

Financial Literacy and Firm performance: The moderating role of financial capital availability and resource flexibility

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ABSTRACT: *Financial literacy, financial capital availability and resource flexibility are typically modelled as separate antecedents of firm performance. However, the boundary conditions for such models are less examined in a developing country context where financial literacy has been argued to be weak. Accordingly, drawing on RBV, we examined the performance implications of financial capital availability and resource flexibility on the financial literacy-firm performance relationship of entrepreneurial firms operating in a less developed market setting. Using a survey-based approach and employing OLS, we examined 298 entrepreneurial firms operating Ghana, a sub-Saharan African country. Our findings indicate that financial literacy improves firm performance and particularly so when resources are flexible and entrepreneurs are able to access finance with ease.*

Keywords: *Financial literacy, financial capital availability, resource flexibility, entrepreneurial firms, performance, Ghana.*

Entrepreneurs are confronted with complex financial decisions to turn around the fortunes of their businesses. For example, entrepreneurs make financial decisions in the form of savings, investment and retirement planning. Financial literacy therefore becomes crucial in financing decisions of firms and their subsequent performance. Indeed, recent empirical studies suggest low levels of financial literacy among advanced and emerging economies and few people are able to understand basic financial concepts (Lusardi and Mitchell, 2007b; Lusardi and Tufano, 2009; Cole, Sampson and Zia, 2009). This situation presents a challenge for entrepreneurial firms to enhance their performance due to recent attention paid to financial literacy by a wide range of major banking companies, government agencies and other organisations. For example, investors are concerned about entrepreneurs' lack of working knowledge of financial concepts. Indeed, most entrepreneurs do not have the tools they need to make decisions that are most advantageous to the performance of their firms. This state of affairs can affect the firm's day-to-day money management and ability to utilise funds for long-term goals such as investing in profitable ventures and activities. Certainly, ineffective financial management can result in behaviours that make entrepreneurs vulnerable to severe financial crises. From a broader perspective, entrepreneurial activities are compromised when entrepreneurs do not possess the skills required to manage their finances effectively.

Indeed, there is a compelling body of evidence to suggest a strong association between financial literacy and household well-being (e.g. Hogarth and O'Donnell, 1999; Lusardi and Mitchell, 2007a; Stango and Zinman, 2006; Lusardi and Mitchell, 2007b; Lusardi and Tufano, 2008). Despite this scholarly endeavour, there is a dearth of systematic empirical evidence for the impact of entrepreneurs' financial literacy on firm performance. We attempt to fill this knowledge gap by specifically testing three hypotheses. To address this challenge, therefore, we argue that the direct effect of financial literacy on firm performance is dependent on the internal strength (financial capital availability and resource flexibility) of the firm. Thus, we examine the performance implications of financial resource availability and resource flexibility on the financial literacy-firm performance relationship of entrepreneurial firms operating in a less developed market economy. Thus, we ask the question: how do financial capital availability and resource flexibility impact on financial literacy-firm performance relationship of entrepreneurial firms operating in a less developed market economy? By answering this critical question, we establish the relationship between financial literacy and firm performance and further demonstrate the contingent role

of financial resource availability and resource flexibility on financial literacy-firm performance relationship. Thus, we contribute to the literature in the following ways. First, we provide evidence of a positive association between financial literacy and firm performance after controlling for other determinants of firm performance, such as firm size, firm experience, industry and environmental munificence. Second, we identify and highlight two channels through which the relationship between financial literacy and firm performance might be enhanced. We argue that this study is the first to examine the moderating role of financial resource availability and resource flexibility on financial literacy-firm performance relationship. By so doing we add further evidence to the growing literature on entrepreneurial firms.

Theory and Hypotheses

This section discusses theoretical perspectives that underpin the relationship between financial literacy and firm performance; and the performance implications of resource flexibility and financial capital availability. To enhance our knowledge of these relationships, we dwell on the resource-based view (RBV) to discuss the beneficial effects of financial capital availability and resource flexibility on the relationship between financial literacy and firm performance, arguing that the relationship between financial literacy and firm performance is positively moderated by resource flexibility and financial capital availability. We briefly discuss RBV which serves as conceptual foundation for our hypotheses development. Thus, the hypotheses relate to the following: (1) financial literacy and firm performance; (2) financial literacy, access to finance and firm performance; (3) financial literacy, resource flexibility and firm performance.

