

# **Entrepreneurial alertness and new venture performance: facilitating roles of networking capability**

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## **Abstract**

An ability to act upon an entrepreneurial opportunity has been noted to be a major driver of new venture success. However, scholarly knowledge is limited on how and when entrepreneurs' alertness to entrepreneurial opportunities drives new venture success. The current study addresses this gap in the entrepreneurship literature by arguing that variations in new venture performance are a function of levels of entrepreneurial alertness and networking capabilities. Using primary data gathered from 203 new ventures operating in a sub-Saharan African economy, Ghana, the study finds that increases in the levels of entrepreneurial alertness are related to increases in new venture performance. Additionally, the study finds that, under conditions of increased use of social and business networking capabilities, the potency of entrepreneurial alertness as a driver of new venture success is amplified. Theoretical, managerial and policy implications of these findings are discussed.

## **Keywords**

Entrepreneurial alertness, networking capability, new venture performance, developing economy

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## **1. Introduction**

The last three decades have witnessed a steady increase in scholarly enquiry into the role of entrepreneurial alertness in the entrepreneurial opportunity process (e.g., Baron, 2006; Begley and Boyd, 1987; Kirzner, 1999; Kaish and Gilad, 1991; Minniti, 2004; Tang et al., 2012). In entrepreneurial opportunity research, alertness has been identified as an important entrepreneurial characteristic (Kirzner, 1979). It is defined as an “ability to notice, without search, opportunities that have hitherto been overlooked” by others (Kirzner, 1979, p.48). A contention is that entrepreneurial alertness reflects entrepreneurs’ ability to recognize an opportunity ahead of others (Gaglio and Katz, 2001; Tang, et al., 2012). A major point of convergence is that alert entrepreneurs have greater capability to recognize possible opportunities for profit than others (Baron, 2006; Tang, Kacmar, and Busenitz, 2012; McMullen and Shepherd, 2006).

Despite previous scholarly efforts to enhance an understanding of the entrepreneurial alertness concept, the existing literature exhibits three vital gaps. First, theoretical specification of how entrepreneurial alertness influences performance lacks completeness. Importantly, although conceptual distinction between opportunity recognition and exploitation has been specified clearly in the entrepreneurship literature (e.g., Dutta and Crossan, 2006; Dimov, 2011), research linking entrepreneurial alertness to performance has not explicitly distinguished between opportunity recognition and exploitation. However, in order for entrepreneurial alertness (i.e. an ability to recognize an opportunity ahead of others) to have a material impact on performance, an entrepreneurial action needs to be enacted (McMullen and Shepherd, 2006). Entrepreneurial action captures an entrepreneur’s ability to act to exploit an opportunity recognized (Hébert and Link, 1988). Thus, an underlying problem with the existing literature in establishing a causal link between entrepreneurial alertness and performance is its lack of theorization of the entrepreneurial action mechanism connecting entrepreneurial alertness to performance. Second, while Tang et al.’s (2012) study links alertness to firm innovation in an effort to establish the nomological validity of the alertness construct, no other study has so far empirically linked entrepreneurial alertness to new

venture performance. Third, studies examining entrepreneurial alertness and its consequences from a developing economy perspective are also lacking. We argue that context is important in entrepreneurship theory development (Zahra, 2007); hence it is vitally important to examine the relationship from a less developed economy perspective to broaden scholarly outlook on the alertness concept.

This study, therefore, makes three contributions to the entrepreneurship literature. First, this study cross-fertilizes the entrepreneurial alertness literature with scholarly research on entrepreneurial action (e.g., Vissa, 2011; Newbert et al., 2011; Hallen and Eisenhardt, 2012; Stuart and Sorenson, 2007) to explain how entrepreneurial alertness is related to new venture performance. According to McMullen and Shepherd (2006), entrepreneurs must act on an identified opportunity that is worth pursuing in order to create and grow a successful new venture. Given that variations may occur in entrepreneurs' ability to act on an opportunity identified (Gaglio and Winter, 2009; McMullen and Shepherd, 2006), we reason that a greater degree of alertness predicated on ability to act on an opportunity ahead of others is likely to lead to new venture performance (Baron, 2006; Kirzner, 1999).

Second, the literature on entrepreneurial opportunity suggests that creating and growing a new venture is a social process entailing efforts by entrepreneurs to use their networks to mobilize and deploy resources to exploit an identified opportunity (e.g., Ebbers, 2014; Fang, Chi, Chen, Newbert, Tornikoski and Quigley, 2013). Thus, the ability of an alert entrepreneur to act to exploit an opportunity to create and grow a successful new venture is likely to be contingent upon the entrepreneur's networking actions. Despite this potential conditioning roles of networking actions of entrepreneurs (Hallen and Eisenhardt, 2012; Stuart and Sorenson, 2007), previous research has focused on structural and relational entrepreneurial networks (e.g., Kwon and Arenius, 2010; Stam and Elfring, 2008), neglecting how entrepreneurs utilize networking activities to exploit entrepreneurial opportunities. This study contributes further to the entrepreneurship literature by drawing on resource-based theory to argue that access to network resources per se is not sufficient

to drive performance; rather performance is more likely to occur as a function of entrepreneurs' capability to mobilize and deploy such network resources to exploit entrepreneurial opportunities (Lavie, 2006).

Third, the study's proposed relationships are examined from a developing-economy market perspective, in the sense that formal supporting institutions are under-developed in less developed markets (London and Hart, 2004), to the extent that networking becomes a potent source of entrepreneurial opportunity (Stam, Arzlanian and Elfring, 2014). In less developed societies such as those in sub-Saharan Africa, exploitation of an entrepreneurial opportunity is surrounded by uncertainties, institutional weaknesses and credible chances of failure (Amankwah-Amoah, Boso and Antwi-Agyei, 2016; De Clercq et al., 2013; Radipere and Van Scheers, 2005). In such a context, Stam, Arzlanian and Elfring (2014) suggest that informal governance mechanisms in networks can help provide entrepreneurs with structural supports to mitigate weak formal institutional supports. Along this line, Radipere and Van Scheers (2005) show that networking skill is a strong determinant of venture success in South Africa. Thus, this study suggests that networking capabilities are vital in aiding alert entrepreneurs in less developed societies exploit opportunities to create and grow successful new ventures.

## **2. Theoretical background and hypotheses**

### ***2.1 Entrepreneurial alertness and new venture performance***

Previous research on entrepreneurial alertness suggests that alert individuals are able to recognize an opportunity ahead of others (Kirzner, 1979). According to Kirzner (1999, p.10), alertness has the potential to 'impact the type of transactions that will be entered in future market periods'. Scholarly enquiry has long argued that alertness constitutes an individual's cognitive capacity to process prior knowledge and experiences, recognize patterns in an environment, process information, and engage in social interactions (Ardichvili, Cardozo and Ray, 2003; Baron, 2006; Gaglio and Katz, 2001).

For example, Kaish and Gilad (1991) argue that alert individuals have unique preparedness and readiness to discover an opportunity ahead of peers.

