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## GENERAL & APPLIED ECONOMICS | RESEARCH ARTICLE

# Culture, financial literacy, and SME performance in Ghana

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**Abstract:** This study extends the literature on financial literacy and cultural (Catholicism or Protestantism) beliefs to SME performance in a developing economy setting. Two basic questions motivated the study: (1) does culture influence financial literacy?; and (2) does culture mediate the relationship between financial literacy and firm performance in Ghana? The results, from 300 randomly sampled SME-Owners and based on Ordinary Least Squares and Logit regressions, suggest that cultural values militate against financial knowledge acquisition. Furthermore, Protestant beliefs strengthen the probability that SMEs would take advantage of growth opportunities due to financial literacy. Thus, the study concludes that the relationship between financial literacy and SME growth is cultural-context dependent. The study recommends that (1) religious bodies should inculcate financial education in their teachings; (2) financial literacy training programmes for SME-Owners should be tailored to meet their needs; and (3) cultural beliefs of SME-Owners should be of prime consideration in designing financial literacy programmes.

**Subjects:** Sociology of Religion; Christianity; Culture & Development; Economics, Finance, Business & Industry; Corporate Finance

**Keywords:** culture; financial literacy; SME performance; Ghana

### ABOUT THE AUTHOR

Samuel Kwaku Agyei is a lecturer at the Department of Finance, University of Cape Coast, Ghana. He holds a PhD in Finance from the University of Ghana Business School and is a member in good standing of the Institute of Chartered Accountants (Ghana). His current research interests include behavioral finance and development economics. This paper forms part of a broad research in the thematic area of impact of culture and financial literacy on financial decisions and performance of SMEs in Ghana.

### PUBLIC INTEREST STATEMENT

Previous studies have shown that financial literacy and cultural beliefs (Catholicism and Protestantism) influence business decisions that are connected to firm performance. Cultural differences include the fact that Catholics promote collectiveness and less support for wealth seeking while Protestants support individualism and wealth seeking. Based on these, this study examined whether Protestant beliefs lead them to seek for resources (financial knowledge) that eventually lead to firm performance, unlike Catholics. The study used data from SMEs in Ghana to conclude that all religious beliefs (Catholicism and Protestantism) lead their believers not to seek financial knowledge. Also, the religious belief that is important to SME performance in Ghana is Protestantism but that is only possible in an environment where the Protestants have financial knowledge. Ironically, the environment where Protestants have financial knowledge in itself reduces SME performance. Consequently, the study recommended that financial literacy training programmes must consider cultural background of SME-Owners.

## 1. Introduction

Small and Medium Scale Enterprises' (SMEs) contribution toward the achievement of the sustainable development goals of developing economies cannot be underestimated. These firms are known to be major contributors to employment generation, economic empowerment and social wellbeing of the majority of the citizens in developing economies who do not have access to formal sector employment mostly offered by the public sector. In view of this, ensuring the growth of SMEs should be of paramount interest not only to the owners, who are generally seen as the primary beneficiaries, but also to the state. Generally, SMEs are run on the ideals and values of the owners. Thus, their success or failure depends on the resources available to the owners. These resources, Nunoo and Andoh (2012) argue, include the financial literacy level of the SME-Owner and cultural values, as this study argues, especially when access to finance is no longer a major problem to SMEs in some developing economies like Ghana (Besley, Coate, & Loury, 1993; Nunoo & Andoh, 2012; Townsend, 1994).

Financial literacy and Cultural values of SME owners are key untapped organizational resources that could enhance SME performance (Growth) through sustained competitive advantage. According to Remund (2010), financial literacy can be summarized as: (1) Knowledge of financial concepts; (2) Ability to communicate about financial concepts (3) Aptitude in managing personal finances (4) Skill in making appropriate financial decisions (5) Confidence in planning effectively for future financial needs. It is generally expected that financial literacy would improve the quality of financial decisions and hence performance. Meanwhile, empirical works on financial literacy (mostly in developed countries) dwell more on determining the financial literacy levels and their determining factors (Ciemleja, Lace, & Titko, 2014; Lusardi & Mitchell, 2006, 2007a, 2007b) with very few addressing the consequences of financial literacy or illiteracy. The general conclusion has been that financial illiteracy is widespread. Even though Ciemleja et al. (2014) contend that an inappropriate measurement instrument could lead to inappropriate responses, the generally low level of financial literacy around the world is a source of worry because of the negative spill-over effects associated with ill-informed financial decisions (PISA/OECD, 2012). This condition has triggered a number of research interests around the world with some economies implementing national policies to arrest the negative effects of financial illiteracy, even though developing economies in Sub-Saharan Africa (SSA) have given it minimal attention, as at now.