The RBV (Penrose, 1959; Wernerfelt, 1984; Barney, 1991) suggests that organisations are bundle of resources. Scholars of the RBV propose the idea of firm 'diversity' (Barney, 1991) and also the notion that organisations are 'combiners' of valuable, heterogeneous, imperfect and mobile resources (Penrose, 1959; Wernerfelt, 1984; Barney, 1991; Barney and Clark, 2007). As such, the RBV "aspires to explain the internal sources of a firm's sustained competitive advantage" (Kraaijenbrink, Spencer and Groen, 2010, p.349). The main idea of the RBV is that a firm can achieve sustained competitive advantage and eventual superior growth and performance if it acquires and controls valuable, rare, inimitable and non-substitutable resources and capabilities, as long as it has the ability to absorb and apply them (Barney, 1991). For example, resources that can generate sustained competitive advantage include assets, capabilities, organisational

processes, information and knowledge. The bundle of resources available to a firm is essential for generating competitive advantage, and can be used to undertake various activities to achieve growth. A growing body of scholarly work suggests that the internal capabilities of the firm should be examined to explain firm performance (Shelton, 2005). As indicated by Brush and Chaganti (1999), the configuration of a firm's capabilities enables the firm to efficiently pursue its growth. Thus, using the RBV we examine the performance implications of financial capital availability and resource flexibility of firms on financial literacy performance relationship of entrepreneurial firms in Ghana.

Financial literacy and firm performance

Financial literacy has attracted interest from scholars and policymakers. In the past few years, scholars have increased their efforts in conducting research related to financial literacy and have also documented the relationship between financial literacy and financial decision making (Hilgert et al., 2003; Christelis et al., 2010; Banks et al., 2010; Smith et al., 2010; Lusardi and Mitchell, 2011a; van Rooij et al., 2011a; Yoong, 2011). A major conclusion of most of these studies suggests a strong positive association between financial literacy and financial outcomes. Further, recent empirical evidence suggests a strong correlation between financial literacy and behaviour (Cole, Sampson and Zia, 2009) and that an important determinant of stock market participation is financial literacy (van Rooij, Bank and Lusardi, 2007). For example, the literature suggests that individuals with more financial knowledge are more likely to engage in a wide range of recommended financial practices (Hilgert, Hogarth and Beverley, 2003).

Similarly, Stango and Zinman (2007) contended that individuals who are unable to correctly calculate interest rates out of a stream of payments end up borrowing more and accumulating lower amounts of wealth. Thus, financial literacy is a significant tool for managing business finance (Miller et al., 2009). For example, financial literacy enables investors to evaluate and compare financial products, such as bank accounts, saving products, credit and loan options, payment instruments, investments, insurance coverage, so as to make optimal decisions (Miller et al., 2009). Similarly, financial literacy tends to equip individuals with financial knowledge necessary to create household budgets, initiate savings plans, and make strategic investment decisions (Greenspan, 2002). Accordingly, Hilgert et al., (2003) contended that financial knowledge directly correlate with self-beneficial financial behaviour. It is can be argued that stronger financial

knowledge is relevant in overcoming difficulties in accessing and managing credit markets. For example, financial literacy can facilitate the decision making processes such as payment of bills on time, proper debt management which can improve the credit worthiness of potential borrowers to support firm performance. Therefore, the importance of being financial literate cannot be overemphasised. We therefore test the hypothesis that financial literacy directly influences firm performance. Thus:

H1: *Financial literacy positively relates to firm performance in a developing economy*

Financial literacy, financial capital availability and firm performance

Possessing adequate financial knowledge may not necessarily translate into firm performance as financing is an essential part of operating any firm. Without adequate access to financing, the operating power of the firm and its potential for growth is at risk. The growth and performance of small firms also depends on the type of and amount of resources controlled by or made available to it (Covin and Slevin, 1997; Wiklund and Shepherd, 2003). Access to finance is particularly important in realising business objectives such as growth and performance (Sexton and Bowman-Upton, 1991). In the entrepreneurship and small business literature, lack of access to finance has been associated with entrepreneurs' inability to achieve their objectives (Pissarides, 1999; Hsu and Chen, 2000; Heshmati, 2001; Beck, Demirguc-Kunt, and Maksimovic, 2005; Hutchinson and Xavier, 2006; Malo and Norus, 2009; Robson and Obeng, 2008; Coad and Tamvada, 2012; BIS 2013) and restrict owner-managers' opportunities to take action (Wiklund and Shepherd, 2003).