In the entrepreneurship literature, researchers have explored the notion of alertness of entrepreneurs and its potential consequences (Minniti, 2004). Tang et al. (2012) provide a formal conceptualization of alertness within the context of entrepreneurship, arguing that entrepreneurial alertness has three behavioral components: a proclivity to scan and search for new information; an ability to connect disparate information; and an inclination to evaluate whether a new piece of information represents an opportunity. Alert scanning and searching refers to constant skimming of the environment and probing of new information, and changes and shifts overlooked by others. This dimension is consistent with the contention that opportunity cognition involves having a pre-existing knowledge, preparedness, and sensitivity to new opportunities (Alvarez and Busenitz, 2001; Mitchell et al., 2001). Alert association and connection involves an ability to pull together disparate pieces of information and a propensity to build such information into coherent alternatives. This dimension addresses how individuals cognitively respond to and process new information cues. The evaluation and judgment dimension captures processes of noticing changes, shifts in an environment, and deciding on whether the dynamics present a business opportunity (McMullen and Shepherd, 2006; Tang et al., 2012).

It is argued that entrepreneurs with a high degree of alertness have a propensity to search for changes in the business environment aiming to spot and exploit a business opportunity (Gaglio and Katz, 2001). According to Kirzner (1999), alertness has the potential to add substantial value to a business because alertness helps entrepreneurs to be aware of changes, shifts, opportunities and overlooked possibilities. It provides entrepreneurs with a capacity to use their creative-cognition to spot and interpret information in varied knowledge domains related to the development of new opportunities (Kaish and Gilad, 1991).

Despite the potential performance consequences of entrepreneurial alertness, most scholarly works on entrepreneurial alertness have focused on explaining the characteristics of alert

entrepreneurs and conceptual domain of the construct. This has consequently limited knowledge on how entrepreneurial alertness influences performance of new ventures. For example, in an effort to establish nomological validity of the entrepreneurial alertness concept, Tang et al. (2012, p. 87) draw insights from the organizational innovation literature to contend that “*alert entrepreneurs are likely to discover something new, and to increase innovations of their firms*”. Recent studies have also linked entrepreneurial alertness to variety of organizational outcome variables (e.g., Amato et al., 2016; Roundy et al., 2017; Uy et al., 2015). Focusing on organizational performance as an outcome, Roundy et al. (2017) argue that entrepreneurial alertness can influence performance because alert entrepreneurs are instantaneous and nimble in their decision making process, and are therefore more likely to lead their organization to earn first-mover advantages.

Despite scholarly efforts to expand knowledge on the performance consequences of entrepreneurial alertness, theoretical specification of the relationship remains incomplete. One way to advance knowledge on the performance consequences of entrepreneurial alertness is to draw insights from research on entrepreneurial opportunity process. While multiple conceptualization of entrepreneurial opportunity exists in the literature (see for example Dutta and Crossan, 2005; Lee and Venkataraman, 2006; Ardichvili et al., 2003; Dimov, 2007), a major strand is that the entrepreneurial opportunity process is a cognitive activity, involving the process of recognizing and subsequently exploiting an opportunity (Lumpkin and Lichtenstein, 2005). Studies have argued that opportunities can be created (Gartner et al., 2003; Wood and McKinley, 2010) and/or objectively discovered by entrepreneurs (Alvarez and Barney, 2010). From a discovery standpoint, it is argued that entrepreneurs may recognize an opportunity in the market space but then performance (in the form of new venture success) can only emerge when the entrepreneur acts to exploit the opportunity discovered ahead of peers (Shane and Venkataraman, 2000). From this theoretical perspective, McMullen and Shepherd (2006) argue that alertness becomes an entrepreneurial behavior when alert individuals act upon identified opportunities. McMullen and Shepherd (2006) further draw on Hebert and Link (1988) to suggest that entrepreneurial alertness is likely to have a material impact

on entrepreneurial performance provided entrepreneurs act to exploit identified opportunities ahead of others.

Entrepreneurial action entails a propensity to seize a new product-market opportunity by launching a new venture (Lumpkin and Dess, 1996). This fundamental act of entrepreneurship may involve “*the act of launching a new venture, either by a start-up firm, through an existing firm, or via internal corporate venturing*” (Lumpkin and Dess, 1996, p.136). This reasoning is consistent with Kirzner’s (1979) contention that entrepreneurship is fundamentally about the processes of identifying new opportunities, and the entrepreneurial actions that follow. While several theoretical platforms could be used to explain how alertness influences performance (e.g., cognition), this study argues that the resource-based theory better explains how alertness drives new venture performance. The resource-based theory asserts that resources constitute assets that are available to, and useful for, entrepreneurs to detect and respond to market opportunities (Wade and Hulland, 2004). It is assumed that such resources are heterogeneously distributed among entrepreneurs, and may be unique and idiosyncratic to an individual entrepreneur (Helfat and Peteraf, 2015). A core tenet is that entrepreneurial resources per se do not influence performance (Zahra, Sapienza and Davidsson, 2006), rather variance in performance is determined by entrepreneurs’ deliberate efforts to create, extend and modify entrepreneurial resources (Teece, 2012; Zahra, Sapienza and Davidsson, 2006).

On this note, this study conceptualizes entrepreneurial alertness as a cognitive resource that an entrepreneur may possess and that affords the entrepreneur a cognitive capacity to spot opportunities ahead of others (Helfat and Peteraf, 2015; Messersmith and Wales, 2013). However, ownership of a cognitive resource by an entrepreneur might not on itself secure an entrepreneur a new venture success. Its performance effect is likely to be determined by an entrepreneur’s ability to exploit an opportunity recognized ahead of others (Teece, 2012). Thus, it can be expected that an increase in entrepreneurial alertness is likely to lead to new venture success on the basis of the fact that alert entrepreneurs are likely to take action to exploit existing and evolving new business

opportunities ahead of others (Shane and Venkataraman, 2000). Consistent with the resource-based theory, studies have argued that highly alert entrepreneurs are able to take advantage of growing market segments ahead of their competitors because such entrepreneurs have greater ability to monitor market changes and trends and are subsequently able to respond quickly ahead of rivals (Ardichvili et al., 2003; Baron, 2006; Gaglio and Katz, 2001). By acting to exploit a new market value proposition from an identified opportunity, an alert entrepreneur is then able to launch a successful new venture ahead of other entrepreneurs (Baron, 2006; Short et al., 2010). Thus, this study argues that:

***H<sub>1</sub>**: The greater the level of entrepreneurial alertness, the higher the likelihood that a new venture created would be successful.*

## **2.2 The role of networking capabilities**

Research on the entrepreneurial opportunity process suggests that launching and growing a new venture is a social process involving efforts by entrepreneurs to use their networks (and connections) to mobilize and deploy resources to exploit an opportunity (e.g., Ebbers, 2014; Fang, Chi, Chen, Baron, 2015; Newbert, Tornikoski and Quigley, 2013). Despite its vital implications for new venture success and potential to shed new light on when opportunity exploitation influences new venture success, research on entrepreneurial networking activities has focused largely on structural and relational networks entrepreneurs are involved in (e.g., Obstfeld, 2005; Newbert, Tornikoski and Quigley, 2013; Stuart and Sorenson, 2007) and their outcomes (Jack, 2005;). A contention is that greater structural holes, network diversity and relational ties help entrepreneurs gain access to diverse network-based resources to launch new ventures (Granovetter, 2005; Sheng et al., 2011; Stam, Arzlanian and Elfring, 2014). There is an implicit assumption that all entrepreneurs are equally capable of utilizing network resources to desired new venture performance outcomes (Fang et al., 2014; Stuart and Sorenson, 2007).

