

Determinants of Small and Medium Enterprises Financing Sources: Evidence from Ghana

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Abstract:

At all stages of development, SMEs are constrained financially. The purpose of this study was to assess the characteristics of SMEs and their choice of financing at the startup, daily operations, and expansion stage of their business. This study used a quantitative research methodology. The data collection were from 688 SMEs, through a survey questionnaire in the Accra/Tema and Kumasi Metropolitan areas in Ghana. Descriptive statistics and logit regression analysis were used to assess the characteristics of SMEs and their influence on the source of financing they chose. The study used the personal/manager attributes and firm attributes to determine SMEs source of financing decisions in the service sector, which serves the construction sub-sector. Most SME start-ups use informal sources, but this gradually improves at the business operations and expansion stages to using financing from formal sources. Financiers and policymakers should target SMEs at the start-up stages, as most use informal sources of finance more than during daily operations or at the expansion of business stages, even at that the other stages should not be ignored.

Keywords: Financing decisions, SME challenges, SME characteristics, source of finance

1 Introduction

The three main sectors of the economy of Ghana are the industry, agriculture, and service sectors. The service sector constitutes about 50% of businesses in Ghana and serves the industry and agricultural sectors. It is made up of businesses that operate in a wide range of activities including wholesale and retail trade, transportation and storage, accommodation and food service activities, information and communication and financial and insurance activities (IBES II, 2018). These various activities are evident that the sector provides services for the other sectors of the economy. Construction on the other hand is a subsector of the Industry sector that is made-up of mining and quarrying; manufacturing; electricity, gas, steam and air conditioning supply; water supply, sewerage, waste management and remediation activities and construction. The construction sub-sector contributes the highest revenue in the Industry sector. It is very vibrant in the economy of Ghana as it utilizes local human and material resources in the development and maintenance of housing and infrastructure to promote local employment and improve the economy (Anaman & Osei-Amponsah, 2007). Studies on SME financing decisions is limited in the literature on Ghana. This study seeks to understand the relationship between SME attributes and their financing sources decisions. The three objectives guiding the study are as follows:

1. *To determine the source of financing used by services SMEs at the startup, during daily operations, and at the expansion of business stages.*

2. *To examine the SME owner/manager characteristics that influence the source of financing decisions at the startup, during daily operations, and at the expansion of business stages.*
3. *To determine firm characteristics that influence SME sources of financing decisions at the startup, during daily operations, and at the expansion of business stages.*

2 Literature Review

Small and medium enterprises (SME's) form a significant part of the economies of most countries and are very important in the role they play in employment creation and contributing to the Gross Domestic Product (GDP) (Balogun et al., 2016). They are termed the engines of economic growth in most economies in both the developing and developed worlds (Ayyagari et al., 2017). SME's form about 90% of businesses in Ghana, which is similar to countries in the Sub-Saharan African regions (Quartey et al., 2017a). Even though SMEs are so key in most economies, they are faced with many challenges which the literature has elaborated (Owens & Wilhelm, 2017). Access to finance has been identified as one of the main challenges faced by SMEs (World Bank Reports, 2015). Several studies have explained this phenomenon as being attributed to information asymmetry challenges (Berger et al., 2001; Bergh et al., 2019) and suggested diverse ways of improving SME access to finance (Rahman et al., 2017). However, the SME owner makes all the decisions in the business (Mensah, 2004) and therefore the choice of financing will be influenced by their characteristics.

SMEs seem to possess qualitative characteristics such as the owner having a closer overview of the enterprise, a stronger connection to the business, and the ability to make quick decisions (Buculescu, 2013; Hauser, 2005). Neeley & Van Auken (2009) analyses SME owner-managers characteristics using education, age and gender to assess their financing decisions and conclude that whilst entrepreneurs with college-level education (high) use the self-funded bootstrapping method the business owners who did not attend college did not. Moreover, less educated entrepreneurs use more inventory-focused bootstrapping methods than college-level entrepreneurs did, whilst younger owner-managers used more customer-based bootstrap (invoice promptly, stop serving late payers, and prefer fast payers) than older owner-managers. Further studies analyzed SME owner attributes on their ability to access loans from banks. Being a male, the probability of a loan application being accepted is low. The education of the manager did not seem to have any impact on the loan application being granted, whilst the age of the borrowing entrepreneur positively affects the success of the loan application, such that, older entrepreneurs have a higher chance than younger ones in accessing a loan (Campanella & Serino 2019). SMEs possess similar characteristics and linkages across sectors (Mensah, 2004) including the construction sector.