Financial capital availability enhances the pursuit of resource-intensive growth strategies (Cooper et al., 1994) because slack resources can be tailored to new strategies and practices, which in turn can allow the firm to pursue new growth opportunities (Penrose, 1959). Indeed, the literature suggests that financial capital availability influences firm growth and performance (Storey, 1994; Cooper et al., 1994). Thus, access to sources of financing may play the twin roles of proxying for (internal) financial capacity as well as providing a signal about the quality of future growth opportunities, in turn, reducing the external financing constraints for firms facing informational problems. We argue that financial resource availability can underpin the effective implementation of entrepreneurial and financial management plans by allowing firms to access finance that may be more demanding in terms of collateral requirements but that also have better chance of

succeeding. Accordingly, it can be seen that financial resource availability is likely to enhance the relationship between financial literacy and firm performance, such that the association is more strongly positively related to performance under high levels of financial literacy. Accordingly, we propose that:

H2: *For firms operating in a developing economy, financial literacy is more positively related to firm performance when financial capital availability is higher.*

Financial literacy, resource flexibility and firm performance

The current study further enriches the notion of performance benefits of high levels of financial literacy by addressing the question of whether the influence of financial literacy on performance is conditioned by differential levels of resource flexibility within a less developed market environment. We refer to resource flexibility as the extent to which a resource can be applied to a larger range of alternative uses, the costs and how easy it is to switch its use from one alternative use to another and the time required to switch from one use to another (Sanchez, 1997). Resource flexibility is influenced by the inherent attributes of resources themselves. Resource flexibility may, therefore, entail how easily resources may be applied to different usage to achieve performance.

Scholars have examined the effects of resource flexibility on performance, such as financial performance and innovation performance (Sanchez, 1997; Li et al., 2008a). A major conclusion is that resource flexibility enhances performance. For example, resource flexibility has been argued to enhance firms' ability to transform resources easily, and make quick response to the changing market preferences (Sanchez, 1995). Indeed, when resource flexibility is enhanced, firms are able to extend the scope of their usage and this enables firms to find adaptive resources for showcasing superior set of capabilities (Sirmon and Hitt, 2003). Therefore, firms are able to enhance their performance with the increase of resource flexibility.

Consideration of resource flexibility as a potential contingency factor of the link between financial literacy and firm performance is important in less developed country markets because such markets may be characterised by nonflexible capacity. Flexible resources become more valuable as it can be used to produce either product depending on the realised demand. Entrepreneurs with high financial literacy levels are likely to turn around flexible resources with ease which in turn is likely to enhance the association between financial literacy and performance. In this view, we

argue that firms may be influenced by the extent to which flexible resources enable them to exploit entrepreneurial opportunities in less developed market economies. Accordingly, it can be seen that resource flexibility is likely to enhance financial literacy and firm performance relationship such that the relationship is strongly positive. Accordingly, we propose that:

H3: *For firms operating in a developing economy, financial literacy is more positively related to firm performance when resource flexibility is higher.*

Method

Study setting

To test our hypotheses, we used a sample of entrepreneurial firms operating in Ghana. Ghana is a sub-Saharan West African nation and has a population of about 24 million people (Ghana Statistical Service, 2011), with a landmass of about 239,460 square kilometres, approximately the size of United Kingdom. As developing country, Ghana has experienced consistent political stability since 1992 with high GDP growth of 16.30% (Standard Chartered Bank, 2011). Ghana is widely recognised as one of few developing countries to have rapidly reduced severe hunger from 34% in 1990 to less than 9% in 2010 (Boso et al., 2013; World Bank, 2010). Recent empirical studies suggest that Ghana's GDP growth and its ability to reduce poverty are primarily results of market-based activities of private firms and market friendly policies of successive Ghanaian governments (Chironga et al., 2011; Boso et al., 2013). For example in 2006, Ghana was ranked among top 10 reformers on the ease of doing business (World Bank, 2006). Recent indicators suggest a steady improvement in the Ghanaian business environment for entrepreneurs over the last five years (World Bank, 2010).