In Ghana, research on financial literacy has followed the global trend. Attention has either been concentrated on either explaining financial literacy levels (Anokye, 2017; Ansong & Gyensare, 2012; Nunoo & Andoh, 2012) or linking financial literacy to firm financial performance (Adomako & Danso, 2014). Apart from the study of Nunoo and Andoh (2012), none of the above studies was interested in the financial literacy implications for the small and medium enterprises (SMEs). Nunoo and Andoh (2012) considered the financial literacy levels of owners of SMEs and its effect on their demand for financial services. They concluded that even though literacy of owners of SMEs is modest and women are less financially literate, financial literacy is important in explaining utilization of financial services. This study extends that of Nunoo and Andoh (2012) to test whether the benefits of financial literacy of SMEs include that of improvement of their firm performance in the form of growth. Adomako and Danso (2014) concluded from a study on the relationship between financial literacy (mediated by capital availability and resource mobility) and performance of entrepreneurial firms in Ghana that financial literacy improves on firm performance and this relationship is enhanced by capital availability and extent of resource mobility. Even though their study was based on firms in Ghana, they were not interested in SMEs neither were they interested in the mediating role of the cultural values of the SME-Owners in examining the relationship between financial literacy and firm performance. In fact, this study uses firm growth as SME performance indicator other than the traditional profitability measures employed by Adomako and Danso (2014).

This study argued that financial literacy levels of owners of SMEs in Ghana can influence their financial decisions in the area of control of financial resources, proper allocation of funds and proper selection of investment vehicles and awareness of growth funding options that can enhance the

performance of firms. Thus, financial literacy may lead to improved firm management which in turn enhances firm growth.

Saeed (2009) contend that firm growth is influenced, to a greater extent, by its financial resource endowment and that information asymmetry makes it difficult for firms to meet their financial demands. The extent of this effect is likely to be exacerbated in the SME sector which is dominated largely by not just illiterates but also owners who do not have the financial muscle to employ highly qualified people. Also, the effect of financial resource endowment or even awareness on firm growth is likely to translate to affecting the firms' performance. Consequently, we subject these propositions to empirical examination in an attempt to fill the gap in the financial literacy literature using survey data from Ghana, one of the promising developing economies in Sub-Saharan Africa.

In spite of the fact that African economies pride themselves in rich and unique cultural values emanating from diverse tribes and religious beliefs, there is little documentation on the continents cultural values and their effects. Culture is those customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation (Guiso, Sapienza, & Zingales, 2006). Culture is reflected in the meanings people attach to various aspects of life; their way of looking at the world and their role in it; in their values, that is, in what they consider as good and evil; in their collective beliefs, what they consider as "true" and as "false"; in their artistic expression of what they consider as "beautiful" and as "ugly" (Hofstede, 1980). The behavioral finance literature concludes that culture plays a key role in explaining investors' protection, ensuring capital market development, fostering good corporate governance, and innovation. The existing cultural studies do not reveal how culture could influence the drive for financial knowledge resource of firms as well as the relationship between culture and firm performance. Meanwhile, culture could influence the pursuit of wealth and whether that is right or wrong. This notwithstanding, Africa's contribution to the culture-finance discussion is virtually non-existing. This study, therefore, sought to provide empirical evidence on whether culture influences the financial knowledge resource of a firm and the probability of that translating to firm performance, using data from SMEs in Ghana.

The rest of the paper is organized as follows: the next section discusses the theoretical and empirical justification of the study; Section 3 covers the methods used for the study; while the discussion of the results and conclusion are contained in Sections 4 and 5, respectively.

## 2. Literature review

### 2.1. Resource based view

According to the resource-based view, the numerous resources (tangible and intangible) owned by a firm defines that firm and ensures its competitive advantage (Das & Teng, 2000). Conner and Prahalad (1996) argue that knowledge-based view is the essence of resource based perspective. The extent of maintaining competitive advantage by firms depends on their ability to sustain their knowledge resource heterogeneity. Thus, firms can rely on the resource immovability and transferability difficulty to generate and sustain economic benefits in the form of growth-induced profits. Religious values and financial literacy of SME owners can be considered as key components of SMEs' resources that can contribute to the generation of economic rents for such firms.

Religiosity and financial literacy of owners of SMEs can be considered intrinsic resources of owners that have the potential to influence economic performance. Religiosity, for instance, is a resource that can be of benefit not only to the individual but also the state. Participation in religious activity adds value to human capital (Anderson, 1988; Smith, 1905) through probably the values and norms propagated which leads to enhanced ethical behavior as well as the pursuit-for-wealth lead drive for success (Weber, 1930). Barro and McCleary (2003) concluded that there is a positive correlation between beliefs in heaven and hell and macroeconomic development even though macroeconomic development exhibited a negative correlation with church attendance. Financial literacy adds to the resources of the owner of the SME as it enriches his financial decision-making knowledge and skills.

Enhanced financial knowledge would help the SME owner in financial planning, allocation of scarce financial resource, records keeping, use of idle funds, financial discipline and control and sourcing for funding for viable growth projects. Thus, the study postulates, based on the contagion effect, that SME-Owners religious values and financial knowledge resource endowment would influence the SMEs decisions and activities connected with their growth.

