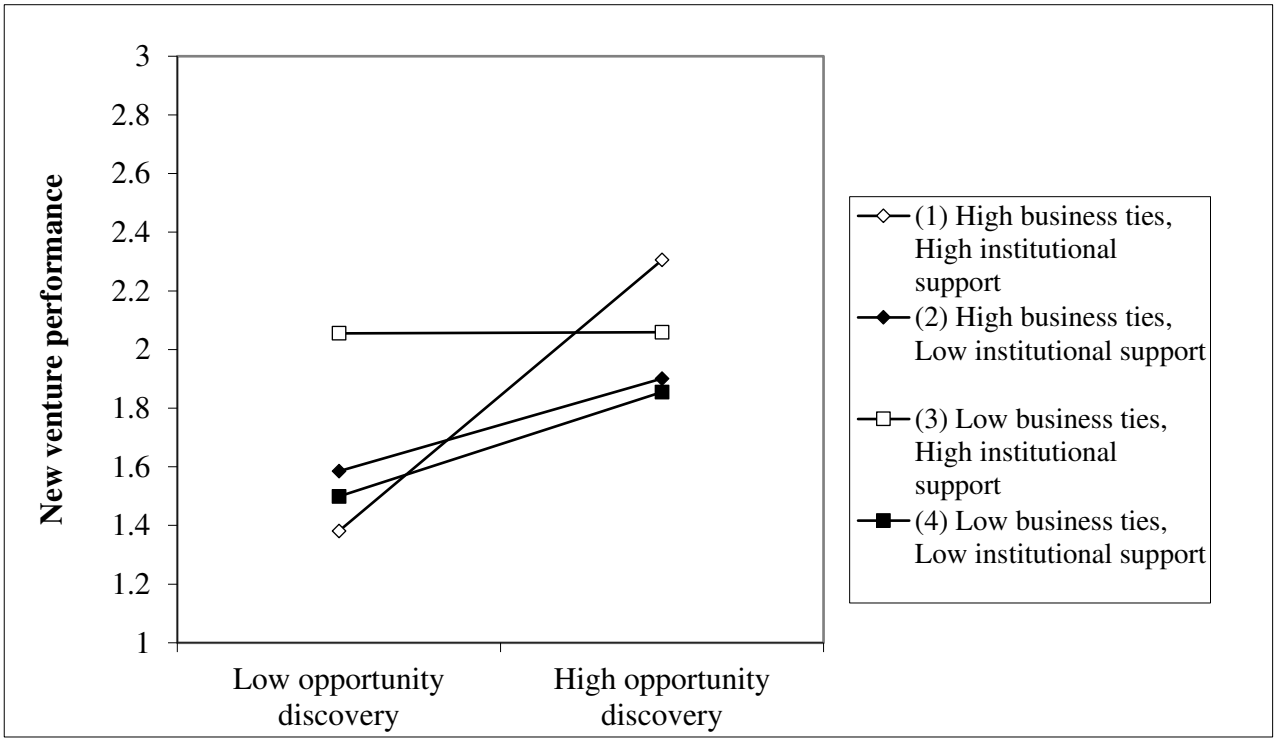
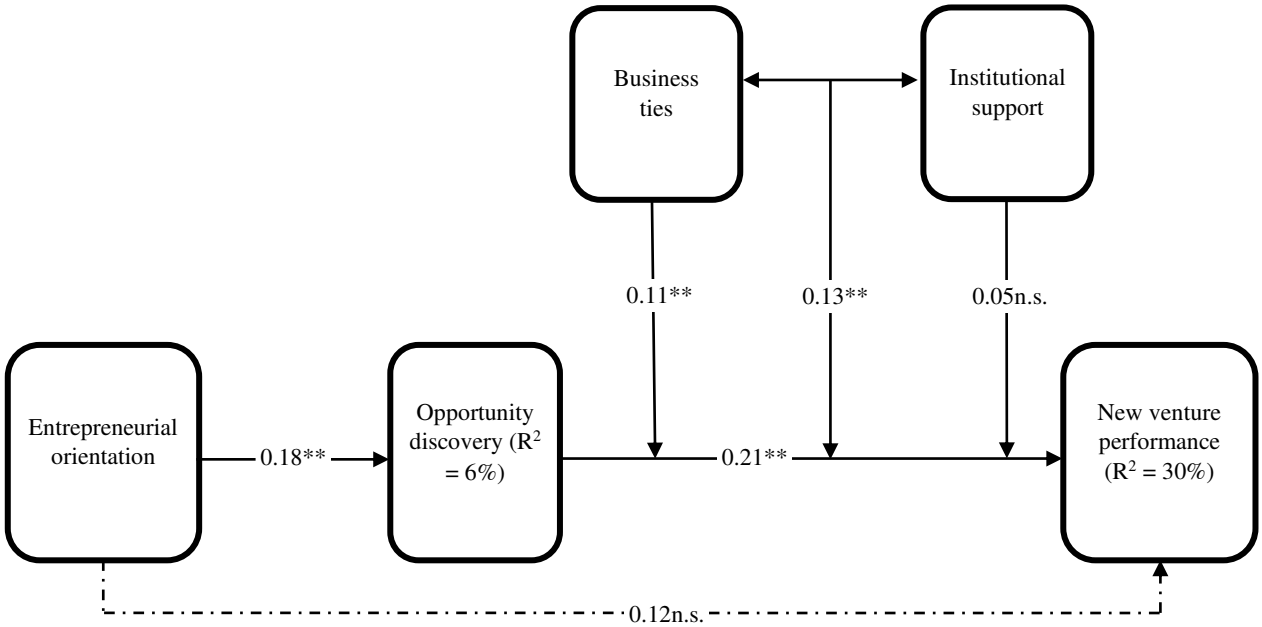