The construction industry has several linkages with the other sectors of the economy. Whilst it receives material inputs from the manufacturing sector, the inputs are supplied by the commerce and services sector (Ofori 2012). Furthermore, the construction sector relies on financial and professional services and these services need construction at some point. One of the challenges faced by the construction industry is the higher initial cost required for their activities (Djokoto et al., 2014). Financing seems to be a challenge faced by SMEs in both the services and construction sub-sectors and hence the relevance of this study to understand the relationship between SME attributes and their financing decisions, which can guide policy decisions regarding SME financing.

3 Research Methodology

The population of the services sector SMEs in the Greater Accra and Ashanti Regions of Ghana are 27,836 and 18,409 businesses respectively, totalling 46,245 businesses in the two regions (IBES II, 2018). In all, 800 SMEs were surveyed. Sixty percent (60%) of these were from the Greater Accra Region (Accra/Tema) and 40% from the Ashanti Region (Kumasi). The face-to-face questionnaire survey method was adopted. A total of 688 participants were involved in the survey. 388 were from Accra/Tema and 300 were from Kumasi. The survey method through questionnaire administration was used because SMEs have less publicly available information (Abraham & Schmukler, 2017). The simple random sampling approach was adopted once services sector SMEs were purposely identified through their associations. The questionnaire was made up partly of Likert scaled questions and open-ended questions. Both the reliability and validity of the instrument were determined and are appropriate for the study by relying on expert advice and conducting a prior pilot study. The Cronbach's Alpha range of 0.6 - 0.75 was acceptable for the reliability of the variables measured. The results were analyzed using frequency and regression analysis because the responses were binary, to determine the relationship between the attributes and the financing decisions.

4 Findings and Discussion

4.1 Description of participants

The majority of the respondents were males (50.9%). Most of the respondents were in the age group 30 to 39 years. Over 92% of the SME owners were literate with the majority (26.6%) having Basic Education Certificate. In terms of experience, those that have between 1 to 5 years of experience (53.1%) in the business predominate. Over 65% of the SME owners did not have their parents engaged in businesses. Close to 70% had not had any form of business training. However, for those who had had some form of training, it had been in marketing, management and information technology and were mostly self-funded. For firm characteristics, most of the participants' businesses were sole proprietorships (87%), followed by partnerships (10%) and limited liability companies (3%). These were engaged in accommodation, education, trade, entertainment, transport and other services. Most of the businesses were Ghanaian owned businesses (96%). About 82% of the businesses were formally registered, the owners founded 91% of the businesses, and the rest were either inherited or bought. About 66% of the businesses leased their premises, whilst the rest owned their business premises.

The study set out to address three objectives.

4.2 Objective 1: Sources of financing used by Services Sector SMEs.

Table 1 indicates the source of financing of business at the three stages – at the startup, during business operations and at the expansion of business stages. The category of financing sources were own savings, family/friends assistance, informal Susu/money lenders, credit unions, microfinance institutions, banks, government agency, venture capital, private non-bank institutions, savings and loans, suppliers credit, buyers credit, Non-Governmental Organizations (NGOs), equity savings (retained earnings) and other. Participants were required to select one or more categories of financing they had used at any of the three stages. It was observed that SMEs tend to use multiple categories or financing sources for their businesses at each of the three stages. At the startup stage, most SMEs (90%) used their own savings, whilst three out of every ten (29.65%) also used assistance from family and friends to start their businesses in addition to their own equity. Only 3% used financing from banks when