According to OECD (2008) private firms account for about 88.5% of economic activity in Ghana with government services accounting for only 11.5%. There has been a dramatic transformation of the Ghanaian economy since 1990 when Ghana's GDP growth rate accounted for only 6.9% and Government services accounted for 90% of economic activities while about 51.7% lived below the poverty line (World Bank, 2010). Despite Ghana's success story, Ghana still faces many challenges in promoting more economically, socially, environmentally sustainable forms of entrepreneurial activity (Dia, 1996) and much of its people still continue to share fundamental characteristic of impoverished societies (Boso et al., 2013). In relation to financial literacy, we conduct our study in a setting, Ghana in which financial literacy may be one of the most important barriers to success. This may in part be explained by low educational expenditures: measured as

a share of GDP, education expenditures in Ghana is among the lowest in the world (UNESCO, 2007). Ghana is, therefore, a significant case example to examine financial literacy, financial capital availability, resource flexibility and firm performance. Thus, study sheds light on how owner-financial literacy influences firm performance.

Sample and data collection

The purpose of the study is to examine the performance of entrepreneurial firms in a developing country. As such, a survey-based approach was used to examine entrepreneurial firms operating Ghana, a sub-Saharan African country. Previous studies conducted in Ghana suggest that there is no single public register of entrepreneurial firms in Ghana (Buame, 1996; Wolf, 2004). For this reason, the sample frame for this study was developed from multiple business listings including Ghana's company register database (available at Registrar General's Department, Ghana), Ghana Export Promotion Council, the Association of Ghana Industries and the Ghana Business Directory. We contacted 969 firms listed in Ghana company register database (i.e. 358 from a total of 11, 456), Ghana Export Promotion Council (i.e. 107 firms from a total of 787), the Association of Ghana Industries (i.e. 267 firms from a total of 1,245) and the Ghana Business Directory (i.e. 237 firms from a total of 2,341) via telephone to elicit information in our study. The following criteria were used to select the 969 firms for our study: (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., 2004), (vi) firms had to had a complete contact information of the founder or the chief executive officer (CEO) (Khavul et al., 2010). Two hundred and ninety-eight firms (30.8%) agreed to participate in the study.

Table 1: HERE

We contacted 298 firms by telephone to confirm participation in the study. Subsequently, the entrepreneurs were contacted with a questionnaire, administered in person. Responses were received from 201 firms (67.4%). To reduce common method bias (Podsakoff et al., 2003; Ortega, 2010), a follow-up study

was conducted by contacting the finance managers in the 201 firms in person with another questionnaire to capture the performance of the firms. After a reminder has been sent to the finance managers, 198 out of the 201 firms (98.5%) were received. Responses from the remaining three firms were discarded because the finance managers of the three firms were unwilling to provide the performance details of their firms. For the firms included in our sample, results from our follow up study (see table 1) show that firms: (1) created new products (mean score=6.5); (2) introduced new methods of production (mean score=6.3); (3) sustained growth (mean score=6.7); (4) opened new markets (mean score=6.7); and (5) generated profit (mean score=5.2) during the period they were in business. Further, as shown in table 1, none of the firms in the sample reported low scores on any of the five entrepreneurial profile variables. This is further shown in the results of our one sample t-test. Thus the results of our one sample t-test demonstrate that the mean values for all five entrepreneurial profile variables were significantly higher ($p < .01$) than the midpoint of 4. We can therefore confidently conclude that that the sample included in the sample consist only entrepreneurial firms. Our study focused on the following specific industries: Agriculture, forestry and fishing (12%); mining and quarrying (13%); manufacturing (21%); building and construction (16%); transport and storage (14%) real estate an storage (11%); crafts and artisans (8%); and others (5%) Table 2 presents specific industries of the 198 firms studied. Table 2 presents the percentage of firms by industry.