Fig. 4. Final empirical model.



Note: Critical values of the t distribution for α = 0.05 and α = 0.01 (two-tailed test) are * = 1.96 and ** = 2.58, respectively (t-values are reported in parentheses); n.s. = non-significant.

Table 1
Construct validity and reliability.

Constructs, details of measures, and results of validity tests	Standardized factor loadings (t-values)
Opportunity discovery α = 0.89 CR = 0.89 AVE=0 .61	
Special alertness to new opportunities	0.80 (fixed to 1.00)
Scanning the environment for new business opportunities	0.82 (13.11)
Identify demand and supply gaps in the market	0.72 (11.39)
Discover opportunities in markets where we have no personal experience	0.78 (12.48)
Weigh multiple approaches to capitalize on opportunities.	0.80 (12.93)
Institutional support α = 0.82 CR =0 .82 AVE= 0.54	
Implementation of policies and programs that are beneficial to firms	0.60 (fixed to 1.00)
Provision of financial support	0.63 (7.62)
Provision of significant market information	0.86 (9.09)
Ease in obtaining licenses for new products/service	0.82 (8.94)
Business ties α = 0.78 CR =0 .81 AVE= 0 .60	
Build good relationship with supplier firms	0.75 (fixed to 1.00)
Build good relationship with competitor firms	0.95 (9.92)
Build good relationship with customer firms	0.58 (8.61)
Innovativeness α = 0.88 CR =0 .88 AVE=0 .71	
Strong emphasis on R&D and innovation	0.84 (fixed to 1.00)
Changes in product/service lines have been dramatic	0.88 (15.25)
Introduction of many new lines of products/services	0.82 (14.22)
Proactive ***α = 0 .79 CR = 0.79 AVE= 0.55***	
Initiate actions to which competitors respond	0.82 (fixed to 1.00)
Often first to introduce products/services, administrative techniques, etc.	0.72 (9.43)
Leader in the market in introducing novel ideas	0.69 (9.15)
Risk ***α = 0.82 CR = 0.82 AVE=0 .60***	
Proclivity for high-risk opportunities	0.69 (fixed to 1.00)
Adopts bold and aggressive posture in times of uncertainty	0.86 (10.06)
Wide range acts are necessary to achieve objectives	0.77 (9.15)
New venture performance α = 0.88 CR = 0.87 AVE= 0.58	
Profit growth	0.83 (fixed to 1.00)
Sales volume	0.84 (14.31)
Sales growth	0.74 (12.21)
Market share	0.72 (11.80)
Overall firm performance	0.67 (10.72)
Competitive intensity α = 0.85 CR = 0.88 AVE= 0.66	
Competition is cutthroat	0.77 (fixed to 1.00)
Anything that my company can offer, another company can match readily	0.86 (12.34)
We hear of new competitive move in terms of opportunity discoveries everyday	0.66 (9.70)
Our competitors are very strong in discovering new opportunities as well	0.79 (11.59)
Environmental dynamism α = 0.83 CR = 0.82 AVE= 0.54	
Demand for industry products/services declines (reverse coded)	0.70 (fixed to 1.00)
The rate at which products become obsolete to consumers is very slow	0.73 (9.40)
It is easy to predict the actions of one's competitors	0.79 (9.90)
It is easy to forecast customers' future demands	0.70 (9.08)
Fit indices: χ^2 (*df*) = 721.77 (491); $p < 0.000$; NNFI = 0.92; CFI = 0.93; RMSEA = 0.045; SRMR = 0.054	

Table 2

Descriptive statistics and inter-constructs correlations.

