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Risk-taking propensity, network ties and firm performance in an emerging economy

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1. Introduction

Entrepreneurs' risk-taking propensity is consistently viewed by scholars as a highly influential variable in entrepreneurship (Zhao *et al*., 2010). Some scholars are of the view that entrepreneurship provides a unique background to study risk-taking due to the high amount of subjectivity in entrepreneurs' decision-making (Cooper *et. al*., 1988; Barney & Busenitz, 1997). Accordingly, delineating entrepreneurs' risk-taking propensity is intimately linked to the goal of understanding and predicting economic behaviour. Many entrepreneurs have therefore, recognised that risk and uncertainty play an important role in entrepreneurship (Lammers, Willebrandsand and Hartog, 2010). Recent theoretical development in economics on SMEs performance takes into account risk-taking propensity of the entrepreneur (e.g. Cressy, 2006). In the psychology literature, risk-taking has often been included in the examination of firm success as one of the personality characteristics of the entrepreneur (e.g. Rauch and Frese, 2000).

Indeed, the literature suggests that entrepreneurs' risk-taking propensity is important in firm performance in advanced countries (Rauch and Frese, 2000, Rauch and Frese, 2000; Zhao *et al*., 2010). Yet too fewer studies (with the exception of Pattillo and Soderbom, 2000; Kraus *et al*., 2005) have examined risk-taking propensity of the entrepreneur in driving firm performance in

the context of developing countries and for the moderating role of network ties on the relationship between entrepreneurs' risk-taking propensity and firm performance, there is further paucity of research. This study attempts to fill this knowledge gap. Thus, the study asks the question: what are the performance implications of network ties on the relationship between entrepreneurs' risk-taking and firm performance of SMEs operating in a less developed market economy? By answering this significant question and by demonstrating the importance of how SMEs can exploit its relational environment, this study make one major contribution to the existing literature. Whiles risk-taking has been studied as part of entrepreneurial orientation literature (firm level) in developing country contexts (e.g. Boso *et al*., 2013) this study is the first study from the perspective of Sub-Saharan Africa to examine entrepreneurs' risk-taking propensity as one of the personality characteristics of the entrepreneur. Additionally, the study examines the moderating role of network ties on entrepreneurs' risk-taking propensity-performance relationship. By so doing the study adds further evidence to the growing literature entrepreneurship in developing economies.

In the sections that follow next, entrepreneurs' risk-taking is examined; the theoretical background and research hypotheses, as displayed in Fig.1 are presented. This is then followed by the study's analytical approach relating to measures and an assessment of the hypotheses. The study then presents the results and discussion of the study's contribution. The study concludes with remarks relating to future research direction.

2. Entrepreneurs' risks-taking propensity

There have been some scholar attempts in defining risk-taking in the entrepreneurship literature (March and Shapira, 1987; Stewart Jr. and Roth, 2001; Forlani & Mullins, 2000). However, the biggest challenges in understanding risk-taking rests on defining the term risk (Janney and Dess, 2006). According to Brockhaus (1980, p.513) risk-taking propensity is ''the perceived probability of receiving the rewards associated with success of a proposed situation, which is required by an individual before he will subject himself to the consequences associated with failure, the alternative situation providing less reward as well as less severe consequences than the proposed situation''. Indeed, Palmer (1971, p.38) indicated that the psychological testing of entrepreneur ''be directed most toward the measurement of an individual's perception and handling of risk''. In the literature, risk is often seen as an offshoot of the variation in the distribution of possible outcomes, the related outcome likelihoods, and their subjective values (March and Shapira, 1987; Stewart Jr. and Roth, 2001). Other scholars in classical decision theory, however, have noted that risk-taking or risky decisions are not based entirely on realistic calculations but are also

influenced by individual proclivity toward risk (Bromiley and Curvey, 1992). Thus, a vast scholarly research suggests that risk-taking is predispositional rather than situational (Plax and Rosenfeld, 1976; Stewart, Jr and Roth, 200; Zhao *et al*., 2010).

The trait approach suggests that entrepreneurs are characterised with the ability to take risk. Studies generally support the notion that risk-taking is predispositional and not simply a situational variable (Jackson, Hourany and Vidmar, 1972), and there is strong evidence for a propensity for risk-taking (Jackson *et al*, 1972). Differently put, an entrepreneur must take risk to establish a business venture. Types of risk, an entrepreneur faces are financial risk, management risk and personal risk (Gartner, 1990). It is, therefore, reasonable to argue that entrepreneurs put their whole career on the line in their pursuit of a new and independent enterprise (Gartner, 1990). Entrepreneurs who start new ventures risk financial well-being, career opportunities, family relations and psychic well-being (Liles, 1974). The financial commitments made by entrepreneurs to a failing venture can result in major losses and could endanger the entrepreneur's future standard of living (Brockhaus, Sr, 1980). Failure of the entrepreneur can emotionally affect the individual because the individual is likely to devote himself to the venture. According to Liles (1974), as the financial and emotional consequences of failure could be injurious, potential entrepreneurs should analyse the risks associated with specific venture. The decision to undertake a venture therefore rests on the potential entrepreneurs (Zhao *et al*., 2010).