Table 2: HERE

Measure of constructs

The current study relied on previous research items to measure key construct examined. Thus, items were adapted from previous validated studies and changes were made to suite the Ghanaian context (Acquaah, 2007; Boso et al., 2013). Table 3 shows specific items used to measure the construct and their respective factor loadings and Cronbach's alpha values. The internal reliability values for all scales were above the 0.70 threshold suggested by Nunnally and Bersntein (1994).

Firm performance

The dependent variable tested in this study is firm performance. There are different ways of measuring firm performance. These include return on Assets (ROA) defined as the ratio of earnings before interest and tax to total assets (Cheng and Shius, 2007; Tong and Green, 2007); Return on equity (ROE) defined as the ratio of net profit to average total equity (Ebaid, 2009) and Tobin's Q, defined as the ratio of the market value of a firm's assets to their replacement cost (Lang, Stulz and

Walking, 1991). For the purpose of this study, return on assets (ROA) is used as a measure of firm performance. The adoption of ROA helps in dealing with size bias associated with the results (Adomako and Danso, 2014).

Financial literacy

Measures of financial literacy were adapted from Dahmen and Rodríguez (2014) to assess managers' level of financial literacy. In total, four items were used to measure financial literacy construct. Managers were asked to respond to the following statements: (i) we prepare monthly company financial statement (income statement and balance sheet); (ii) we review monthly financial statements; (iii) we perform financial analysis on monthly financial statements; (iv) we have an understanding of the company's gross profit ratio and its contribution to the overall profit. A 7-point Likert scale with anchors "strongly disagree" and "strongly agree" was used to record managers' financial literacy. The Cronbach's alpha of the scale was .79, indicating high reliability (Hair et al., 2006).

Financial capital availability

Following Cooper et al., (1994) and Wiklund and Shepherd (2005) we measured financial capital availability. One subjective item was taken from Wiklund and Shepherd (2005). This item measured the entrepreneur's level of satisfaction with his/her access to financial capital. This measure is original and is measured on a seven point scale with the opposite statements "insufficient and a great impediment for our development" and "fully satisfactory for the firm's development" (Wiklund and Sheperd, 2005). We then adapted four subjective items from Cooper et al., (1994). For example, entrepreneurs were asked to indicate how their companies have easy access to financial capital to support its business operations; how business operations are better financed than our key competitors' operations. This was measured on a seven-point-scale with anchors ranging from strongly disagree to strongly agree. The Cronbach's alpha of the scale was .84 for all items, indicating high reliability (Nunnally and Bersntein, 1994).

Resource flexibility

Following Sanchez (1995; 1997) we measured resource flexibility. In total, five items were used to measure resource flexibility construct. Entrepreneurs were asked to respond to the following statements: (i) main resources are widely used in product development, manufacturing, sale etc; (ii) difficulty of switching from one use of the main resource to an alternative use is low; (iii) time of switching from one use of the main resources to an alternative use is short; (iv) cost of switching from one use of the main resources to an alternative use is low; (v) the sharing degree of the same

resources used in developing, producing, selling and after-sell services of different products is high. A 7-point Likert scale with anchors "strongly disagree" and "strongly agree" was used to record resource flexibility. The Cronbach's alpha of the scale was .78, indicating high reliability (Nunnally, 1967; Nunnally and Bersntein, 1994; Hair et al., 2006).

Control variables

Ccontrol variables were also adopted to account for factors other than the theoretical constructs of interest that could explain variance in the dependent variable (i.e. firm performance). As business size, business age, industry, environmental munificence, age of the entrepreneur have been found been frequently investigated in previous research and influence growth (e.g. Adomako and Danso, 2014; Boso et al., 2013; Delmar, 1997), they were included as control variables. Thus, the control variables adopted in this study include firm size, firm industry, firm age and entrepreneur's age.