they began their business. The rest of the factors were insignificant. Government agency, buyers' credit and non-governmental organizations (NGOs) were not use at all at start-up. During daily operations, seven out of every ten businesses used their own savings (71.8%), and or equity savings (34.45%) and support from family and friends (11.9%). Informal Susu or moneylender and suppliers' credit were use by less than 10% of businesses. The use of formal financing from banks and savings and loans increased slightly at this stage, in addition to suppliers' credit. The rest were insignificant. For the expansion of business, again most SMEs used their own savings (70%) and or equity savings (36%). The use of external financing increased at this stage from the previous stages and together represented about 26% of the source of financing used. The use of supplier's credit also increased at this stage to 8.8%. The trend of financing sources where internal sources (own savings and equity savings) seems preferred first before the use of external sources (banks and savings and loans companies) is endorsed by the Pecking Order Theory (Shyam-Sunder & Myers, 1999) which postulates this trend and further supported by other studies (Ahmad & Atniesha, 2018; Osei-Assibey et al., 2012). From the study, SMEs hardly rely on venture capital or government agencies for the financing of their business as the patronage of these were quite insignificant.

Table 1. Source(s) of finance for businesses

Category	start-up (%)	daily operations (%)	expansion of business(%)
Own savings	624(90.7)	494(71.8)	482(70.06)
Family/friends assistance	204(29.65)	82(11.92)	82(11.92)
Informal Susu/money lenders	7(1.02)	57(8.28)	10(1.45)
Credit Union	3(0.44)	11(1.6)	8(1.16)
Micro finance institutions	3(0.44)	14(2.03)	22(3.2)
Banks	21(3.05)	25(3.63)	103(14.97)
Government agency	-	1(0.15)	3(0.44)
Venture capital	3(0.44)	3(0.44)	14(2.03)
Private None Bank Financial Institutions	2(0.29)	-	8(1.16)
Savings and Loans	10(1.45)	25(3.63)	76(11.05)
Suppliers credit	6(0.87)	42(6.1)	61(8.87)
Buyers credit	-	21(3.05)	17(2.47)
NGO Equity savings (retained earnings)	-	3(0.44)	5(0.73)
Equity savings (retained earnings)	32(4.65)	237(34.45)	248(36.05)
Other	4(0.58)	-	1(0.15)

4.3 Objective 2: SME owner/manager characteristics that influence source of financing decisions.

The underlying assumption of the multiple binary logistic regressions is that the significance is at 1%, 5% and 10%, whilst the confidence interval is at 99%, 95% and 90% respectively. At the start-up stage (see Table 2), parents' engagement in business were significantly predictive ($p < 0.001$) of the use of personal savings as a source of finance. The rest of the variables such as age, gender, and education were not significant in predicting the use of personal savings to start a business. Male, older age (40-49 years) and working experience (1-5 years) were at 5%, 1% and 1% level of significance respectively in predicting the use of personal savings for operating business daily. In contrast, SME owners between the ages of 30-39 years used equity savings during daily operations of their businesses. The rest of the characteristics were not significant in predicting the use of equity savings for daily operations. SME owners with work experience between 1 to 5 years were predictive of using personal savings for expansion of business as this variable was statistically significant at $p < 0.001$. On the contrary, those with over 5 years of experience were predictive of using equity savings for expansion of their business as the variable age was statistically significant at 1% ($p < 0.001$). Those with tertiary level of education and had parents who were engaged in business were predictive of the use of

equity savings for the expansion of their business. Receiving business training was not significant in predicting any of the financing sources used. Since about 70% of the participants had not received any training in business, this is an opportunity for policy decisions to support SMEs to be train in various areas to influence their choice of financing used. These variables (age and parents' involvement) were statistically significant at 5% and 1% respectively.

Table 2. Personal characteristics and source of financing used.