3. Theory and Hypotheses

To test the hypotheses of this study, prospect theory (Kahneman and Tversky, 1979; Tversky and Kahneman, 1992) and social capital theory (Granovetter, 2005) provide useful theoretical underpinnings for understanding the interrelationship between entrepreneurs' risk-taking, network ties and firm performance. With regards to prospect theory, the theory suggests that entrepreneurs are rational in making their risky investment decisions but exhibit different levels of risk aversion over time, depending on their positions relative to a given target outcome. The main tenet of prospect theory is the use of value function. The basic proposal of prospect theory is that decision makers such as entrepreneurs use reference points in evaluating risky choices. The theory suggests that entrepreneurs or decision makers are not necessarily risk-averse but rather they implement a risk-seeking behaviour when their performances are below a given target level and risk-averse when their performances are above the target level.

Regarding social capital theory, management scholars have contended that the social capital embodied in the development of managerial social networks and ties with external entities, a

micro-level construct, affects a firm's competitive advantage and performance, a macro-level construct (e.g., Burt, 1997; Peng and Luo, 2000, Acquaah, 2007). Scholarly evidence reveal that most empirical studies examining the micro–macro link have focused on the impact of social capital developed from the networking relationships with only top managers of other firms (suppliers, buyers, and competitors) on organizational activities (Acquaah, 2007). Additionally, although it has been suggested that the value of social capital is contingent on the risk-taking (as part of entrepreneurial orientation literature)-performance relationship (Boso et al., 2013), there is no comprehensive investigation into how social capital is contingent on individuals' risk-taking propensity-firm performance linkage. Social networking and ties are important in developing country settings because of the presence of strong collectivistic cultures (Acquaah, 2007; Acquaah and Eshun, 2010). Yet, there have been few scholarly studies testing the effects of social capital developed from entrepreneurial networking and social ties on the value of social network ties on the association between individual's risk-taking propensity and firm performance in less developed market settings.

Thus, drawing on prospect theory and social capital theory this study enriches our understanding of the beneficial effects of entrepreneurs' risk-taking propensity, contending that network ties are important informal governance mechanisms that minimize the impact of risk-taking behaviours of entrepreneurs, such that network ties become increasingly relevant to firms when risk-taking are less effective in driving firm performance (Granovetter, 2005). As such, this study posits that because formal business-supporting institutions in emerging markets are under-developed (London and Hart, 2004), network ties (defined here as entrepreneurs' social ties with governmental authorities, with managers in other firms and with community leaders) may be a major facilitator of the effectiveness of entrepreneurs' risk-taking propensity (Bruton *et al*., 2008; Li and Zhou, 2010).

3.1 Risk-taking propensity and Performance

SMEs in Africa are awash with a highly risky environment particularly relating to uncertainty about demand, price and exchange rate volatility, difficulties in contract enforcement and unreliable infrastructure, notably electricity (Pattillo and Soderbom, 2000). For example, one detrimental effect of difficulty faced by SMEs in enforcing contracts is that, input quality and timeliness of delivery are subject to uncertainty. Economic theory suggests that risk-averse entrepreneurs might be willing to accept a lower return in exchange for less exposure to risk, while entrepreneurs highly inclined to take risk might receive compensation through higher expected profits. In the Ghanaian setting, entrepreneurs' level risk-taking may play a role in

several ways. For example, entrepreneurs' level of risk-taking becomes crucial in deciding the sector to operate when starting a new venture.

INSERT FIGURE 1 HERE

Indeed, entrepreneurship and risk are two concepts that are viewed as inseparable in the entrepreneurship literature. For example, entrepreneurship is often associated with bearing of or exposure to risk, separating entrepreneurs from employees and managers (Begley and Boyd, 1987). For this reason, the way entrepreneurs deal with risk by the individual is likely to influence firm performance. The theoretical economic literature suggests that risk-taking behaviour of entrepreneurs has a positive effect on performance (Pattillo and Soderbom, 2000). The standard model suggests that, in a market where all risks are priced and investors are generally risk averse, a portfolio with a higher risk level will lead to a higher expected return by earning a risk premium (Pratt, 1964). As such, the level of risk taking by the entrepreneur is expected to have a positive impact on performance (Cressy, 2006).