Results

Validity Checks

We test for convergent validity of our psychometric scales by assessing the composite reliability. Previous scholarly development indicates that estimates of composite reliability above .60 and statistically significant concept-to-domain coefficient ($t > 2.0$ $p < .05$) are considered relevant and supportive of convergent validity (Bagozzi & Yi, 1988).

Table 3: HERE

The values obtained were all above the stipulated value (.60) and all items proved to be statistically significant (see table 3). Next, we checked the discriminant validity of the constructs by using a three-prolonged approached that has been utilised by previous scholars (e.g. Fini et al., 2012; Adomako and Danso, 2014). First, we calculated the 95% confidence interval for each off-diagonal element of the phi-matrix and this proved that there were no case does the interval include the value of 1.00. Second, a comparison of our model with series of more restricted models with the correlation between each pair of latent constructs was performed. The significant differences in chi-square, between the null model and more restricted ones, point to a rejection of the hypothesis that that any two constructs are not mutually distinct. Finally, we made sure that the average variance extracted by each latent variable's measure was larger than its shared variance with any other latent variable. This proved to be important because it showed

the absence of significant problems due to random measurement error (Fornell and Larcker, 1981).

Measurement Model Analysis

We followed existing scholarly works (e.g. Adomako and Danso, 2014; Boso et.al 2013; Cadogan et al., 2006) in the creation of our interaction variables. Due to the inclusion of interaction variables in the regression estimate, multicollinearity becomes an issue. As argued in previous works (e.g. Little, Bovaird and Widaman, 2006), failure to orthogonalise the exogenous and endogenous variables can lead to structural coefficient bias. Following this argument, all the variables involved in the creation of the interactive terms were residually centred. A two step-procedure was adopted in the evaluation of the interrelationship between financial literacy, financial capital resource availability, resource flexibility and performance. The first stage involved the estimation of the non-hypothesised variables. In the second stage, the regression analysis was estimated with the interaction terms nested in the main effect model. (i.e. both the hypothesised and non-hypothesised control variables were put together in the second model). Findings from the collinearity test following the residual centering approach is presented in Table 5. As can be seen, all variables involved in the regression estimate exhibit a low variance inflation factor (VIF), way below the recommended cut off of 10.00 (Baum, 2006). Thus, all the variables can be used to interpret the regression results.

Table 4, 5, and 6: HERE

Findings and Discussion

In this study, we sought to enhance our understanding of the moderating role of financial resource availability and resource flexibility on the relationship between financial literacy and performance. Building on RBV logic, we developed a set of hypotheses predicting how (1) financial literacy affects firm performance; (2) financial resource availability moderates the relationship between financial literacy and performance; (3) resource flexibility moderates the relationship between financial literacy and performance. Our analysis focused on return on asset (ROE) as a measure of performance. Further, financial literacy was measured by asking respondents to assess the capability on the following: (i) preparing monthly company financial statement (income statement and balance sheet); (ii) reviewing monthly financial statements; (iii) performing financial analysis on monthly financial statements; (iv) understanding of the company's gross profit ratio and its contribution to the overall profit. In addition, we measured financial capital availability by asking entrepreneurs to indicate how their companies have easy access to financial capital to

support its business operations; how business operations are better financed than our key competitors' operations. Finally, resource flexibility was measured by asking entrepreneurs to indicate how: (i) main resources of the firm are widely used in product development, manufacturing, sale etc; (ii) difficult it is to switch from one use of the main resource to an alternative use is low; (iii) short it is to switch from one use of the main resources to an alternative use; (iv) low it is in terms of cost in switching from one use of the main resources to an alternative use; (v) high it is in terms of sharing degree of the same resources used in developing, producing, selling and after-sell services of different products.