### **2.2. Culture and other determinants of financial literacy**

The wealth acquisition motivation of Protestants (Weber, 1930) may lead to knowledge acquisition in order to make informed choices. This wealth-acquisition led knowledge acquisition drive would be heightened most especially when Protestants believe that such knowledge could help to improve on their own performance and the performance of their firms. Thus, we hypothesize that religious beliefs could influence the financial literacy levels of owners of SMEs. Specifically, Protestants are more likely to be financially literate than Catholics because of their inherent motivation and this enhanced financial knowledge level of owners of SMEs could assist them in making financial decisions that have the potential of increasing SME performance.

Existing literature generally conclude that financial literacy is influenced by gender, age, and educational background. According to Lusardi and Mitchell (2006), financial illiteracy is common among women and people with low education. Ciemleja et al. (2014) concluded that educational background and area of specialization define financial literacy levels. While the young and elderly (Agarwal, Driscoll, Gabaix, & Laibson, 2007; Lusardi & Mitchell, 2006) whether living in developed or developing economies (Christelis, Jappelli, and Padula (2006) are commonly associated with financial illiteracy.

### **2.3. Culture, financial literacy, and firm performance (Growth)**

Religious beliefs (Protestantism or Catholicism) influence financial decisions that impact on firm performance differently. This culture-performance-nexus could be influenced by the predominant firm decision that is influenced by religion. We argue, based on key culture-led firm decisions (capital structure, quest for profit, corporate governance, and innovation) that the effect of religion on performance could be explained by Catholic values or Protestant ideals. First of all, the capital structure of a firm may be influenced by the level of development of the capital market as well as the type of capital market that is developed, which is not independent of the dominant religion of the country. Catholic religiosity protects creditors far more than Protestant religiosity because Catholics, unlike Protestants, consider interest on business loans acceptable (Iannaccone, 1998) even though interest on loans to the poor (usury) is unchristian (George, 1957). As a result, countries that are mainly Catholics have a more developed bond-markets, protect creditor rights better than mainly Protestant countries which focus on equity market development and shareholder rights protection (LaPorta, Lopez de Silanes, Shleifer, & Vishny, 1999) as well as use of less debt capital (Baxamusa & Jalal, 2014). Given the unresolved nature of the capital structure puzzle (Agyei, 2010), the religion-defined capital structure of the firm could present mix results on firm performance.

Secondly, the dichotomy between Protestants and Catholic beliefs on economic benefits of property ownership imply that Protestants would be more aggressive at pursuing firm performance than Catholics. Protestants believe that economic benefits of property ownership must accrue to the owners while Catholics consider property as more of a social good (Baxamusa & Jalal, 2014). Earlier, Weber (1930) argued that Protestant reformation led to the development of capitalism because it emphasize that the pursuit of wealth is a duty and this lead to several work ethics by Protestants. It ignited a drive in Protestants to embrace wealth acquisition. The pursuit of wealth exhumes certain behavioral characteristics such as personal discipline, perseverance, propensity to take risk, making informed choices and a drive for goal achievement, among others. Some empirical works argue that Protestantism promotes individualism and personal responsibility (Stulz & Williamson, 2003). Consequently, this drive for wealth will lead Protestants in business to strive for an organizational culture that is constantly pursuing firm growth.

Again, the extant literature on the positive effect of good corporate governance structures on firm performance (Kyereboah-Coleman, 2007) suggests that firms that are run on the values of Protestantism would perform better than Catholicism. LaPorta et al. (1999) and Stulz and Williamson (2003) contend that firms in mainly Protestant countries have better corporate governance structures than those in predominantly Catholic countries. This conclusion is partially supported by the fact that Catholicism (which promote collectivism) as against individualism by Protestants may have high levels of corruption. Collectivism over individualism is linked to high levels of corruption in bank lending and a higher likelihood of lingering government control in privatized firms (Boubakri, Guedhami, Kwok, & Saffar, 2016; Zheng, El Ghoul, Guedhami, & Kwok, 2013).

Lastly, through the innovation channel, firms that rely on Catholic ideals are more likely to be profitable than Protestant firms. Innovative firms can cash in on benefits associated with innovation such as improved market share, enhanced customer loyalty, and competitive advantage to boost their profitability. Through the gambling and collectivism channels, Catholics are more likely to be innovative than Protestants. Adhikari and Agrawal (2016) argued that Catholics, and not Protestants, are more likely to be innovative since Catholic beliefs accommodate gambling than that of Protestants (see also Diaz, 2000; Schneider & Spalt, 2017; Shu, Sulaeman, & Yeung, 2012). Shao, Kwok, and Zhang (2013) opine that firms in countries with higher scores on Hofstede's Collectivism over individualism index are more likely to provide funding for research and development expenditures with excess cash. Through the collectivism and individualism channel, firms run by Catholics are more likely to be profitable than that of Protestants because of benefits from innovation emanating from research and development. But, quite recently, Baxamusa and Jalal (2016) in a study of CEOs religious affiliation and managerial conservatism revealed that decisions of Catholic CEOs are associated with low firm value. These heighten the interesting nature of subjecting the relationship between culture and firm performance, which at this stage remains unclear, to an empirical interrogation.