However, social network researchers (e.g., Fang et al., 2014; Ebbers, 2014; Hoang and Antoncic, 2003) have argued that access to network resources per se might not have a substantial



effect on new venture performance; rather, performance is likely to be an outcome of entrepreneurs' ability to use their networks to mobilize resources to exploit entrepreneurial opportunities ahead of others. This implies that entrepreneurs might differ in their ability to use resources embedded in networks to exploit entrepreneurial opportunities to achieve new venture performance outcomes (Stuart and Sorenson, 2007). Yet, limited previous research has focused on explaining how entrepreneurs use their networking activities to facilitate the benefits generated from entrepreneurial actions. In this study, we integrate the resource-based theory and networking capability perspective to address this gap in the entrepreneurship literature. We examine the question of whether the effect of entrepreneurial alertness on performance is contingent upon levels of social and business networking capabilities of entrepreneurs.

Social networking capability refers to an entrepreneur's ability to mobilize resources available within a social network structure (Fang et al., 2014). This definition is consistent with the scholarly discussion on how entrepreneurs create and utilize resources embedded in network relations (Hallen and Eisenhardt, 2012; Vissa, 2011). As such, the current study views social networking as an entrepreneurial networking capability that enables entrepreneurs to leverage their connections to local community leaders and local social peers to assemble and combine disparate resources and information to a desired end.

Additionally, social networking provides the conduits through which private information may flow to entrepreneurs. To the extent that the performance outcomes of entrepreneurial opportunity exploitation by an alert entrepreneur hinges on how useful market information are utilized in the exploitation process are used by entrepreneurs (Ebbers, 2014). Entrepreneurship involves high degree of uncertainty and risk-taking, for this reason information is a crucial resource that can be used to mitigate uncertainty (Acquaah, 2007). This argument is based on the understanding that social networks can boost the boundaries of rationality that an entrepreneur can use when deciding on an opportunity. As boundaries of rationality are extended, new venture ideas and opportunities, and potential sources of competitive advantages are better screened and assessed

by the entrepreneur, providing an enhanced effect of opportunity exploitation on new venture performance.

Furthermore, because networking with social peers exposes an entrepreneur to new and diverse business ideas, world views and a wider frame of reference for exploiting new business opportunities (Aldrich and Zimmer, 1986), it is likely that during the process of exploiting an opportunity the entrepreneur would rely on diverse information to make a decision. In less developed societies such as those in sub-Saharan Africa, quality information on entrepreneurial opportunities is hard to obtain as such information is informally held by key non-market actors such as local chiefs and kings; but these societies also have widespread collectivistic culture and kinship linkages (Acquaah, 2007). In the process of exploiting an opportunity, an entrepreneur can draw on affections embedded in kinship ties, for example, for knowledge on important sources of market success. The affections built in such social networks can also be used by an entrepreneur to build informal governing mechanisms to prevent opportunistic behavior of exchange partners to enhance success of a venture. Thus, we hypothesize that:

***H<sub>2</sub>**: The effect of entrepreneurial alertness on new venture performance is strengthened when levels of social networking capability increases in magnitude.*

Beyond social networks, entrepreneurs also develop and utilize resources in their business networks. Business networking refers to the formal or informal relationships among parties involved in a business transaction, for example, suppliers and buyers (Yiu et al., 2007). This study draws on extant literature on managerial ties (e.g., Luo et al., 2008; Sheng et al. 2011) to define entrepreneurial business networking capability as an entrepreneur's ability to establish relationships with key customers, suppliers and competitors in an industry. The literature indicates the importance of business network ties in entrepreneurship: they provide entrepreneurs with access to market resources (e.g., Luo et al., 2008; Yiu et al., 2007), access to crucial market information that may not be available in the open market (Sheng et al., 2011). Yiu et al. (2005, p. 185) further

suggest that business networking can help entrepreneurs benefit from a ‘multidivisional structure that reduces transaction costs and provides economies of scale and scope’.

In developing economies such as those in sub-Saharan Africa, underdeveloped factor markets hamper entrepreneurs’ ability to acquire resources efficiently (Deng, 2009). The literature suggests that the institutional environments in developing economies often prevent entrepreneurs’ from accessing critical markets; hence, business networking helps overcome institutional barriers and allows entrepreneurs to connect to banks, suppliers, distributors, buyers and customers (Liao and Welsch, 2003; Sheng et al., 2011). In such a context, business networks help fill institutional voids and facilitate the resource exchanges required for launching and growing successful new ventures (Khanna and Palepu, 1997). Thus, business networking provides alert entrepreneurs with local business knowledge, which is essential for exploiting entrepreneurial opportunities in a local market. The empirical literature provides some insights into how business networking may facilitate the performance benefits of entrepreneurial activities (e.g., Khanna and Rivkin, 2001). We argue that the resources (e.g., reduced transaction costs) brought about by business networks, the reduction in institutional barriers, and the decreased entrepreneurial uncertainties and risks brought about by having strong ties to business leaders might improve the chances of exploiting an opportunity for a successful new venture.

A major insight is that business networks provide entrepreneurs with information about current and future opportunities and industry trends, thus enriching the quality of market information available to new entrepreneurs to exploit a new business opportunity (Boso et al., 2013). A reliance on high quality market information may aid an entrepreneur launch a new venture with better insights on likely trends on the market. Similarly, business network ties offer access to advice, resources and problem-solving skills to entrepreneurs. Entrepreneurs can use such a network resource to implement an entrepreneurial opportunity with reduced investment of time and effort. Therefore, we suggest that:

*H<sub>3</sub>: The effect of entrepreneurial alertness on new venture performance is strengthened when levels of business networking capability increases in magnitude.*

### **3. Method**

#### ***3.1 Sample and data collection***

We developed the study's sampling frame from Ghana's company register database and the Ghana Business Directory (Appiah-Adu, 1998). A sample of 930 new ventures (450 from a total of 19,050 in Ghana's company register database and 480 from a total of 2,550 in the Ghana Business Directory) was randomly selected to elicit participation in the study. The respondents were entrepreneurs (i.e. founders or owners who have participated in the start-up process for their venture). The sample includes ventures that were founded in 2003 or later, were privately owned, and had fewer than 250 employees as of 2013. Scholars have not yet reached a consensus regarding what constitutes a new venture (Cardon and Kirk, 2015). However, the first six years of a new venture's existence are critical for the firm's survival (Shrader et al., 2000). In the current study, ventures up to 10 years of age were selected; this age helps us capture firms at various stages of development, including those at early, growing and stabilization stages (Cardon and Kirk, 2015).