Summary of Findings

Using RBV, we investigated the direct relationship between financial literacy and firm performance and potential moderating role of resource flexibility and financial capital availability on the relationship between financial literacy and firm performance. Our goal was to advance the entrepreneurship and strategy literature by untangling these relationships. Accordingly, we modelled the effects of financial literacy, financial capital availability, and resource flexibility on one performance outcome-return on assets (ROE). The literature suggests that individuals with more financial knowledge are more likely to engage in a wide range of recommended financial practices (Hilgert, et al., 2003). However, our main argument is that the association between financial literacy and firm performance has not been examined explicitly in a less developed market economy. Further, the boundary conditions for such models are under-explored, as is their applicability to developing economy setting. Thus, a set of hypotheses were formulated to test our argument. Our statistical results point to (1) financial literacy positively relates to firm performance; (2) financial capital availability positively moderates the relationship between financial literacy and firm performance; (3) resources flexibility positively moderates the relationship between financial literacy and firm performance. Thus, we found that financial literacy improves firm performance and particularly so when resources are flexible and when entrepreneurs are able to access finance with ease. These results echo the view that flexible resources and access to financial capital are contingency variables and that, entrepreneurs who are financial literate need to account for these contingency variables so as to enhance their firm performance. Thus, we identify and highlight two channels through which the relationship between financial literacy and firm performance might be enhanced. Our findings imply that flexible resources and access to financial capital are resources that are valuable for enhancing financial literacy-firm performance relationship.

Implications for Theory

This study contributes to entrepreneurship and strategy literature in two main ways. First, the direct effect of financial literacy on firm performance sheds new light on the importance ascribed to the concept of financial literacy in decision making (Hilgert et al., 2003; Christelis et al., 2010; Banks et al., 2010; Smith et al., 2010; van Rooij et al., 2011a; Yoong, 2011) and behaviour (Cole, Sampson and Zia, 2009). Our results suggest that financial literacy enhances firm performance. Without this, entrepreneurship theory is unlikely to unearth new insights into the role of financial literacy in firm performance in a less developed market economy. An implication is that scholars design their studies to include the role of financial literacy when firms report high performance. Second, we clarify why financial capital availability and resources flexibility matter when entrepreneurs report high levels of financial literacy by showing their moderating roles. We show that financial capital availability and resource flexibility enhance the association between financial literacy and firm performance. This new insight implies that by failing to consider the moderating role of financial capital availability and resource flexibility, we neglect an important contribution to the entrepreneurship and strategy literature and thus scholars may have research a premature and perhaps overly optimistic view of the importance of financial literacy in firm performance. Thus, we test the contingency role of financial capital availability and resource flexibility.

Managerial Implications

The argument that financial literacy enhances firm performance has been less explored in scholarly studies. Our study investigates this argument in a less developed market economy. Further, we examine the moderating role of two firm level variables on the relationship between financial literacy and firm performance. Thus, we highlight the importance of financial literacy, financial capital availability and resource flexibility in enhancing firm performance in a developing country setting. First, managers of entrepreneurial firms and policy makers may wish to pay greater attention to not only financial literacy but also concentrate on the ways in which firms can acquire finance and use flexible resources. Second, managers of entrepreneurial firms may develop their financial capability alongside learning to access flexible resources. This means that managers who encourage financial literacy as an end in itself but neglect financial availability and resource flexibility may achieve performance. However, our results suggest that when managers of entrepreneurial firms are highly inclined in financial management they need to consider availability of finance and flexible resources in order to spur higher firm performance.

Limitations and Future Research Directions

This study has a number of limitations that should be considered in the interpretation of the findings. First, the study focuses on entrepreneurial firms in general. Since different entrepreneurial firms may operate in multiple industries (e.g. agriculture, mining manufacturing, banking), 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). As such, future studies could overcome this limitation by focusing on entrepreneurial firms limited to specific industry to help deal with the industrial effect. Second, the generalizability of the results is limited because we used data from a sample of entrepreneurial firms in Ghana. Although the level of institutional development in Ghana may be similar to other developing economies and that the results obtained in the current study can be generalised to other developing economies (especially those in sub-Saharan Africa). Still, it is important to point out that there could be differences in the level of institutional development among developing countries, which could lead to different implications. Thus, repeating the analysis by relying on data from others developing parts of the world could be fruitful. Third, although we controlled for several factors that account for variance in firms' performance (e.g. firm size, firm age, industry, environmental munificence, entrepreneur's age), we did not include some potentially influential covariates that have been considered in previous scholarly studies, such as industry maturity (Eisenhardt and Tabrizi, 1995). This might limit the definitive evaluation of the relative importance of the relationship between financial literacy and firm performance in the current study and offers a chance for future researchers to take steps in this direction.