#### **2.4. Other determinants of firm growth**

The literature on firm performance concludes that other key factors that influence firm performance include age (Agyei & Marfo-Yiadom, 2011; Boahene, Dasah, & Agyei, 2012), corporate governance (Agrawal & Knoeber, 2012; Bhagat & Bolton, 2008; Kyereboah-Coleman, 2007), Savings/Investment (Chen, Paulraj, & Lado, 2004; Gilley & Rasheed, 2000)

##### **2.4.1. Age**

Organizations are expected to capitalize on the experience gained overtime to facilitate firm growth. Strategies developed over time to overcome business environmental threats and take advantage of opportunities are supposed to culminate into valuable experiences through learning that would facilitate firm growth. Quartey, Turkson, Abor, and Iddrisu (2017) argue that top management level of experience is a key factor that drives access to finance by SMEs. Through access to finance and development of quality systems and processes, SMEs are expected to take advantage of growth opportunities in the business environment. Rosenbusch, Brinckmann, and Bausch (2009) argue that firm age amplifies the effect of innovation on firm performance while Robson and Bennett (2000) concluded that age is key factor that explains SME growth. Thus, apriori, it is postulated that age would have a positive effect on SME growth in Ghana.

##### **2.4.2. Corporate governance (gender)**

The relationship between gender and firm performance has received considerable attention but with mixed results. Earlier findings that males performed better than females have been challenged in recent times primarily on the basis of inappropriate specification of performance proxies and omitted control variable bias (Collins-Dodd, Gordon, & Smart, 2004; Johnsen & McMahon, 2005; Robb & Watson, 2012). This notwithstanding, Robb and Watson (2012) acknowledge that some differences in male and female like their respective ability to take on risk and difference between the size of firms they operate could explain differences in gender performance. It could be argued that males could better handle business activities that entail more risk than females. Thus, the risk associated



with undertaking growth opportunities could make pursuing growth options the preserve of males rather than females since males are risk takers (Robb & Watson, 2012).

### 2.4.3. Savings/Investment

Realization of the existence of growth opportunities would be less beneficial unless organizations have the needed resources to capitalize on such opportunities. Returns from investment offer a means of funding for growth opportunities. Also, investment may serve as collateral for securing funding from financial institutions while at the same time exposing SME owners to funding opportunities. Lu and Beamish (2001) found evidence in favor of the fact that greater levels of foreign direct investment (FDI) are associated with higher performance. Thus, it is argued that SMEs that invest are more likely to pursue growth opportunities because of resource availability and or potential to secure funding.

### 3. Methodology

This study set out to achieve three basic objectives of; (1) assessing whether differences in financial literacy of SME-Owners can be explained by cultural differences; (2) ascertaining the relationship among culture, financial literacy, and firm growth; and (3) assessing whether culture moderates the relationship between financial literacy and firm growth. Objective 1 was analyzed using the ANOVA and ordinary least squares regression approach but objectives two and three were analyzed using the logit regression approach. First of all, all the variables were subjected to multicollinearity test using the correlation analysis.

The logistic regression model is appropriate when the dependent variable is dichotomous and can take on one of two values: zero or one. The dependent variable of this study behaved in this fashion. SME-Owners where asked to indicate whether they have expanded their firms in the form of adding one or more products to their existing products since inception, with answer options of Yes or No. Thus, the study was interested in predicting, concerning firm growth, not the numerical value of growth, as in a linear regression but rather the probability ( $p$ ) that an SME has added to its product lines. In such a situation and in order to create a link with the normal regression equation, the log transformation of the  $p$  values is necessary. Thus,  $Logit(p)$  is the log (to base  $e$ ) of the odds ratio or likelihood ratio that firm growth is 1 (Burns & Burns, 2008). The general form of the logit model used for objectives 2 and 3 can be specified as follows:

$$\log it(p) = \log \left( \frac{p}{1-p} \right) = \ln \left( \frac{p}{1-p} \right) \quad (1)$$

where  $p$  can take on any value between 0 and 1, but  $\log it(p)$  could take on any negative and positive and is symmetrical around the  $\log it$  of .5. Based on the basic model, the following model was estimated to test for the relationship between culture, financial literacy, and firm growth after controlling for gender, savings/investment and firm age.

$$\log \left( \frac{p}{1-p} \right) Gro\_PA_i = \beta_0 + \beta_1 FinLit_i + \beta_2 Pr os_i + \beta_3 Cath_i + \beta_4 GenM_i + \beta_5 SavPact_i + \beta_6 Age_i + \epsilon_i \quad (2)$$

where:  $Gro\_PA$  is the SME growth measure which took on the value of 1 if the firm had added more products to existing products and 0 for otherwise;  $FinLitis$  financial literacy index calculated as the score of financial literacy test questions correctly answered. A total of five financial literacy questions were used so the number of questions answered correctly was scaled by 5;  $Pr os$  is a measure of the dominant religion of the SME which was taken as Protestant if that was the religious belief of the SME-Owner;  $Cath$  is a measure of the dominant religion of the SME which was taken as Catholic if that was the religious belief of the SME-Owner;  $GenMis$  gender variable which took on the value of 1 if the SME-Owner was male and 0 for female;  $SavPact$  is a measure of the savings attitude of SME-Owner which took on the value of 1 if the SME-Owner had a bank account and otherwise 0; and  $Age$  is a measure of firm experience which was measured as the number of years of operation category that the SME belonged.