	Starting business from Personal savings		Operating business from Personal savings		Operating business from Equity savings		Expanding business from Personal savings		Expanding business from Equity savings	
	aOR(95% CI)	P-value	aOR(95% CI)	P-value	aOR(95% CI)	P-value	aOR(95% CI)	P-value	aOR(95% CI)	P-value
Sex		0.217		0.005		0.064		0.921		0.018
Male	1		1		1		1		1	
Female	0.71(0.41 - 1.23)		0.59(0.41 - 0.86)		1.38 (0.98 - 1.93)		1.02(0.71 - 1.47)		1.52 (1.08 - 2.15)	
Age (in years)		0.978		<0.001		0.0002		0.006		0.099
18-29	1		1		1		1		1	
30-39	0.83(0.35 - 1.97)		1.22(0.73 - 2.05)		1.07 (0.65 - 1.74)		1.89(1.11 - 3.22)		0.62 (0.38 - 1.04)	
40-49	0.91(0.37 - 2.21)		3.06(1.7 - 5.51)		0.52 (0.31 - 0.89)		2.87(1.6 - 5.13)		0.53 (0.31 - 0.91)	
≥50	0.92(0.33 - 2.52)		2.86(1.47 - 5.56)		0.43 (0.23 - 0.8)		2.03(1.08 - 3.82)		0.77 (0.42 - 1.41)	
Educational Level		0.762		0.021		0.095		0.037		0.002
None	1		1		1		1		1	
Primary	0.51(0.11 - 2.35)		0.45(0.13 - 1.49)		1.58 (0.5 - 5.01)		1.23(0.37 - 4.04)		3.09 (0.95 - 10.09)	
Secondary	0.66(0.12 - 3.54)		0.25(0.07 - 0.92)		1.97 (0.58 - 6.67)		0.7(0.2 - 2.49)		3.25 (0.93 - 11.43)	
tertiary	0.52(0.1 - 2.73)		0.25(0.07 - 0.9)		2.6 (0.77 - 8.75)		0.67(0.19 - 2.37)		5.89 (1.69 - 20.45)	
Working Experience		0.029		<0.001		0.964		<0.001		<0.001
None	1		1		1		1		1	
1-5years	2.18(1.03 - 4.62)		1.08(0.63 - 1.83)		1.01 (0.63 - 1.62)		1.39(0.83 - 2.34)		1.42 (0.85 - 2.36)	
>5years	1.03(0.48 - 2.18)		0.36(0.21 - 0.64)		1.06 (0.63 - 1.79)		0.29(0.17 - 0.49)		2.94 (1.71 - 5.07)	
Literacy		0.167		0.006		0.25		0.494		0.092
Yes	1		1		1		1		1	
No	0.43(0.13 - 1.42)		0.23(0.08 - 0.65)		1.77 (0.67 - 4.71)		0.69(0.24 - 1.98)		2.37 (0.87 - 6.45)	
Parents into business		<0.001		0.038		0.048		0.074		<0.001
Yes	1		1		1		1		1	
No	3.27(1.88 - 5.67)		1.48(1.02 - 2.14)		0.71 (0.5 - 1)		1.4(0.97 - 2.02)		0.46 (0.33 - 0.65)	
Received Business training		0.94		0.222		0.044		0.817		0.569
Yes	1		1		1		1		1	
No	1.02(0.56 - 1.86)		0.78(0.52 - 1.16)		0.69 (0.48 - 0.99)		0.95(0.65 - 1.41)		0.9 (0.63 - 1.29)	

aOR=Odds Ratio; CI=Confidence interval; P-value significance at 0.0 (1%), 0.005 (5%), 0.010 (10%).

4.4 Objective 3: Firm characteristics that influence SME sources of financing decision

Table 3. Influence of Firm Characteristics on Source of Financing

	Starting business from Personal savings		Operating business from Personal savings		Operating business from Equity savings		Expanding business from Personal savings		Expanding business from Equity savings	
	aOR(95% CI)	P-value	aOR(95% CI)	P-value	aOR(95% CI)	P-value	aOR(95% CI)	P-value	aOR(95% CI)	P-value
Operating in Service Sector		0.001		0.017		0.216		0.009		0.001
No	1		1		1		1		1	
Yes	4.9 (1.97 - 12.14)		2.68 (1.19 - 6.03)		0.59 (0.26 - 1.36)		3.03 (1.32 - 6.96)		0.25 (0.1 - 0.58)	
Different businesses operating		0.443		0.964		0.851		0.111		0.798
One	1		1		1		1		1	
2+	0.8 (0.45 - 1.42)		0.99 (0.67 - 1.48)		1.04 (0.7 - 1.53)		0.73 (0.5 - 1.07)		1.05 (0.72 - 1.53)	
Business is a Sole Proprietor		0.001		0.85		0.549		0.122		0.915
No	1		1		1		1		1	
Yes	2.86 (1.51 - 5.43)		1.05 (0.61 - 1.81)		1.18 (0.69 - 2)		1.5 (0.9 - 2.49)		1.03 (0.61 - 1.73)	
Member of any business/trade association		0.725		0.024		0.011		0.009		0.34
Yes	1		1		1		1		1	
No	1.11 (0.62 - 1.98)		1.53 (1.06 - 2.22)		0.62 (0.43 - 0.9)		1.63 (1.13 - 2.36)		0.84 (0.58 - 1.2)	
business formally registered		0.724		0.315		0.207		0.468		0.103
Yes	1		1		1		1		1	
No	0.85 (0.34 - 2.12)		0.75 (0.43 - 1.31)		1.39 (0.83 - 2.3)		1.23 (0.7 - 2.18)		1.6 (0.91 - 2.82)	
Has registered address		0.616		0.926		<0.001		0.027		0.217
Yes	1		1		1		1		1	
No	1.21 (0.58 - 2.54)		1.02 (0.65 - 1.62)		2.41 (1.57 - 3.68)		0.6 (0.38 - 0.94)		0.75 (0.47 - 1.19)	