No	*Construct*	*M*	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
1	Risk	4.35	1.17												
2	Innovativeness	3.81	1.24	0.175											
3	Proactive	4.83	1.16	0.348	0.332										
4	New venture performance	4.41	.859	0.200	-0.072	0.141									
5	Business ties	4.65	1.22	0.096	0.227	0.197	-0.002								
6	Opportunity discovery	4.70	.948	0.069	0.230	0.104	0.237	0.002							
7	Institutional support	4.69	.938	0.254	0.123	0.078	0.199	0.017	0.142						
8	Environmental dynamism	5.00	1.16	0.069	0.155	0.037	0.134	0.047	0.154	0.130					
9	Competitive intensity	4.91	1.21	-0.006	0.063	-0.133	0.081	0.151	0.010	0.106	0.053				
10	Industry†	----	-----	0.310	0.025	-0.050	0.300	0.013	0.079	0.138	0.104	0.044			
11	Firm size#	3.39	.816	-0.011	0.060	-0.023	-0.004	0.016	0.000	0.000	0.042	-0.023	-0.042		
12	Entrepreneurial experience#	2.19	.596	-0.100	-0.018	-0.074	0.059	-0.035	0.020	0.001	-0.021	0.009	-0.077	.0160	

Note: Correlations above 0.10 and 0.17 are significant at $p < 0.05$ and $p < .001$, respectively. # Natural logarithm transformation of the original values; † = dummy variable.

Table 3
Results of structural model estimation.

	Dependent variables						
	Opportunity discovery	New venture performance					
Independent variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6a**	**Model 6b**
Control paths							
Firm size	-0.04 (-0.54)	-0.01 (-0.11)	0.00 (0.03)	-0.01 (-0.08)	0.03 (0.31)	-.04 (-.55)	0.02 (0.31)
Industry	0.04 (0.63)	.53 (3.94)	0.48 (3.74)	0.47 (3.70)	0.50 (4.00)	.07 (.53)	0.50 (4.00)
Entrepreneurial experience	0.06 (0.83)	.13 (1.30)	0.11 (1.12)	0.07 (0.73)	0.06 (0.62)	.08 (.73)	0.06 (0.63)
Environmental dynamism	0.12 (1.77)	.08 (1.49)	0.06 (1.07)	0.08 (1.50)	0.09 (1.75)	.11 (1.83)	0.09 (1.75)
Competitive intensity	-0.00 (-0.12)	.05 (1.08)	0.05 (1.09)	0.06 (1.10)	0.07 (1.54)	-.00 (-.05)	0.07 (1.54)
Direct effect paths							
Entrepreneurial orientation	0.18 (2.53) *	.17 (2.56) *	0.16 (1.98) *	0.15 (2.19)	0.12 (1.78)	.18 (2.57) *	0.12 (1.78)
Institutional support (IS)			0.09 (1.46)	0.09 (1.42)	0.10 (1.70)		0.10 (1.70)
Business ties (BT)			-0.05 (-1.01)	-0.06 (-1.19)	-0.07 (-1.55)		-0.07 (-1.55)
Opportunity discovery (OD)			0.17 (2.71) **	0.18 (3.01) **	0.21 (3.44) **		0.21 (3.51) **
Two-way interaction paths							
OD × IS				0.04 (0.72)	0.05 (0.90)		0.05 (.92)
OD × BT				0.12 (2.77) **	0.11 (2.58) **		0.11 (2.59) **
Three-way interaction							
IS × BT					-0.08 (-1.44)		-0.08 (-1.44)
OD × IS × BT					0.13 (2.57) *		0.13 (2.60) **
Goodness-of-fit test							
R^2	0.059	0.14	0.19	0.22	0.26	0.30	
ΔR^2	---	---	0.05	0.03	0.04	----	
χ^2/df	2.04	1.91	1.82	1.79	1.68	1.68	
RMSEA	0.07	0.06	0.06	0.06	0.06	0.06	
SRMR	0.03	0.05	0.04	0.04	0.03	0.04	
NNFI	0.91	0.76	0.78	0.80	0.82	0.82	
CFI	0.95	0.90	0.91	0.92	0.93	0.93	

Note: Critical values of the t distribution for $\alpha = 0.05$ and $\alpha = 0.01$ (two-tailed test) are * = 1.96 and ** = 2.58, respectively (t-values are reported in parentheses).