Indeed, research suggests that firms undertake risk in the hope, and under the assumption to achieving competitive advantages against their rivals in relentless competition (Cornwall and Perlman, 1990; Covin and Slevin, 1991). However, the literature indicates that little empirical evidence supports a robust relationship between risk taking and firm business performance and research results are often mixed (Wang and Poutziouris, 2010; Zhao *et al*., 2010). Thus, empirical studies indicate that individuals' risk-taking propensity positively relates to firm performance.
The argument that returns are not determined by level of risk as such, but by the right combination of different kinds of risk, creating the right portfolio has been stressed by Cressy (2006). This suggests that more cautious entrepreneurs may earn higher profits. Based on the above evidence, it is argued that individual's risk-taking propensity positively influence firm performance. Accordingly, it is proposed that:

H_1: *The higher the level of entrepreneur's risk-taking propensity, the higher the performance of their firms.*

3.2 Entrepreneurs' risk-taking propensity, business ties and performance

Scholarly developments have shown that when managers develop networking relationships with top managers of other firms, they are able to acquire resources, valuable information, and knowledge, which are used to lessen uncertainties and thus enhance performance. For example, the literature has underlined the significance of business network ties in facilitating the creation, acquisition, and exploitation of knowledge (Yli-Renko *et al*., 2001). Indeed, Park and Luo (2001) contended that networking relationships with customers may create both customer and brand loyalties, and increase sales. Further, entrepreneurs who develop ties with suppliers are likely to get access to quality raw materials, superior service, and fast and reliable deliveries (Peng and Luo, 2000; Acquaah, 2007). In addition, entrepreneurs who develop with competitors may lead to the sharing of information about how to reduce operations cost (von Hippel, 1988). Such entrepreneurs are able to collaborate with competitors to share resources, and implicitly collude to deal with competitive uncertainties in their environment (Park and Luo, 2001; Acquaah, 2007). This may help entrepreneurs to reduce risk in the business environment. Entrepreneurs with higher levels of risk-taking propensity are likely to take reactive actions and tend to shift their attention from low risk activities towards responding to risky actions. Through their interaction with business ties, managers are exposed to information concerning other firms' policies and practices, which they often emulate in their own organisations (Geletkanycz and Hambrick, 1997). Thus, connecting business ties might help a firm to better access new information, but may not change management mental set if the major focus is on a competitor's strategic moves. Thus, managerial networking relationships and ties with top managers of other firms enable organisations to secure access to information, resources, and knowledge that are used to improve performance. Thus, it is argued that:

H2: *The positive association between entrepreneurial risk taking and firm performance will be more positive when business network ties are higher.*

3.3 Entrepreneurs' risk-taking, political ties and Performance

The current study investigates the notion of risk taking propensity-firm performance relationship by addressing the question of whether the risk taking and firm performance relationship is conditioned by differential levels of political ties within a less developed market setting. Political ties, often portrays personal links with government agencies and officials (Acquaah, 2007) and are seen as an important social resources for firms operating in less developed market environment where formal institutional constraints remain relatively weak and business people often rely on connections with those in power to achieve their business objectives (Luo, 2003; Acquaah and Eshun, 2010). Entrepreneurs in less developed market economies benefits from

preferential access to valuable market information controlled by governments, fewer bureaucratic delays, both monetary and non-monetary incentives such as getting tax reductions and obtaining land, and licenses when they associate themselves with political authorities and agencies (Child and Tse, 2001; Park and Luo, 2001).

Further, political ties enable firms to better understand the rules of the game and are able to achieve an advantageous position in terms of market share (Wang and Chung, 2013). Indeed, Acquaah and Eshun (2010) contended that it is not *what* entrepreneurs know alone that affect a firm's performance, but also *who* entrepreneurs know play a critical role in firm performance. This indicates that the political ties relationships developed with government officials and agencies impact on a firm's performance. In a less developed market economy such as Ghana, government officials and agencies play a significant role in regulating business activities and providing resources and opportunities for firms. Firms therefore depend heavily on governments for valuable resources and favourable regulations (Acquaah and Eshun, 2010). In Ghana, politicians and government officials still have considerable power and control over the allocation of resources and politicians have control over most financial institutions and the awarding of major contracts, while bureaucratic officials control the regulatory and licensing procedures. This point has been observed by Adjibolosoo (1995) and Li et al., (2008) stating that politicians and bureaucrats can give access to organisations relating to resources and opportunities that may affect a firm's activities. Therefore, firms whose owner-managers are able to get access to politicians and bureaucratic officials will be more able to secure the resources necessary for the strategic organisation of their activities and be successful in guiding their firms to higher performance. Accordingly, this study argues that entrepreneurs who develop extensive personal and social networking relationships with politicians and bureaucratic officials are likely to reduce the negative relationship between risk taking and firm performance such that higher political ties will positively moderate such relationship. Thus, a summary of the ensuing argument is provided as follows:

H_3: *The level of political ties within a less developed market economy moderates the association between entrepreneurs' risk taking propensity and firm performance in such a way that such a relationship is more positive and significant.*