We collected data in two phases. In the first phase, all 930 firms were contacted. A local branch of a local research firm with highly trained researchers administered the questionnaires. The entrepreneurs from the selected firms were approached with a questionnaire in person. Because the selected firms were predominantly small businesses, the entrepreneurs or owner-managers were the most knowledgeable about the firms' activities. To examine informant competency, each respondent was asked to report on a five-point Likert scale (1= "strongly disagree" and 5= "strongly agree") their (1) knowledge of the issues under examination, (2) accuracy of the information provided, and (3) confidence in the answers to the questions. We obtained 288 useable responses from the first study, representing a 30.96% response rate. Mean scores of 4.48 (SD=.56) for

knowledge of issues, 4.45 (SD=.52) for accuracy of responses and 4.65 (SD=.55) for confidence in answers were recorded.

Three years later, the entrepreneurs from the 288 firms that participated in the first study were approached to capture the firms' performance. The follow-up survey was conducted because cross-sectional studies are often a source of common method bias (Podsakoff et al., 2003). Therefore, we followed recent scholarly studies (Boso et al., 2013; Wiklund and Shepherd, 2011) to collect performance data from the selected firms with a three-year time lag, helping enhance confidence in our causal claims (Wiklund and Shepherd, 2011). Accordingly, using the same interviewers, a second hand-delivered questionnaire was administered three years after the first survey was completed and 203 firms (70.48%) provided complete responses to the Time 2 performance questions. We relied on the 203 matched questionnaires across Times 1 and Time 2 for our analyses.

The participating ventures were relatively young and small firms. On average, the firms had been in business for six years, which validates our focus on predicting new venture success. The average number of full-time employees was 28 and the average annual turnover was US\$ 342,150, suggesting that the firms are small business ventures. The firms are growth-oriented, as demonstrated by their high average percentage annual sales growth of 15.62% and profit growth of 13.21%. The average age of the entrepreneurs who responded to the survey was 48 years. The participating firms represented the manufacturing sector because this sector has been focused on by the Ghanaian government (ISSER, 2007). To assess non-response bias, we compared early and late respondents and found no significant difference in the study constructs (Armstrong and Overton, 1977).

### **3.2 Measure of constructs**

*Entrepreneurial alertness:* Entrepreneurial alertness was measured on a 13-item three-factor scale developed by Tang et al. (2012). Participants used a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree) to rate the extent to which each item described the lead

entrepreneur(s) in the firm: “I am always actively looking for new information” (Scanning and search); “I see links between seemingly unrelated pieces of information” (Association and connection); and “I have an extraordinary ability to smell profitable opportunities” (Evaluation and judgment). The alpha coefficient of the general alertness factor is .87.

*Social networking capability:* The social networking capability measures were taken from Shane and Cable (2002) to assess the entrepreneurs’ social networking activities including their ability to utilize their social contacts and connections to executives in external governmental and industry bodies (Luo, 2003). Three items were used to measure the construct ( $\alpha = .88$ ) on a Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

*Business networking capability:* Business networking capability measures were taken from Yiu et al. (2007) and Lau and Bruton (2011) to measure the entrepreneurs’ ability to interact with major market actors including suppliers, customers, distributors and competitors (Boso et al., 2013). Each item was measured on a five-point rating scale: 1 = not at all; and 5 = to a large extent. An acceptable reliability value was obtained for this scale ( $\alpha = .94$ ).

*New venture performance:* To measure new venture performance, we used self-reported performance indicators for three reasons. First, objective financial data are not publicly available from new ventures as such businesses tend to treat objective financial data as confidential and they are often reluctant to divulge it, especially in a weak institutional environment where trust can be very low (Li et al., 2005). Second, the literature suggests that subjective performance measures have been widely used in past research (e.g., Li and Zhang 2007; Li et al., 2005; Park and Luo, 2001; Wiklund and Shepherd 2005). Third, subjective performance measures were used to avoid the problems associated with objective performance measures in emerging economies, including non-standard financial reporting, inflation and devaluation of local currencies, and widespread use of informal means of exchanging value (Luk et al., 2008). Furthermore, it has been indicated that managerial self-reporting has a strong correlation with internally objective performance indicators (Dess and Robinson, 1984). Consequently, we measured the new venture performance construct

with seven items adapted from previous studies (e.g., Boso et al., 2013; Luk et al., 2008; Shenget al., 2011). The respondents were asked to evaluate their firms' financial indicators (e.g., profitability, margin, sales growth) relative to their major competitors on a five-point scale with anchors 1= "much worse than competitors" and 5= "much better than competitors". Cronbach Alpha's value for the combined mean was  $\alpha=.89$ , indicating high reliability (Hair et al., 2006).

*Control variables:* A number of control variables were included in the analysis to account for exigencies that may influence the outcome variable. These include firm size, firm age, founder age, education, prior knowledge and environmental dynamism. Firm age was measured as the number of years the firms have been operating since formation. To prevent skewness, firm size was measured as the natural logarithm of the firm's number of employees (Sheng et al., 2011). Founder's age was measured as the number of years, and the entrepreneur's educational attainment was dummy coded: 1 = "high school", 2 = "HND," 3 = "bachelor's degree," 4 = "master's degree," 5 = "doctoral degree". The environment variable was measured with multi-item indicators that assessed entrepreneurial perceptions of the dynamism of the business's external environment (e.g., Jaworski and Kohli, 1993). Details of specific items used to measure the constructs, including their respective factor loadings and t-values, are available in Table 1.

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Table 1 here

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### **3.3 Validity and reliability assessment**

We followed Cote and Buckley (1987) to statistically test for potential common method bias in our data by estimating three competing method models (Table 2). Specifically, Model 1 involved estimation of the trait-only model, in which all indicators were loaded on a single latent factor, whilst Model 2 was a method-only model, in which each indicator was loaded on its respective latent factor. Finally, in Model 3, a method and trait model involving inclusion of a common factor linking all the indicators in Model 2 was estimated. When the three models were compared, it was

revealed that Model 2 and Model 3 are superior to Model 1, and that Model 3 is not differentially better than Model 2. These results demonstrate that common method bias is not a concern in our data. On this basis of this, we conclude that common method bias is not a major problem in the present study.

Subsequently, we used the maximum likelihood estimation technique and covariance matrix to examine the psychometric properties of all the multi-item scales in confirmatory factor analysis (CFA). We used the LISREL 8.5 software package for the analyses. The CFA was designed to detect any problematic indicators in our constructs. Table 1 displays the final list of items, their sources, their respective standardized factor loadings and t-values, and results of reliability and validity assessments. The results indicate that item loadings are in their hypothesized direction and are positive and significant, confirming the convergent validity of our measure. Furthermore, the results reveal that Cronbach's Alpha reliability, composite reliability and discriminant validity of the measures are acceptable: values obtained were larger than the recommended minimum cut-off values of .70, .60 and .50 respectively (Bagozzi and Yi, 2012). Moreover, the convergent validity of the scales was affirmed because each factor loading exceeds the suggested cut-off value of .40 and is significant at  $p < .001$ . Additionally, estimates for average variance extracted (AVE) are higher than .50 and larger than the squared correlation between each pair of constructs (Bagozzi and Yi, 1988).