In conclusion, our findings support the fact that financial literacy is an important major driver of firm performance and should be developed as an integral part of the entrepreneurial activities. Therefore, managers should recognise and manage the learning process of financial management. This study also challenges scholars and managers to take a more complex assessment of how and why financial capital availability and resource flexibility affect performance outcomes of entrepreneurial firms operating a less developed market economy.

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Table 1: Entrepreneurial profile of the firms

1=strongly disagree; 7=strongly agree	Minimum	Maximum	Mean	S.D	Test value =4	t-values	sig
New product creation	6	7	6.54	.50	183.81	p<.01	
New product introduction	5	7	6.34	.48	193.08	p<.01	
Sustenance of growth	4	7	6.70	.46	207.84	p<.01	
Opening of new markets	6	7	6.67	.49	194.59	p<.01	
Generation of profit	5	7	5.23	.96	74.39	p<.01	

Table 2: Percentage of Firms by Industry

Industry	Percentage of firms
Agriculture, Forestry and Fishing	12%
Mining and Quarrying	13%
Manufacturing	21%
Building and Construction	16%
Transport and Storage	14%
Real Estate Activities	11%
Crafts and Artisans	8%
Others (Professional/scientific/technical activities/health care	5%

Table 3: Summary of Predictor Measures

Domain and Predictor	Number of Item	Scale format	Cronbach's Alpha	Ave. Factor Loading	CR
Financial literacy	4	1 to 7 Likert-scale	.79	.74	.70
Financial resource availability	5	1 to 7 Likert-scale	.84	.83	.84
Resource flexibility	5	1 to 7 Likert-scale	.78	.83	.78

Composite reliability (CR) is calculated as the sum of the square roots of the item-squared multiple correlations squared and divided by the same quantity plus the sum of the error variance (Werts, Lim and Joreskog, 1974).

Table 4: Collinearity Diagnostic Test

Dependent Variable = Firm performance	Collinearity Statistics	
	VIF	Tolerance
Firm size	1.161	.861
Firm Experience	3.543	.282
Environmental Munificence	1.216	.886
Industry Type	1.124	.869
Financial Resource Availability (FRA)	1.046	.941
Resource Flexibility (RF)	1.613	.564
Financial Literacy (FL)	1.662	.594
FL x FRA	1.006	.981
FL x RF	3.470	.279

Note: The table presents the results of collinearity test. The results indicate that there is no issue of multicollinearity among the variables

Table 5: Regression

Dependent Variable : Firm Performance	Model 1	Model 2
<i>Control variables</i>		
Firm size	.183 (2.015)	.142 (1.464)
Firm experience	.149 (1.651)	.106 (1.184)
Environmental Munificence	-.051 (-.647)	-.026 (-.334)
Industrial type	.040 (.540)	-.047 (-.601)
<i>Main effects</i>		
Financial Resources Availability	.556 (5.824)	.491 (5.077)
Resource Flexibility	.616 (6.505)	.571(5.867)
H1: Financial literacy	.210 (2.455)	.185 (1.969)
<i>Interaction effects</i>		
H2: Financial Literacy x Financial Resource Availability		.229 (2.595)
H3: Financial Literacy x Resource Flexibility		.214 (2.472)
Model fit		
R ²	.302	.346
Adj. R ²	.276	.314
ΔR^2	-	.044
F change	11.736	6.289
Sig. F Change	.000	.002

A = Beta coefficients are reported (t-values are in parenthesis). Critical t-values are 1.282, 1.645 and 2.325 for $\alpha = 0.10$, $\alpha = 0.05$ and $\alpha = 0.01$ respectively (one-tailed test as all hypotheses are one-directional).

Table 6. A summary of Standardised Parameter Estimates and Significant Level

Relationship	Standardised parameters	T-values	Comments
Financial literacy (FL)	.185**	1.969	Supported
FL x FRA	.229***	2.595	Supported
FL x RF	.214***	2.472	Supported

NB: FL is Financial Literacy; FRA is Financial Resource Availability; RF is Resource Flexibility. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.