In order to test for the moderating role of culture in the relationship between financial literacy and firm growth, the following model was estimated.

$$\log\left(\frac{P}{1-P}\right) Gro\_PA = \beta_0 + \beta_1 FinLit_i + \beta_2 Pr os_i + \beta_3 Cath_i + \beta_4 GenM_i + \beta_5 SavPact_i + \beta_6 Age_i + \beta_7 Pr osxFinLit_i + \beta_8 CathxFinLit_i + \varepsilon_i \quad (3)$$

where all the variables are as explained under model 3 except *Pr osFin* which is the interaction of culture (Protestant) and financial literacy score of the SME-Owner and *CathFin* which is the interaction of culture (Catholic) and financial literacy score of the SME-Owner.

The common definition of SMEs in Ghana uses number of employees as the basis, howbeit with some inconsistencies. The Ghana Statistical Service defines Small businesses as those with employees less than 10 persons while those with more than 10 persons are considered as medium and large. The National Board for Small Scale Industries (NBSSI) uses asset size and number of employees to define who an SME is. According to them, enterprises with more than 9 workers are considered as Small Scale Enterprises. This study relies on the definition of SMEs by NBSSI since they are directly connected with activities of SMEs.

The study collected data from SMEs in Greater Accra since the region is largely considered to have both the highest concentration of SMEs and cultural diversity in Ghana. Determining the actual population of SMEs in Greater Accra is difficult. The NBSSI shows that registered SMEs stood at 5773, as at December, 2014 but an attempt to contact these firms showed quite a number of non-responses. In spite of this, the actual number of SMEs in Accra is likely to be more, because, in reality, most of these firms do not register with state institutions, partly due to the fear of taxation, ignorance and illiteracy. Thus, the study used an estimated minimum population of SMEs in Greater Accra of about 10,000. Following Burns and Burns (2008) who argue that for large populations, a sample size of 1 to 3% could be taken as representative, a simple random sample of 300, which represented 3% of the expected population was taken. Each SME was chosen at random and entirely by chance giving each SME the same probability of being chosen for the study but taking into consideration the sample size of 300.

The study collected data from 300 SMEs in Greater Accra Region of Ghana in May, 2015 using questionnaires. The respondents (SME-Owners) were generally considered to be, at best, partial literates. Thus, the research assistants were trained on how to assist the respondents in the interpretation of the questionnaire to the local language and also assist the respondents in filling the questionnaire (where necessary). This approach, in addition with, the strategy of giving all SME-Owners the opportunity to take part in the study ensured that all 300 questionnaires were retrieved.

The questionnaires were administered after fulfilling all ethical requirements. Permissions were sought from the SME-Owners before the data were collected. The nature and purpose of the study were fully explained to the SME-Owners for their consent before the data were gathered from each of them. Only those who consented to take part in the study were involved. The questionnaires were identified through coding to ensure the confidentiality of the respondents. This ensured that the study was done ethically but did not eliminate all its weaknesses. The use of religion as the main cultural variable (following previous international studies) might have obscured valuable insights that could have been gained from using other cultural variables such tribal beliefs. The effect of cultural values emanating from tribal beliefs or the effect of tribal beliefs on religious values and how that might play a role in influencing SME performance may be interesting to study.

The questionnaires were structured in four parts. The first part gathered data on the demographic characteristics of the SME-Owner (such as level of education and area of study, marital status, age, gender, and religious affiliation) and basic information about the firm (such as number of years of existence and industry of operation). The second part was on ascertaining the financial literacy level of the SME-Owners using five basic questions that tested their financial knowledge on risk and return, diversification, determination of returns on investment, and basic questions on inflation. Specific questions on financial literacy included, for instance, asking respondents to provide answers to whether it is true or false that: (1) investment with high return has a high risk; and (2) it is less likely that you will lose all your money if you save at more than one place. Respondents were also asked to determine how much an investment of GHS100 was worth after it had been deposited in a 5% per annum interest bearing account for one year. The last part of the questionnaire gathered data on the firm performance (growth) variable. The validity and reliability of the instruments were ensured through revisions emanating from pretesting and review by a panel of experts.

#### 4. Discussion of results

##### 4.1. Descriptive statistics

Table 1 captures the descriptive statistics of the variables used in the study. The study shows that owners of SMEs in Ghana have witnessed an improvement on their financial literacy levels. The average literacy level was about 66% even though some recorded as low as 0%. This implies that training programmes, radio and television advocacy activities, and the proliferation of financial institutions are empowering SME owners with the financial knowledge necessary for business. This notwithstanding, it appears that respondents generally have difficulty dealing with literacy issues relate to diversification. From the results, only 10% of respondents got that question right. Thus, the risk diversification aspect of financial literacy should be the concentration of future financial literacy programmes designed for owners of SMEs. About 73% of SMEs have experienced growth in the form of addition to existing products previously being offered. Protestants (31%) and Pentecostals (44%) were the predominant religion, as Catholics accounted for only 8% of the respondents. Savings is a common practice of the respondents as 91% of them had personal accounts. Females controlled about 57% of SMEs in Ghana while the average of age of SME-Owners fell within the age bracket of 40 to 49 years.