The fit of the measurement model is assessed using a number of fit statistics. The chi-square ( $\chi^2$ ) is the most basic test; however, due to its sensitivity to sample size, the ratio of the chi-square to degrees of freedom was also used to estimate the model fit. Although there is no agreement regarding a ratio constituting acceptable "fit", a value of below 2.0 is suggested (Bollen, 1989). The overall fit of the CFA measurement model (controlling for method bias) is acceptable:  $\chi^2/df = 1804.50/1475$ ;  $\Delta\chi^2/\Delta df = 1.22$ ; RMSEA = .05; NNFI = .93; CFI = .94; and SRMSR = .05. These criteria provide support for the robustness of the measurement items used (Ping, 2004).



### **3.4 Structural model estimation**

Moderated hierarchical regression analysis was utilized as the main statistical procedure for examining the relationship between entrepreneurial alertness and performance, as well as the proposed moderating effects of networking capability. Hierarchical regression is an appropriate technique for examining contextual research models (Cohen et al., 2003), and is well established as a model estimator in entrepreneurship studies (Anderson and Eshima, 2013). Under the hierarchical regression method, the variables, including the interaction variables, are entered sequentially in order to examine whether the next higher-order interaction(s) account for a statistically significant difference in the total explained variance (Wiklund and Shepherd, 2005). All variables involved in interaction analysis were mean-centred prior to model estimation. The variance inflation factors (VIF) for all regressions in the study's model were calculated to account for multicollinearity. The VIF value is 2.09, which is lower than the threshold value of 10, indicating that multicollinearity is not an issue in our analysis (Aiken and West, 1991). The mean-centre values were then used to plot the interactions following procedures used in previous studies (e.g., Dawson and Richter, 2006).

### **4. Findings**

Table 2 provides the means, standard deviations, and bivariate correlations between the constructs used. New venture performance correlates significantly and positively with entrepreneurial alertness, as well as with business networking capabilities, but not significantly with social networking. An explanation for this insignificant correlation is that true value of the relationship may be masked by some of the other variables included in this study. As the findings show, social networking is related significantly to new venture performance in the regression analysis in Table 3 (see Model 3). Although not directly hypothesized, Model 2 indicates that the two moderators tested in this study contribute to the variation in new venture performance, as reflected in the positive coefficients for social networking ( $\beta = .17, p < .01$ ) and business networking ( $\beta = .19, p < .01$ ). In other words, the two networking capability variables are performing dual roles in our study: they

are direct drivers of, as well as boundary conditioners of, the effect of alertness on new venture performance.

Hypothesis 1 proposes that entrepreneurial alertness is positively related to new venture performance. As shown in Model 2 of Table 3, the relationship between entrepreneurial alertness and new venture performance is positive and significant ( $\beta = .18, p < .01$ ), providing support for Hypothesis 1. Hypothesis 2 argues that social networking capability strengthens the relationship between entrepreneurial alertness and new venture performance, such that the relationship is expected to be stronger for firms with greater, as opposed to less, social networking capability. As shown in Model 4 of Table 3, the interaction term for entrepreneurial alertness and social networking capability (i.e. EA x SN) is significant and positive ( $\beta = .35, p < .01$ ). Therefore, the results support Hypothesis 2. In Hypothesis 3, we argue that new venture performance is maximized when entrepreneurial alertness and business networking capability are both high. In support of Hypothesis 3, the product term involving entrepreneurial alertness and business networking (i.e. EA x BN) is positive and significant for new venture performance ( $\beta = .49, <.01$ ). This supports the view that aligning high levels of entrepreneurial alertness and business networking capability is associated with greater new venture performance.

Following the procedure recommended by Cohen et al. (2003), plots of the interactions at  $\pm 1$  standard deviation of the mean values were created to facilitate interpretation. As Figure 2 shows, entrepreneurs with high levels of alertness and a greater degree of social networking capability generate a higher performance relative to counterparts with low alertness and less social networking capability. Further, linear comparisons of the slopes of the two conditions suggest that the two slopes are statistically different; however, the relatively flat slope of low levels of social networking capability indicates that the relationship between entrepreneurial alertness and performance does not materially change among entrepreneurs with low levels of social networking as the level of entrepreneurial alertness increases. Similarly, Figure 3 shows that greater degrees of business networking capability facilitate the effect of alertness on new venture performance. Again,

a linear comparison of the slopes of the two lines shows that they are statistically different; however, the relatively flat slope for the low business networking condition suggests that the entrepreneurial alertness-performance relationship does not materially change in the presence of low levels of business networking capability.

Model 5 estimates the effect of a three-way interaction between entrepreneurial alertness, social networking and business networking on new venture performance. The coefficient of the three-way interaction terms is significant ( $\beta = .67, <.01$ ), and the significant change in  $R^2$  indicates a significant improvement in model fit from Model 4 to Model 5, suggesting that the three-way interaction term provides an additional explanation of the variation in new venture performance. Because of the difficulty in interpreting a three-way interaction solely from the coefficient value, Figure 4 plots the three-way interaction, again following the procedure outlined by Cohen et al. (2003). The results indicate that new venture performance increases significantly at increasing levels of entrepreneurial alertness, business networking capability and social networking capability. In contrast, under conditions of low entrepreneurial alertness, less social networking and low business networking, new venture performance is significantly reduced.

## **5. Discussion and implications**

This study examines the effect of entrepreneurial alertness on new venture performance, and the moderating effects of networking capabilities (i.e. social and business ties). Findings from the study show that variability in entrepreneurial alertness explains significant changes in new venture performance. Findings further indicate that increases in entrepreneurial alertness and greater degrees of social and business networking capabilities are associated with increases in new venture performance. In sum, the study finds that, when an alert entrepreneur acts to exploit an entrepreneurial opportunity and make efforts to use social and business networking activities to mobilize resources to exploit the opportunity, the resulting newly established entrepreneurial

venture is likely to generate higher performance. These findings enable us make three important contributions to the entrepreneurship literature.

### **5.1 Theoretical contributions**

First, while previous research indicates that alertness is an important determinant of entrepreneurial opportunity recognition (e.g., Baron, 2006; Gaglio and Katz, 2001; Shane and Venkatraman, 2000; Short et al., 2010; Shepherd et al., 2007; Tripsas, 2008), theoretical specification and empirical examination of how alertness drives new venture performance remain incomplete. This study addresses this major gap in the entrepreneurship literature by integrating on the resource-based theory and research on entrepreneurial learning to conceptualize alertness as an entrepreneurial resource that may enable an entrepreneur to recognize an entrepreneurial opportunity. The study argues that how alertness, as a cognitive entrepreneurial resource, influences new venture performance is predicated on the propensity of the entrepreneur to act to exploit an opportunity (McMullen and Shepherd, 2006; Vissa, 2011; Newbert et al., 2011). The capability to act to exploit an opportunity is likely to vary among entrepreneurs (McMullen and Shepherd, 2006) because not all entrepreneurs are equal in their ability to act on an opportunity; while some may be fast to act to launch and grow a new venture, others may be late but still may be able to succeed with their new venture. For this reason, this study expected that variability in alertness, based on an entrepreneur's ability to act to exploit an entrepreneurial opportunity, is related to changes in new venture performance. Findings from a study of new ventures in Ghana show that entrepreneurial alertness has a material effect on new venture performance. Within the developing economy context of Ghana, a major implication is that while weak institutional support in governing in business exchanges present a challenge in this environment (Peng and Luo 2000), entrepreneurs with greater capability recognize and subsequently act to seize new business opportunities are likely to launch and grow successful new businesses in a developing economy setting.