3.4 Entrepreneurs' risk-taking propensity and community leadership ties

Culture plays a significant role in many African economies. For example, the cultures in sub-Saharan Africa are highly collectivistic, with the extended family and broader community

performing a substantial role in the lives and activities of individuals and businesses (Acquaah, 2007). Indeed, in many African societies, there are strong network of personal and social relationships developed over time that provides the basis for collective action in communities (Jacobs, 1965). In Africa, community leaders such as local chiefs and kings and religious possess influential powers in sharing resources (e.g. land) and providing access to valuable information and knowledge to businesses (Acquaah, 2007; Acquaah and Eshun, 2010). In Ghana, there are two parallel political systems and authorities: (1) the formal political system of the modern nation state (democracy), and (2) traditional political systems that pre-date the modern nation state (traditional ruling) (Acquaah (2007). The role of these traditional political leaders is to establish ownership, control, and distribution of property among families in communities. They also create, maintain, and enforce the social norms and values of their communities, including traditional religious rituals, thus developing a strong interpersonal bond among individuals in their communities. Thus, individuals (including government officials) who belong to a particular ethnic group or community demonstrate strong allegiance and loyalty to their traditional social and political system and its leadership (Acquaah, 2007). Indeed, entrepreneurs who develop network ties with community leaders are able to get access to resources and information as the community leaders endorse the firm and its activities and refer it to their communities. This may enable the firm to obtain financial resources, enter new market segments or gain access to new customers, and/or acquire technological know-how. The literature from sub-Saharan Africa suggests that the social networks and ties developed by entrepreneurs with community and religious colleagues provide entrepreneurs with information about business opportunities, links with sources of financial resources, and markets for their products (Kuanda and Buame, 2000). Accordingly, this study argues that entrepreneurs who develop extensive personal and social networking relationships with community leaders such chiefs, kings, opinion leaders, church leaders and elders are likely to reduce the negative relationship between risk taking and firm performance such that higher community ties will positively moderate such relationship. Thus, an organization whose top managers cultivate stronger social networking relationships with community leaders will be able to utilise the benefits derived from such relationships to reduce risk in the environment. The ensuing discussion leads us to argue that:

H_4: *The positive association between entrepreneurs' risk taking propensity and firm performance is more positive when community leadership ties are higher.*

4. Method

4.1. Study Setting

In testing this study's hypotheses, data from SMEs operating in Ghana was used. Ghana is a sub-Saharan West African country and with a population of about 25 million people (CIA World Factbook, 2012). As a developing country, Ghana has experienced increased economic growth rates with average GDP growth of 16.3% (Standard Chartered Bank, 2011; Boso et al. 2013). Ghana has been recognised as one of the few Sub-Saharan African countries to reduced poverty from 34% in 1990 to about 9% in 2010 (World Bank, 2010). Scholars have indicated that Ghana's GDP growth and its ability to reduce poverty has been due to the market-based activities of private micro and small enterprises and favourable enterprise policies by successive Ghanaian governments (Chironga *et al*., 2011; Boso *et al*., 2013). Indeed, Ghana has received tremendous ovation in the popular business press and related publications in relation to its success in economic transformation policies (Leechor, 1994; Acquaah, 2007). It is recognised as one of only seven emerging market economies in Sub-Saharan Africa (Hoskisson *et al*., 2000).

According to OECD (2008) private firms account for about 88.5% of economic activity in Ghana with government services accounting for only 12.0%. Indeed, there has been a dramatic transformation of the Ghanaian economy since 1980, when Ghana's GDP growth rate accounted for only 3.8% and Government services accounted for 97.2% of economic activities while about 51.7% lived below the poverty line (World Bank, 2012). Despite this major success, Ghana still faces many challenges in promoting more economically, socially, environmentally sustainable forms of entrepreneurial activity and much of its people still continue to share fundamental characteristic of impoverished societies (UNESCO, 2010). For example, The 2010 Global Monitoring Report (GMR) of the United Nations Education, Scientific and Cultural Organization (UNESCO), showed that about 92% of the population survives on less than $2 daily, while 71% survives on less than $1 daily (UNESCO, 2010). Poverty in Ghana is characterised by hunger and high unemployment (World Bank, 2010). Indeed, entrepreneurial firms face several challenges in operating in an environment considered as unpredictable (World Bank, 2010). Ghana is, therefore, a useful case example to show how the entrepreneurs' risk-taking propensity of operating SMEs has supported economic growth in a developing economy. This study therefore, sheds light on how network ties influence the association between entrepreneurs' risk taking and firm performance in a Sub-Saharan African developing economy characterised by high risks and uncertainty.

4.2. Sample and Data

The purpose of the study is to examine the performance of SMEs in a developing country. As such, a survey-based approach was used to collect data from SMEs operating in Ghana, a sub-Saharan African country. This study used a non-probability sample of SMEs selected from the 2012 database of the Ghana Business Directory and the membership directory of the Association of Ghana Industries (AGI) to test the hypotheses. 736 firms were contacted via telephone and email to elicit information in this study. The sampling criteria were based on the following (i) firms had to be independent entities with no affiliation to any company group or chain (Wiklund and Shepherd, 2011; Boso *et al*., 2013); (ii) firms that were owned and controlled by individual or group of entrepreneurs with at least 50% ownership (Goedhuys and Sleuwaegen, 2010); (iii) firms that employ a minimum of five and a maximum of 500 full-time workers (Goedhuys and Sleuwaegen, 2010; Wiklund and Shepherd, 2011; Boso *et al*., 2013); (iv) firms had to be manufacturers of physical products or service providers that engaged in productive business activities (Morgan et al., 2012; Boso et al., 2013); (v) firms with a minimum of five years business operation experience (Morgan et al., 2012), (vi) firms had to had a complete contact information of the founder or the chief executive officer (CEO) (Khavul *et al*., 2010). Of the 736 firms contacted, 514 firms (69.8%) agreed to participate in the study.