**Table 1. Descriptive statistics**

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. dev.</b>
FINLIT	300	.20	1.00	.6607	.16085
FINANCIAL LITERACY 1	300	.00	1.00	.5633	.49680
FINANCIAL LITERACY 2	300	.00	1.00	.0767	.26651
FINANCIAL LITERACY 3	300	.00	1.00	.9967	.05774
FINANCIAL LITERACY 4	300	.00	1.00	.8700	.33687
FINANCIAL LITERACY 5	300	.00	1.00	.7967	.40315
GRO-PA	300	.00	1.00	.7267	.44642
PROS	300	.00	1.00	.3067	.46188
CATH	300	.00	1.00	.0800	.27175
PENT	300	.00	1.00	.4400	.49722
GENDER_M	300	.00	1.00	.4333	.49636
GENDER_F	300	.00	1.00	.5667	.49636
SAVPACT	300	.00	1.00	.9133	.28182
AGE	300	1.00	6.00	3.6100	1.03026
Valid N (listwise)	300				



#### 4.2. Differences in financial literacy level as a result of culture and Demographic factors

To achieve the objective of assessing whether differences exist in financial literacy level as a result of culture and demographic factors, ANOVA was used and the results are contained in Table 2. The results indicate that there are no significant differences in financial literacy levels among SMEs in Ghana on the bases of marital status and area of study. On the contrary, based on religion, gender, level of education and age, the results show significant differences in financial literacy levels among SMEs in Ghana. The results on gender and educational level corroborated that of Chen and Volpe (2002) and Hassan Al-Tamimi and Anood Bin Kalli (2009) while that of age contradicted their findings.

**Table 2. ANOVA**

		Sum of squares	df	Mean square	F	Sig.
GENDER	Within Groups	69.875	295	.237		
	Total	73.667	299			
	Between Groups	3.792	4	.948	4.002	.004
	Within Groups	69.875	295	.237		
	Total	73.667	299			
RELIGION	Between Groups	3.038	4	.760	4.101	.003
	Within Groups	54.629	295	.185		
	Total	57.667	299			
MARITAL STATUS	Between Groups	.333	4	.083	.615	.653
	Within Groups	39.987	295	.136		
	Total	40.320	299			
LEVELOF EDUCATION	Between Groups	89.036	4	22.259	6.019	.000
	Within Groups	1,072.476	290	3.698		
	Total	1,161.512	294			
AREA OF STUDY	Between Groups	3.608	4	.902	.526	.717
	Within Groups	320.887	187	1.716		
	Total	324.495	191			
AGE	Between Groups	9.815	4	2.454	2.354	.054
	Within Groups	307.555	295	1.043		
	Total	317.370	299			

#### 4.3. Determinants of financial literacy

The study revisited the determinants of financial literacy by concentrating on exploring whether religion influenced financial literacy. All three indicators of culture indicated that the relationship between religion and financial literacy is homogenous. Financial literacy is not a good friend of religion. Whether looked at from catholic ideologies, protestant or Pentecostal ideologies, religion is negatively related to financial literacy corroborating earlier association between Protestants and financial literacy. Thus, the results refute the hypothesis that protestant ideologies may lead Protestants to acquire more knowledge which would include financial knowledge. The results also depict that gender does not significantly influence financial literacy even though significant differences exist in the level of financial literacy between male and female (results not reported but available on demand).

**Table 3. Culture and other demographic determinants of financial literacy among SMEs in Ghana**

	Unstandardized	Standardized	ANOVA	Adj R <sup>2</sup>	Durbin Watson
<i>Culture</i>					
PROS	-.168***	-.484			
	(.024)				
PENT	-.136***	-.421			
	(.024)				
CATH	-.251***	-.423			
	(.033)				
CONS	.792***				
	(.020)				
			21.198***	.169	1.181
<i>Gender</i>					
GEN_M	.002				
	(.019)	.005			
CONS	.660***				
	(.012)		.007	.000 <sup>^</sup>	.968
<i>Age</i>					
AGEBELOW20	-.315**	-.113			
	(.155)				
AGE20TO29	-.040	-.081			
	(.030)				
AGE40TO49	.064***	.190			
	(.021)				
AGE50TO59	-.0003	-.006			
	(.031)				
AGE60ANDABOVE	-.122***	-.176			
	(0.040)				
CONS	.651***				
	(.015)				
			6.546***	.085	1.103
<i>Educational background</i>					
EDUSEC	.038	.091			
	(.024)				
EDUDIP	.140***	.308			
	(.026)				
EDUDEG	.148***	.313			
	(.027)				
EDUPOSTGRA	.186***	.252			
	(.040)				
EDUPROFESS	.213***	.345			
	(.034)				
EDUVOCATIONAL	.013	.023			
	(.031)				
CONS	.587***				
	(.015)				
			12.127***	.207	1.366