Second, the entrepreneurship literature indicates that the entrepreneurial opportunity process is a social phenomenon capturing efforts by entrepreneurs to use their networks (and connections) to mobilize and deploy resources to seize upon an opportunity (Fang, Chi, Chen, Baron, 2015; Newbert, Tornikoski and Quigley, 2013). However, previous research has not fully examined how networking activities of entrepreneurs facilitates or weakens new venture performance consequences of opportunity exploitation. This study contributes further to the entrepreneurship literature by integrating the resource-based theory and networking capability perspective to examine the moderating effects of social and business networking capabilities on the entrepreneurial alertness - new venture performance relationship. This study argues that although acting to exploit an opportunity may enable entrepreneurs launch and grow a successful new venture, such an entrepreneurial effort may be more or less impactful on new venture performance depending on entrepreneurs' networking efforts (Fang et al. 2014; Hallen and Eisenhardt, 2012). Findings from this study show that the effect of entrepreneurial alertness on new venture performance is strengthened when entrepreneurs' networking efforts, captured in their capability to mobilize resources from social and business networks, are high. This finding is particularly important for entrepreneurs in less developed societies, who are often exposed to weak institutional environments with greater degrees of market uncertainty and volatility. In developing societies, such as Ghana, exploitation of an entrepreneurial opportunity is surrounded by a great deal of uncertainties and risks. Weaknesses in formal institutions undermine ability of entrepreneurs to protect their business interests from dysfunctional marketplaces. In such a context, studies have argued that informal sanctioning mechanisms embedded in networks provide entrepreneurs with structural supports to mitigate weak formal institutional supports in the entrepreneurial opportunity process (Stam, Arzlanian and Elfring, 2014). This argument finds a support in our study: an ability to exploit an entrepreneurial opportunity to launch a successful new venture in Ghana is strengthened when an entrepreneur has a stronger capability to use social and business networks to mobilize and deploy vital resources.

## ***5.2 Managerial and policy implications***

Beyond its theoretical contribution, this study also provides strong implications for entrepreneurs and policy-makers tasked with developing entrepreneurship policy in developing societies. In terms of implications for the entrepreneur, this study can guide new ventures in societies such as Ghana to improve their performance through the use of entrepreneurial alertness and managerial networking. In particular, the study's results show that high levels of alertness to an opportunity are important drivers of new venture success in the Ghanaian setting. Despite this potential value of entrepreneurial alertness for entrepreneurs in Ghana, the level of entrepreneurial alertness is generally low among entrepreneurs in this sub-Saharan African market (mean value of 3.61 on a scale of 1 to 7). It seems that entrepreneurs in this Sub-Sahara African country pursue entrepreneurial opportunities while at the same time harvesting interests in short-term efficiency gains. This insight is particularly relevant for two types of real-life situations. First, owners of new ventures are advised to pay particular attention to hiring business leaders who score high on entrepreneurial alertness. Second, adapted questions from the Tang, Kacmar and Busenitz (2012) entrepreneurial alertness scale to the Ghanaian context (see Table 1) can help owners investigate the level of a candidate's entrepreneurial alertness in a pre-job offer assessment if a firm wanted to increase the level of entrepreneurial mind-set among its workforce.

The idea that alertness to new business opportunities is directly related to success of new ventures when networking activities of entrepreneurs are high should be particular interests to policy-makers in sub-Saharan African societies such as Ghana. Two important policy lessons can be drawn from the findings reported in this study. First, it seems entrepreneurs in Ghana generally have low entrepreneurial alertness level, which means that they are less likely to identify new entrepreneurial opportunities available in the Ghanaian society. This calls for the need to intensify public entrepreneurship education to highlight the value of searching, connecting and evaluating information on entrepreneurial opportunities that could be exploited. One way this can be done is to

make entrepreneurship a central component of educational curricula so that the entrepreneurial opportunity exploitation mind-set could be developed in the population from early age. Second, it has been demonstrated in several empirical studies that entrepreneurship thrives in societies that have formal institutions functioning properly to govern economic exchanges. Unfortunately, institutions in sub-Saharan societies are too weak to be able to perform their governance duties. Entrepreneurs fill this gap by relying on network ties for informal governance mechanisms to protect their business interests. Given that informal governance mechanisms embedded in networks have been shown to be effective in aiding entrepreneurs develop and grow new ventures, entrepreneurship policy makers may need to devise means to incorporate those informal governance tools into formal business exchange codes of practice.

## **6. Limitations and future research**

The results reported in this study are limited in several ways, providing opportunity for future research. The first, the study's reliance on perceptual measures of new venture performance presents a challenge. While this is a valid approach within the developing economy setting of this study, where access to reliable objective secondary data on new venture performance is non-existent, the fruitfulness of the insights gained from studying the behavior of new ventures outweighs this limitation. Indeed, it has been argued that a founder-respondent's perception of an entrepreneurial venture's success or failure relative to rivals has a stronger motivational influence on managerial choices (Dess and Robinson, 1984). For example, Powell (1992: 125) argues that an 'entrepreneur's perception of performance can be regarded as an important independent variable in and of itself'. If available, future studies may, therefore, use an objective data to assess new venture performance.

Second, the study was conducted in the empirical context of new ventures in Ghana, so the findings must be evaluated in the context of this society. However, Ghana shares many characteristics with other emerging economies and therefore offers a rich context in which to test the impacts of entrepreneurial alertness theories from a developing economy perspective. It is

important to also acknowledge that despite the similarities, many developing countries possess their own unique cultural characteristics that allow for additional insights and theory development. For example, information is currently scarce on how national cultural factors – such as the future orientation, performance orientation or risk-aversion levels of the population – may act to shape the level and outcomes of entrepreneurial alertness activities. Consequently, research attention should be directed at exploring the impact of cultural factors on the success of entrepreneurial alertness across a range of developing economy societies, in order to incorporate into alertness theory additional variables that vary at the national level. Additionally, future studies might examine the entrepreneurial alertness and networking capability interaction in developing and developed economy settings to determine the value of networking activities under different resource availability conditions.

Third, the present study focused on new ventures that have been in business for an average of 6 years. However, since old and larger companies may have varied degree of resource stock, the extent to which younger and more matured firms rely on networking activities for resources may vary. On this note, it could be argued that of the extent to which alertness impacts on performance may vary across younger firms and more matured entrepreneurial ventures in terms of degree of network-based resource utilization. These are questions that future research could attempt to answer.