Subsequently, the entrepreneurs were contacted with the questionnaires, administered in person. Responses were received from 317 firms (61.7%). To reduce common method variance (Podsakoff et al., 2003; Ortega, 2010), those in-charge of finance in the 317 firms were contacted to elicit further information on the performance of the firms. After a reminder has been sent to the finance managers, 298 out of the 317 firms (94%) were received. Responses from the remaining firms were not used because the finance managers those firms were unwilling to provide the performance details of their firms. Table 2 presents information about the specific industries of the firms involved in this study.

INSERT TABLE 1 HERE

4.3. Measure of constructs

The current study relies on previous studies for items to measure key constructs examined. Thus, items were adapted from previous validated studies and changes were made to the wording to suit the Ghana context (Adomako and Danso, 2014; Acquaah, 2007). The internal reliability values for all scales are above 0.70 threshold recommended by Nunnally and Bernstein (1994).

4.3.1 Firm Performance

A three-item, seven-point, subjective performance scale adopted from Murphy *et al*., (1996) measured firm performance: efficiency, growth and profitability. Efficiency was measured by using three items; return on assets, return on equity and return on investment. In addition, growth was measured by using three items; employee growth, sales growth and market share growth. Finally, profitability was measured by using net profit margin, return on sales and gross profit margin. The use of a subjective performance measure, long employed in management research (e.g., Covin and Slevin, 1989; Lawrence and Lorsch, 1967; Tan and Peng, 2003; Boso et al., 2013), provided several advantages in the current study over the use of objective measures. First, the focus of this study was on entrepreneurs' risk-taking-firm performance relationship and how network ties moderate this relationship in Ghana. In this study's context, obtaining reliable accounting-derived measures is tiresome due to difference in accounting procedures and willingness of survey respondents to disclose confidential performance information (Dess and Robinson, 1984; Powell, 1992). Second, the use of a subjective performance measure facilitates comparison across industries, market contexts and economic conditions (Achtenhagen *et al*., 2010). All items were measured with Likert-like scale with each item showing acceptable reliability with Cronbach's alpha values above the recommended threshold (Huck, 2000). The combined mean of the scale measures constitute the variable score (Anderson and Eshima, 2013). Cronbach Alpha's for the combined mean was α=.89, indicating high reliability (Hair *et al.,* 2006).

4.3.2. Entrepreneurs' risk-taking propensity

A scale developed and validated by Gomez-Mejia and Balkin (1989) was used to measure entrepreneurs' level of risk propensity. The entrepreneurial risk taking scale has been validated by other scholars (e.g. Palich and Bagby, 1995). Accordingly, the items used in this study were based on previous studies. The entrepreneurs who responded to this survey were asked to register their responses to each of four items using a seven-point Likert-like scale ranging from: 1= strongly disagree; to 7= strongly agree. With a Cronbach's alpha of 0.93, risk propensity scale showed acceptable reliabilities (cf. Nunnally, 1978).

4.3.3. Business Ties

Business network ties were measured by adapting the scales developed from Yiu *et al*., (2007) and Lau and Bruton (2011). The business ties scaled adapted in the current study has been

validated in the literature (e.g., Boso *et al*., 2013). The extent to which firms interact with industry counterparts including suppliers, customers, distributors and competitors were measured. Each item was measured on a seven-point Likert like scale ranging from: 1= not at all; 7= to a large extent. The Cronbach's alpha of the political ties scale was .92 demonstrating high reliability (Hair et al., 2006).

4.3.4. Political Ties

Measures of political ties were adapted from Acquaah (2007) and defined political ties as social capital derived from the development of networking relationships with government officials such as politicians at different levels of government and with bureaucratic officials in regulatory, supporting, investment, and industrial institutions. This approach to measuring political ties has been validated in other studies (e.g., Acquaah and Eshun, 2010). Political ties scale was measured on a 7-point Likert scale with anchors ''not at all'' and ''very high extent''. The Cronbach's alpha of the political ties scale was .88 demonstrating high reliability (Hair *et al*., 2006)

4.3.5 Community leadership ties

Following Acquaah (2007), community network ties was defined as the extent to which top managers at entrepreneurial firms utilise personal ties, networks, and connections with Local kings, chiefs and/or their representatives, religious leaders (e.g., pastors, priests, imams) and ties with local opinion leaders (e.g. assembly men/women, local head teachers, and community leaders). Thus, community leadership ties scale was adapted from Acquaah (2007) to assess managers' ties with community members. Each item was measured on a seven-point rating scale: 1=not at all; and 7= to a large extent. An acceptable reliability value was obtained for the community leadership ties scale with Cronbach's alpha of 0.91 (Nunnally, 1978).