(Continued)

**Table 3. (Continued)**

	Unstandardized	Standardized	ANOVA	Adj R <sup>2</sup>	Durbin Watson
<i>Course studied</i>					
CSBUS	.125*** (.021)	.353			
CSSCI	.086*** (.029)	.175			
CSECONS	.073** (.036)	.114			
CSGARTS	.123*** (.023)	.314			
CSOTHERS	.012 (.151)	.004			
CONS	.588*** (.014)				
			9.612***	.126	1.282

\*\*Denote significance at 5%.

\*\*\*Denote significance at 1%.

^is the R<sup>2</sup>.

The results from the study presented mixed results on the relationship between age of the SME-owner and financial literacy. It is only the age group of 40 and 49 that depicted a significantly positive relationship with financial literacy, all other age groups showed a significantly negative relationship between age and financial literacy. Thus, the results show that SME owners acquired financial knowledge late in their lives probably not through formal means but through exposure with financial institutions, broadcasting media, friends, and relatives. Thus, the study identified that not all age groups needed the same attention when it came to financial education. The younger and older generation in Ghana needed more attention as far as financial education was concerned which corroborated findings by Agarwal et al. (2007) and Lusardi and Mitchell (2006).

Furthermore, the study confirmed that education positively influences the financial literacy level, which is in line with findings by Lusardi and Mitchell (2006) and Ciemleja et al. (2014), of SME-Owners but in Ghana and for SMEs, the education should be at the diploma level, at minimum. This implies that education at the basic level (primary and secondary) as well as vocational education offer minimal financial education in its curricular. Lastly, the results indicate that courses in the area of business, science, economics, and general arts are the courses at the minimum diploma level that already has in it adequate ingredients to facilitate financial education (Table 3).

#### 4.4. Correlation matrix

In order to assess the extent of correlation among the regressions, the correlation matrix was calculated to determine the variables that can be in the model at a time. The results of the correlation matrix depict that the extent of correlations among the regressors was minimal and so was the presence of multicollinearity. Table 4 shows that there is a significantly negative association between all our cultural variables (Catholics and Protestants) and financial literacy. Thus, the results seemed to indicate that religious teachings are not in tandem with financial literacy. Impliedly, SME owners who are more religious are less financially literate probably because of various religious

**Table 4. Correlation matrix**

	FINLIT	PROS	CATH	GEN_M	SAVPACT	AGE	PROSFIN	CATHFIN
FINLIT	1.000							
PROS	-.152**	1.000						
CATH	-.219**	-.196**	1.000					
GEN_M	.005**	.235**	-.233**	1.000				
SAVPACT	.205**	-.078	.091	.054	1.000			
AGE	.010**	-.247	.243**	-.192**	.91	1.000		
PROSFIN	.036	.951**	-.186**	.198**	-.040	-.223**	1.000	
CATHFIN	-.175**	-.192**	.979**	-.217**	.089	.226**	-.183**	1.000
GRO-PA	.204	-.014**	.098**	.084	.236**	.226**	.007	.097**

\*\*Denotes significance at 1% (2 – tailed).

**Table 5. Logit regression results (dependent variable – growth)**

Variables	Model 1		Model 2	
	B	Exp(B)	B	Exp(B)
FinLit	3.900*** (.966)	49.425	5.740*** (1.291)	310.942
Pros	.145 (.329)	1.156	2.919** (1.279)	18.528
Cath	1.067 (.691)	2.906	3.053 (3.302)	21.183
GenM	.827*** (.316)	2.285	.814** (.319)	2.257
SavPact	1.252*** (.477)	3.498	1.265*** (0.484)	3.543
Age	.643*** (.166)	14.993	.721*** (.174)	2.056
ProsFin			-4.416** (1.947)	.012
CathFin			-3.411 (5.967)	.033
Cons	-4.762*** (.982)	.009	-6.200*** (1.214)	.002
Correct classification		77.7%		77.70%
-2 Log likelihood		303.833		298.555
Cox & Snell R <sup>2</sup>		.148		.163
Nagelkerke R <sup>2</sup>		.214		.236
$\chi^2$		48.095		53.373
Prob.		.000		0.000
No.		300		300

\*\*Denote significance at 5%.

\*\*\*Denote significance at 1%.

doctrines that are against materialism and overemphasis on worldliness. Also, while the association between Protestants and growth was significantly negative, that of Catholics and growth was significantly positive.

#### 4.5. Discussion of regression results

The second major objective of this study was to assess whether the factors that drive SME growth include culture. Two models were estimated in order to achieve this objective and the results are presented in Table 5. Model 1 estimated the relationship between culture (Catholics and Protestants) while Model 2 captured the interaction of our culture variables with financial literacy and assessed their relationship with SME growth. The results of the two models using Tobit estimation technique are shown in Table 4 below. The results from the diagnostic statistics indicated in Table 4 below shows that the models are well specified.