Fourth, this study has assumed that entrepreneurial action is a mechanism linking entrepreneurial alertness to performance. Yet, a formal empirical test of this mechanism (i.e., alertness to opportunity → entrepreneurial action → new venture performance) is not undertaken in this study due to lack of data. Again, the study has argued that the performance effect of entrepreneurial alertness is dependent upon entrepreneurs' ability to act on network resources to exploit recognized opportunities. However, the study does not formally test for different types of network resources. It would, therefore, be useful if future research takes steps to obtain data on



specific entrepreneurial actions and different types of networking resources and model their effects on new venture performance.

Finally, the current study indicates that entrepreneurs in emerging economy contexts should be more alert to opportunities, and that they should develop stronger networking capabilities. However, development of such cognitive capabilities and their corresponding network resources may take time and investments to develop. Future may want to test how time and cost may further condition the effect of networking capabilities on the alertness – performance relationship.

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**Table 1:** Constructs, measurement items and reliability and validity tests

Item description	Loadings (t-values) <sup>a</sup>
<b>Alertness scanning and search</b> (Tang, Kacmar and Busenitz, 2012): $\alpha=.96$ ; CR=.88; AVE=.72	.77 (fixed)
-I have frequent interactions with others to acquire new information.	.92 (18.76)
-I always keep an eye out for new business ideas when looking for information.	.90 (16.50)
-I read news, magazines, or trade publications regularly to acquire new information.	.88 (13.11)
-I browse the Internet every day.	.83 (12.37)
-I am an avid information seeker.	.78 (10.59)
-I am always actively looking for new information.	.75 (9.98)
<b>Alertness association and connection</b> (Tang, Kacmar and Busenitz, 2012): $\alpha=.81$ ; CR=.76; AVE=.71	
-I see links between seemingly unrelated pieces of information.	.94 (fixed)
-I am good at “connecting dots”.	.97 (26.81)
-I often see connections between previously unconnected domains of information.	.85 (19.78)
<b>Alertness evaluation and judgment</b> (Tang, Kacmar and Busenitz, 2012): $\alpha=.86$ ; CR=.79; AVE=.64	
-I have a gut feeling for potential opportunities.	.88 (fixed)
-I can distinguish between profitable opportunities and not-so-profitable opportunities.	.84 (18.18)
-I have a knack for telling high-value opportunities apart from low-value opportunities.	.83 (17.78)
-When facing multiple opportunities, I am able to select the good ones.	.79 (14.89)
<b>Social networking capability</b> (Shane and Cable, 2002): $\alpha = .94$ ; CR = .89; AVE = .69	
-I can obtain information about my industry from my network of contacts faster than competitors can obtain the same information.	.81 (fixed)
-I have a professional relationship with someone influential in my industry.	.87 (14.58)
-I have engaged with someone influential in my industry in informal social activity (e.g., playing tennis).	.86 (13.86)
<b>Business networking capability</b> (Lau and Bruton, 2011; Yiu et al., 2007): $\alpha = .88$ ; CR = .82; AVE = .67	
-Customers	.74 (fixed)
-Suppliers	.88 (12.17)
-Competitors	.80(10.67)
<b>Environment dynamism</b> (Jaworski and Kohli, 1993): $\alpha = .95$ ; CR = .94; AVE = .73	
-Demand for industry products or services is declining (reverse coded).	.70 (fixed)
-Products become obsolete quickly in target markets (reverse coded).	.78 (8.38)
<b>New venture performance</b> (Boso, Story and Cadogan, 2013; Luk et al., 2008; Sheng, Zhou and Li, 2011): $\alpha=0.89$ ; CR=.87; AVE=.67	
-Profitability	.89 (fixed)
-Profit margins	.92 (18.33)
-Return on investment	.85 (17.29)
-Market share	.88(.16.30)
-Return on asset	.79(9.22)
-Profitability growth	.93(17.29)
-Sales growth	.82(15.22)

**Table 2:** Descriptive statistics and correlations

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9
1. Firm size	27.67	.64									
2. Founder's age	49.28	13.34	-.01								
3. Education	2.26	1.13	.09*	.07							
4. Venture age	5.75	2.42	.10*	-.03	.10*						
5. Environment dynamism	3.67	1.38	.07	-.02	.11*	.12*	<b>(.85)</b>				
6. Social networking	3.43	1.03	.08	.00	.08	.06	.10*	<b>(.83)</b>			
7. Business networking	3.40	0.93	-	-.19**	.06	.13**	.14**	.16**	<b>(.81)</b>		
8. Entrepreneurial alertness	3.65	1.41	.09*	.13**	.18**	.09*	.01	.04	.03	<b>(.84)</b>	
9. New venture performance	3.93	1.33	-	.11*	.19**	.18**	.19**	.05	.18**	.22**	<b>(.81)</b>

N = 203; \*p<0.05; \*\*p<.01 (2-tailed test); S.D. = Standard Deviation; Square roots of average variance extracted are reported in the diagonal