INSERT TABLE 2 HERE

4.4. Control variables

In line with existing literature (e.g. Boso *et al*., 2013; Krishnan and Teo, 2012; Li and Zhang, 2007), seven control variables were tested for. This is because previous studies indicate that these variables have the potential to influence the performance of a firm. Therefore, as argued by Krishnan and Teo (2012) the controlled variables were adopted to account for factors other than the theoretical constructs of interest that could explain variance in the dependent variable (performance). The control variables adopted in this study include firm size, firm age and entrepreneurs' level of education, entrepreneurs' level experirnce, gender and entrepreneurs' age.

Additionally, following scholarly works (e.g. Adomako and Danso, 2014; Boso *et al*., 2013), industrial type were controlled for by using industry dummy.

4.5 Validity and Reliability checks

Following Podsakoff and Organ (1986), Harman's one factor test was conducted to check for the existence of common method variance by subjecting all the key construct of interest into a factor analysis. The number of factors that account for the variance in the various measures was then determined. It was observed that none of the factors accounted for a majority of the variance. Also, a test for response bias was performed to see whether non-response could be a major issue in interpreting the regression results. On the basis that late respondents are similar to non-respondents (Oppenheim, 1966), the responses from the early respondents to the late respondents were compared on a number of key variables by using Wilcoxon-Mann-Whitney test to see if any significant difference exists between these two groups of respondents. The test revealed no significant difference between the responses from early and late respondents. Thus, in interpreting the outcome of this survey, non-response was not a major concern. The internal consistency reliability of the main constructs was analysed using Cronbach's alpha, which ranged from .88 to .93. The composite reliability (CR) of the main constructs ranged from .84 to .95, and the average variance extracted (AVE) ranged from .76 to .88. A full list of all constructs and corresponding Cronbach's alpha, CR and AVE is provided in table 2.

To test the reliability and validity of the measures, LISREL 8.5 and the maximum likelihood estimation procedure was used to examine all scales in confirmatory factor analysis (hereafter CFA). In order to avoid the risk of violating minimum sample size to parameter ratios, conventional practices were followed (e.g. Cadogan et al., 2006) to analyse the scales initially in subsets; thus, scales that were conceptually related were analysed together (Baker and Sinkula, 1999). Each item was allowed to only load on one construct for which it was an indicator. Item loadings were as hypothesised and were significant at $p< 0.001$. The results indicated that a two factor model fitted the data moderately well (χ^2 =311.59, df=186, $p<0.001$, GFI=.97, CFI=.96, NNFI=.95, SRMSR=.05, RMSEA=.04). As can be seen in Table 3, fit indices that ranged from very good to excellent was obtained. For completeness, Table 3 also displays the results of a 'full measurement model' in which all items were entered simultaneously in a CFA model with a predicted measurement model imposed (Cadogan *et al*., 2006; Boso *et al*., 2013).

INSERT TABLE 3 HERE

INSERT TABLE 4 HERE

5. Statistical Procedures

Moderated hierarchical regression analysis was utilised as the main statistical procedure for examining the relationship between entrepreneurs' risk-taking propensity and firm performance as well as the proposed moderating effects of managerial network ties. To test the hypotheses, a number of multiplicative interactions were created. Existing literature was followed in the creation of the interaction terms (Adomako and Danso; Hmieleski and Baron, 2009). Due to the inclusion of interaction term in the regression estimate, multicollinearity becomes apparent. As such, all the variables involved in the creation of the interaction terms were residually centred (Little, Bovaird and Widaman, 2006). After the residual centering approach, the variance inflation factors (VIF) was calculated for all regressions in the study's model to test for multicollinearity. All VIF values were below 3.5. Thus, lower than the threshold of 10, indicating no concerns regarding multicollinearity (Aiken and West, 1991; Baum, 2006).

Three main models were estimated. In model 1, the effects of the control variables on firm performance were estimated. In model 2, the control variables and the main effects variables were estimated. In model 3, all variables (including the interaction variables) were estimated. Following procedures set forth by Dawson and Richter (2006) and utilised by Hmieleski and Baron (2009), each interaction was graphed. Summary of the regression equations for the models are presented below:

FP=FZ + FA + GN + IN + ED + EE + EA + e ……………………………………………………(1)

FP=FZ + FA + GN + IN + ED + EE + EA + (BT + CT + PT + RP) + e…………………………………………………………………………………………..... (2)

FP=FZ + FA + GN + IN + ED + EE + EA + (BT + CT + PT + RP) + (RP x BT) + (RP x CT) + (RP x PT) + e ……………………………………………………………………………………….(3)

Where FP= firm performance; FZ = Firm size; FA = Firm age; GN = Gender; IN = Industrial type; ED = Entrepreneurial education; EE =Entrepreneurial experience; EA = Entrepreneurial Age; BT = Business ties; CT = Community leadership ties; PT = Political ties and RP = Risk taking propensity.