The result from Model 1 indicates that when the owner of an SME is financially literate the more likely it is that the firm would add additional product to its product line. The likelihood of adding another product to existing product increases by 49.43 times for each additional financial knowledge acquired by an SME owner. Knowledge of existing financing options for growth, awareness of benefits from taking risk, contribute to this increase. Again, the results indicate that even though Protestant and Catholic ideologies increase the likelihood of product addition by SMEs, this result is not statistically significant. This implies that the result from the study is inconclusive on the hypothesis that protestant ideology could lead to growth prospects by SMEs than Catholic ideology.

Meanwhile, the results of the governance (Gender) variable indicate that men are more likely to pursue growth strategies than women and this likelihood increases by 2.285 times if the owner of the SME is a male. Moreover, the results depict that owners of SMEs that save, increase the log-odds of the SME growing probably because savings makes available the needed financial resources to fund expansion projects. The probability of an SME adding one more product to existing product increases by 3.498 times. Lastly, the results indicate that older SMEs are more likely to pursue growth opportunities as they age because of their familiarity with the business environment which exposes them to existing growth opportunities they can take advantage of. Each additional age attained by the SMEs increases their chances of adding one more product to existing products by 14.993 times.

Model 2 reports on the regression results of the relationship among culture, financial literacy, and firm growth of SMEs in Ghana when the mediation role of culture was factored in the analysis. Controlling for the culture mediation variable showed some interesting results in support of the assertion that protestant ideologies increase SMEs' propensity for growth. The inclusion of the mediation role of culture showed increases in the probability of religion (Protestant and Catholic) to influence SME growth in Ghana but it was only that of Protestants that was significant at 5%. Specifically, the results show that in an environment where Protestant SME-Owners are financially literate, the probability of the SMEs pursuing growth increases as a result of Protestant ideologies, by 18.528. This result offered support for the assertion that the wealth-seeking attitude of Protestants motivates SME owners who are Protestants to pursue wealth through firm growth but conditioned on a culture-financial literacy environment. This, notwithstanding, the result from the interaction variable (*ProsFin*) was negative and significant implying that the environment of Protestant SME-Owners being financially literate (culture-financial literacy environment) reduces the probability of SMEs pursuing firm growth. Even though this result is contrary to the intuition of this paper, it may be possible as a result of some inconsistency in the teachings of religion and financial education which is reflected negative association between religion and financial literacy (Table 4). The inclusion of the mediation variable also amplifies the likelihood of financial literacy to increase firm growth (from 49.425 times to 310.942 times) at a significant level of 1%. Thus, the result strengthens the potential of cultural values in harnessing firm performance through growth. Meanwhile, the gender and investment variables do not exhibit significant changes when the mediation role of culture is factored in the analysis but the driven probability of firm expansion reduces to 2.056 times.



## 5. Conclusion

The literature on financial literacy and culture are both at their developing stages in developing economies but the interesting nature of it has attracted a lot of interest in recent times. The dichotomy in Catholic and Protestant beliefs has been associated with; investment behavior of investors, capital structure of firms, propensity to take risk, innovation and gambling attitude, development of financial markets and shareholders' or creditors' rights protection. Based on the premise that Protestants beliefs accommodate wealth seeking attitude more than that of Catholics, the study argued that Protestants are more likely to pursue firm growth and any other resource acquisition (financial knowledge) that would enable them to acquire wealth more than Catholics. Consequently, based on the contagion-effect and resource-based view, the study pursued the basic objective of assessing the role of culture in explaining financial literacy and influencing the relationship between financial literacy and SME growth after controlling for firm age, gender and investment. Based on a sample of 300 SMEs and using OLS and Logit models, the study revealed some interesting findings in support of the resource-based view and contagion effect.

The study found that financial literacy levels of SMEs have generally improved but most SME-owners appear to have difficulty understanding the concept of diversification. The study also revealed that religious ideologies (Catholic or Protestant) do not support financial literacy. In other words, the study did not find support for the argument that Protestants are more likely to pursue financial knowledge acquisition than Catholics but rather revealed that both cultural ideologies harm financial knowledge acquisition of the SME-Owner. Meanwhile, the relationship between culture (Catholics and Protestants) and SME performance was positive and insignificant when culture is not moderated for. But the moderation of Protestant values in the financial-literacy-SME-performance relationship does not only strengthen the relationship but also leads to the observation of a significantly positive relationship between Protestant cultural ideologies and SME performance. Similar results were not observed for that of Catholic cultural ideologies. In other words, Culture especially, Protestant ideologies moderate the relationship between financial literacy and firm growth. Thus, the study concluded that the relationship between financial literacy and SME growth is cultural-context dependent. The study makes the following recommendations: (1) religious bodies should inculcate financial education in their teachings; (2) financial literacy training programmes for SME-Owners should be tailored to meet their needs; and (3) cultural beliefs of SME-Owners should be of prime consideration in designing financial literacy programmes.

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