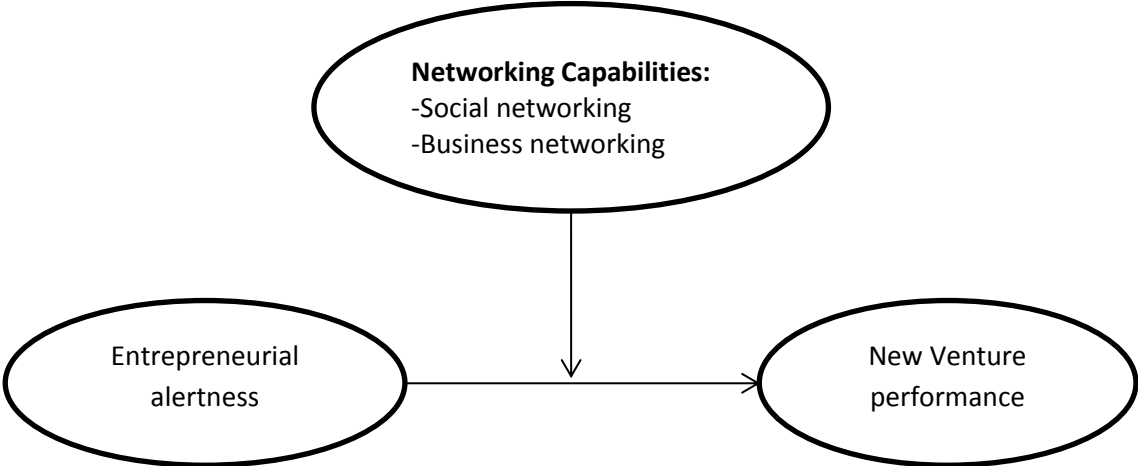


**Table 3:** Results of moderated regression analyses

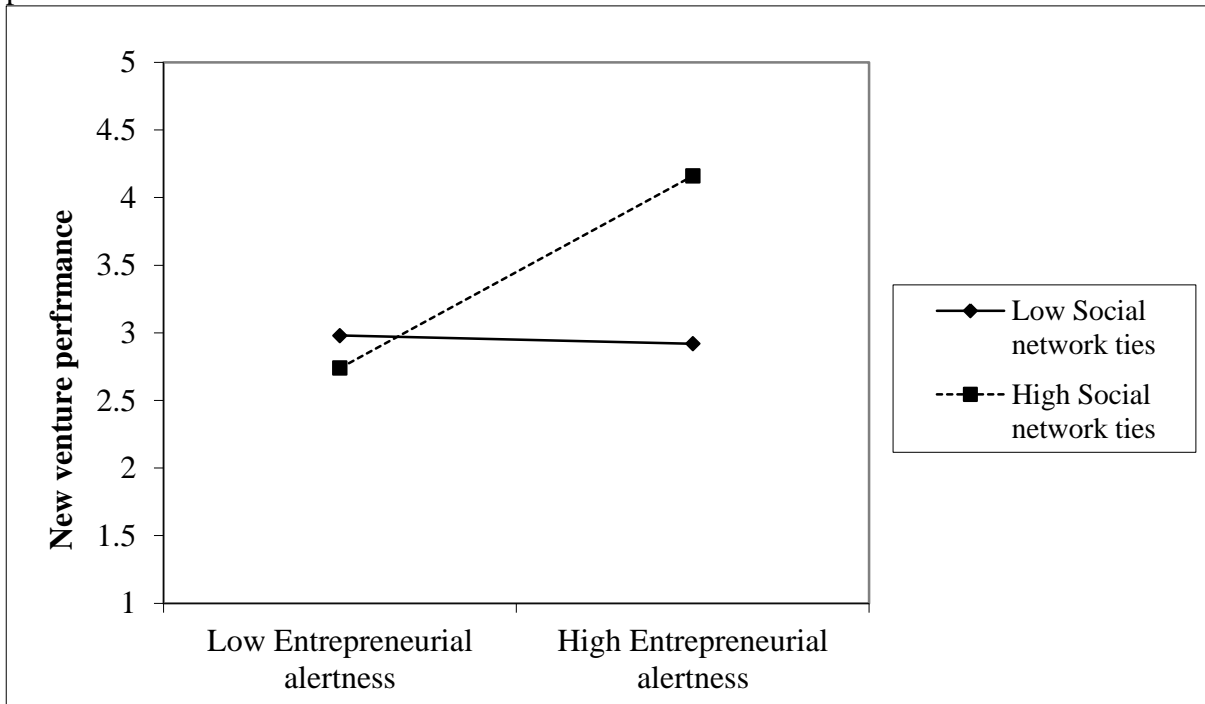
<b>Dependent variable: new venture performance (N = 203)</b>					
<b>Independent Variables</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>
<b><i>Control paths</i></b>					
Firm age (years)	-.13**	-.07*	-.08*	-.05	-.03
Firm size (employees)	.05	.04	.07*	.08*	.06*
Founder's age	.12**	.13**	.12**	.09*	.02
Founder's education	.11**	.05	.09*	.13**	.15***
Environmental dynamism	-.05	-.09*	-.12**	-.06*	-.04
<b><i>Direct effect paths</i></b>					
<b>H<sub>1</sub></b> : Entrepreneurial alertness (EA)		.18***	.23***	.26***	.13**
Social networking ties (SN)			.17***	.29***	.15***
Business networking (BN)			.19***	.18***	.22***
<b><i>Two-way interaction effect paths</i></b>					
<b>H<sub>2</sub></b> : EA x SN				.35***	.36***
<b>H<sub>3</sub></b> : EA x BN				.49***	.45***
<b><i>Three-way interaction effect path</i></b>					
EA x SN x BN					.67***
<b><i>Model Fit Statistics</i></b>					
F-value	3.4***	3.8***	3.9***	5.9***	6.4***
R <sup>2</sup>	.10	.15	.23	.28	.37
ΔR <sup>2</sup>	-	.05*	.08***	.05***	.09***
Largest VIF	1.24	1.47	1.65	2.09	1.07

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$ . Critical t-values are 2.325, 1.645 and 1.282 respectively (one-tailed test as all hypotheses are one-directional)

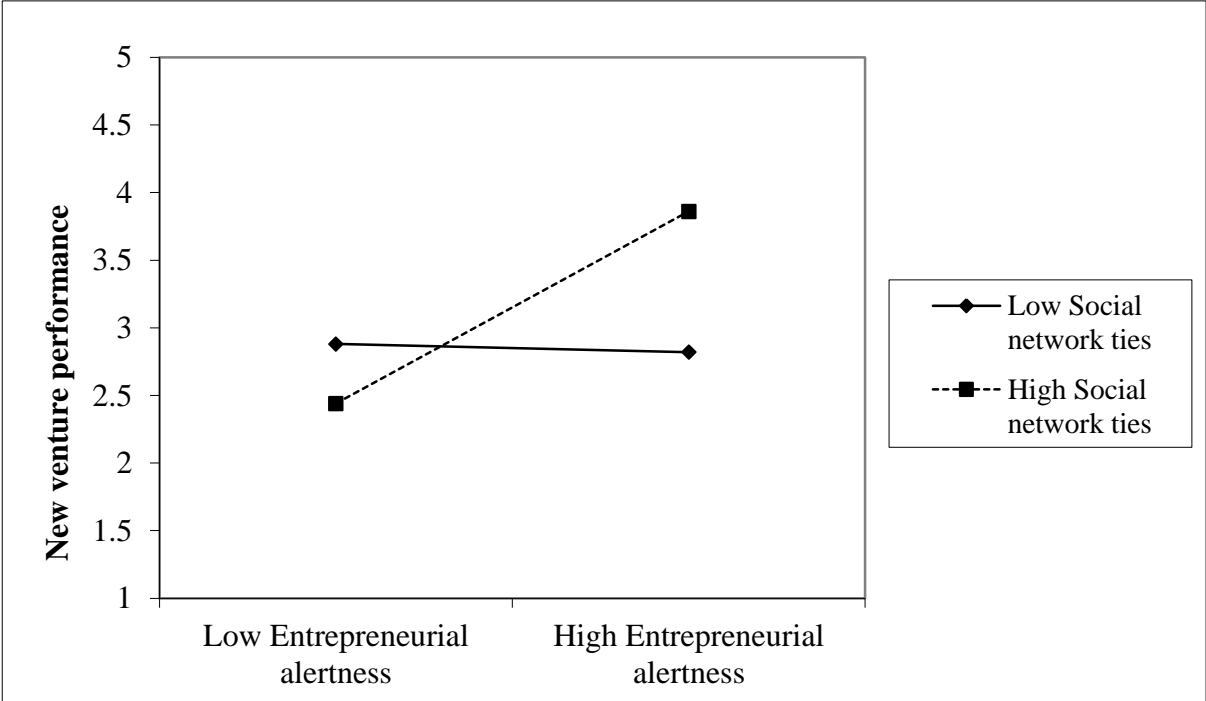
**Figure 1:** Conceptual model



**Figure 2:** Interaction effect of entrepreneurial alertness with social networking capability on performance



**Figure 3:** Interaction effect of entrepreneurial alertness with business networking on performance



**Figure 4:** Interaction effect of entrepreneurial alertness, business and social networking capabilities on performance