6. Results

Table 4 provides means, standard deviations and bivariate correlations for study variables. In order to test the study's measures for discriminant validity the square roots of AVEs for all multi-item constructs were calculated (Table 2). The results show that, for all constructs, each correlation of one construct with another is small than the square root of its AVE, suggesting that discriminant validity for the measures (Fornell and Larcker, 1981). This indicates that the measured concepts differ significantly from each other (Bagozzi and Philips, 1982). Table 5 presents the results of the hierarchical regression models. The interactions are graphed in figures 1 to 3. This study describes results in relation to the individual hypotheses.

INSERT TABLE 5 HERE

Hypothesis 1 proposed entrepreneurs' level of risk-taking propensity is positively related to firm performance. As shown in model 2 of table 4, the relationship between entrepreneurs' risk-taking propensity and firm performance (β=.216, $p<.01$) is significant and positive. Therefore, the findings offer support for hypothesis 1.

Hypothesis 2 suggested that business network ties moderates the relationship between the level of entrepreneurs' risk-taking propensity and the performance of their firms, such that the relationship will be stronger (i.e. more positive) for those with high as opposed to low, business network ties. As shown in model 3 of table 4, the interaction of entrepreneurs' business network ties with risk-taking propensity is significant and positive (β=.291, $p<.01$). The graph of this interaction (Figure 2) indicates that the relationship between entrepreneurs' risk-taking propensity and the performance of their firms is more positive for those with high, as opposed to low, business network ties. Therefore, results support hypothesis 2.

Hypothesis 3 stated that community network ties moderates the relationship between the level of entrepreneurs' risk-taking and firm performance, with the relationship being stronger (i.e. more positive) for those with high as opposed to low, community network ties. As shown in model 3 of table 4, the interaction of entrepreneurs' community network ties with risk-taking propensity is significant and positive (β=.314, $p<.01$). The graph of this interaction (Figure 3) indicates that the relationship between entrepreneurs' risk-taking propensity and firm performance is more positive for those with high, as opposed to low, community network ties. Therefore, results support hypothesis 3.

Hypothesis 4 argued that political network ties moderates the relationship between the level of entrepreneurs' risk-taking propensity and firm performance such that the relationship will be stronger (i.e. more positive) for those with high as opposed to low, political network ties. As shown in model 3 of table 5, the interaction of entrepreneurs' political network ties with risk-taking propensity is significant and positive (β=.219, $p<.01$). The graph of this interaction (Figure 4) indicates that the relationship between entrepreneurs' risk-taking propensity and the performance of their firms is more positive for those with high, as opposed to low, political network ties. Therefore, results support hypothesis 4

7. Discussion

Motivated by the fact that there are a limited number of studies from developing countries such as those in Sub-Saharan Africa on the impact of network ties on the relationship between entrepreneurs' risk-taking propensity and firm performance, this study investigates the interrelationship among entrepreneurs' risk-taking propensity, network ties, and firm performance. The study's main argument is that relational networks have a significant and positive performance implication on entrepreneurs' risk taking -firm performance relationship. Thus, a set of hypotheses were formulated to test the argument. The study argued that the level of entrepreneurs' risk-taking is positively related to firm performance. This study finds support for the notion that in a less developed market economy the level of entrepreneurs' risk-taking is positively related to firm performance. Willebrands *et al*., (2012) found a significant negative relationship between risk taking and firm performance. This finding differs from studies such as Willebrands *et al*., (2012) that found a significant negative relationship between the level of entrepreneurs' risk taking and firm performance. Thus, in developing countries such as Ghana, entrepreneurs that seek to take higher risk are more likely to succeed.

INSERT FIGURE 2 HERE

In addition, this study proposed a positive relationship between entrepreneurs' risk-taking propensity and firm performance when moderated by business network ties. This study finds support for the notion that in less developed market economies the positive association between entrepreneurs' risk-taking propensity and firm performance is more positive when moderated by business network ties. Indeed, previous research suggests that business network ties is an important predictor of business success because it provides several benefits including increased resource and market intelligent sharing among channel members; improved coordination of

logistical support; reduced tarnation costs and lower opportunistic behaviour of partners (Boso *et al*., 2013; Luo *et al*., 2008; Park and Luo, 2001). These results revealed that business network processes outside the borders of the firm further maximise the performance benefits of entrepreneurs' risk taking. This novel contribution to the small business and entrepreneurship literature made by the current study demonstrates that the development of business network ties makes the positive relationship between the level of entrepreneurs' risk taking and firm performance more positive for SMEs operating in a less developed market economy. This finding is important given that in Ghana, business supporting system is weak with under-developed legal and regulatory institutions, meaning that commercial laws and regulations are not strictly enforced by government officials. As such, exclusive reliance of taking higher risk is not sufficient for SMEs success.

INSERT FIGURE 3 HERE

It was further hypothesised that in an economy such as that of Ghana, community leadership ties moderates the association between entrepreneurs' risk-taking propensity and firm performance in such a way that such association is more positive and significant. This study finds support for the notion that in less developed market economies the positive relationship between entrepreneurs' risk-taking and firm performance is more positive when moderated by community leadership ties. The results suggests that social processes of network with community leaders outside the boarders of the firm increase the benefits of taking higher risks in a less developed market economy such as Ghana. In Ghana, the role of community leaders such chiefs, kings and opinion leaders are to establish ownership, control, and distribution of property among families in communities. They also create, maintain and enforce the social norms and values of their communities, including traditional religious rituals, thus developing a strong interpersonal bond among individuals in their communities. The current findings suggest that the development of community leadership ties with chiefs, kings and opinion leaders in the community in which the firm operates increase the performance benefits of entrepreneurs' risk taking in a less developed market economy such as Ghana. Thus, According to Acquaah (2007), community leaders serve as conduits for the transmission of information and resources for firms because they serve as local bridges between a firm and the community. The development of relationships between the firm's founders with community leaders provide the firm with valuable access to resources and information as the community leaders endorse the firm and its activities and refer it to their communities (Acquaah, 2007; Acquaah and Eshun, 2010). This suggests that community

network ties are critical in explaining variations in performance outcomes of risk taking activities in less developed market economy.

INSERT FIGURE 4 HERE

Finally, it was hypothesised that political ties moderate the relationship between the level of entrepreneurs' risk-taking and firm performance in such a way that such relationship is more positive and significant. These findings support the key theoretical argument that in a developing country such as Ghana where there regulatory and other institutional settings are undeveloped, political ties is an important element in the performance of SMEs. This is consistent with what Acquaah (2007) speculated, indicating that owner-managers in sub-Saharan Africa and in many emerging economies develop networking relationships with government officials such as politicians at different levels of government and with bureaucratic officials in regulatory institutions to facilitate business transactions. This novel contribution to the literature indicates that the development of political ties increase the impact of entrepreneurs' risk taking on firm performance among SMEs operating in a less developed market economy. This contribution is important because the enforcement capacity of the formal institutional structures is weak in sub-Saharan African economies, thus creating a high level of uncertainty about the firm of business activities.

This study advances the literature on SMEs by providing empirical evidence from the perspective of developing economies such as those located in Sub- Saharan Africa (hereafter SSA). So far, this is the first study from SSA that has examined this interrelationship between entrepreneurs' risk-taking propensity (individual level variable), managerial network ties, and firm performance.

8. Conclusions

The study's findings are important to managers of SMEs in less developed market economies in a number of ways. First, the findings indicate that the positive relationship between entrepreneurs risk taking and firm performance in a less developed market economy is made more positive when political ties are stronger. That is, when managers of SMEs develop higher ties with politicians and government officials, these ties positively moderate the positive relationship between entrepreneurs' risk taking and firm performance. A major ramification of this finding is that entrepreneurs should develop high levels of ties with politicians and government officials in less developed market economies when taking projects that are deemed risky. Establishing high

levels of ties with government officials and regulatory authorities is relevant in lessening the risk associated with the business activities.

Second, the study shows that in a less developed market economy, business network ties maximise the benefits of lessening the high risk associated with business activities. Hence, this study encourages managers of SMEs to consider developing ties with managers of other rival firms in the operation of their businesses as such ties can increase the performance benefits of risk taking. Third, the study shows efforts to develop community leadership ties maximise the benefits of risk taking in a less developed market economy such as Ghana, hence this study encourages managers of SMEs in less develop market economies to leverage community network ties to earn greater rewards for risk taking activities.

There are implications for policy too, since it may be possible for less developed market government and training organisations to develop training programmes to assist entrepreneurs understand how to achieve greater performance through network activities.

Relying on the data from SMEs in Ghana, this study found that managerial network ties (business, political and community ties) moderate the positive relationship between entrepreneurs' risk-taking and firm performance in such a way that such association is more positive and significant.

This study has a number of limitations that also offer directions for future research. First, the study focuses on SMEs in general. Since different SMEs may operate in multiple industries, the use of industrial dummies in the regression analysis to control for industrial effect may be insufficient to 'partial out' the industrial effects (Wan and Hoskisson, 2003). Hence, future studies could focus on SMEs limited to single industry to help deal with the industrial effect. Second, this study is only limited to SMEs in Ghana. A natural extension could therefore be to compare the results across a number of SMEs in different countries in SSA. Third, the use of cross-sectional data does not allow us to examine any changes in entrepreneurs' risk-taking and dynamic nature of managerial network ties. Future study can therefore rely on longitudinal research approach.

In conclusion, this study has examined the interrelationship between entrepreneurs' risk-taking, managerial network ties, and firm performance in a developing country setting. In examining entrepreneurs' risking taking-firm performance relationship, this study acknowledges that

managerial network ties is particularly important in a developing country such as Ghana which is characterised by relational and collective cultures, in which network plays a significant role in firm performance.

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