aOR=Odds Ratio; CI=Confidence Interval; P-value significance at 0.001 (1%), 0.005 (5%), 0.010 (10%)

Table 3 indicates the firm characteristics and the financing used. Being a business owner in the service sector was significantly predictive of starting their businesses with personal savings and equally significant in the use of personal savings and equity savings in the expansion of the business. These variables were statistically significant at 1% ($p < 0.001$) and 10% ($p < 0.010$) respectively. Similarly, sole proprietors significantly start their business with personal savings. Businesses operating in the service sector and belonging to a trade/business association had a greater significance of expanding business on personal savings as the significance of these variables were at 10% each. Those belonging to a trade/business association and having registered business formally did not significantly influence the choice of financing.

4.5 Determinants of Financing Decisions

From the analysis, the determinants of SME owners' choice of financing source at the start up included their parents being involved in the business. A male owner of a business, who is older (40-49 years) and have up to five years of working experience, will choose personal savings for their daily operations. Similarly, a business owner with five years or more experience in the business will again choose personal savings for the expansion of their business. Having a tertiary education with parents engaged in the business as well determines the choice of using equity savings for the expansion of business. SMEs are said to be challenged in accessing financing from banks especially at the startup stage because of the risk perception that the business will fail (Abraham & Schmukler, 2017). Hence, the use of their own funds and reliance on family and friends for financing (Balogun et al., 2016).

Service sector SMEs tend to use their own savings at the startup because their capital requirement is unlike that of the construction sector which requires a bigger capital to start (Domeher et al., 2017; Ofori, 2012). From the analysis, being a sole proprietor as a business type determines the use of personal savings at the start up stage of the business. Majority of registered businesses in Ghana are sole proprietorships whilst most businesses are even informal (Mensah, 2004). Sole proprietorships are challenged in sourcing financing for their businesses at all stages of their growth as their characteristics such as poor record keeping, lack of financial accounts and erratic decision making makes them unattractive to financial institutions (Hasan et al., 2021; Quartey et al., 2017b). Table 4 outlines the determinants of SME choice of finance in terms of the owner and firm characteristics.

Table 4. Determinants of SME Choice of Finance

SME Owner Characteristics			Firm Characteristics		
Determinants	Financing Source	Stage	Determinants	Financing Source	Stage
Parents engagement in business	personal savings	startup	Service sector	personal savings	startup
Male	personal savings	Daily operations	Service sector	equity savings	startup
Age 40-49 years				personal savings	
1-5 years experience			Sole proprietor	personal savings	startup
1-5 years experience	personal savings	expansion of business			
More than 5 years experience					
Tertiary education	equity savings	expansion of business			
Parents engagement in business					

Balogun et al. (2016) indicated that SME owner and firm characteristics influence their access to financing in the construction industry which is similar to other sectors of the economy where these characteristics in addition to the macroenvironment tend to influence financing decisions for formal or informal sources of finance (Lin et al., 2020). Kwak (2020) concludes that, informationally opaque firms tend to prefer internal and informal sources of finance.

5 Conclusion and Further Research

This study contributed to the literature on SME financing decisions in addition to some policy recommendations and future research. Firstly, the approach of assessing financing decisions of SMEs at the three stages: startup, daily operations and expansion of business help to understand the financing decisions at these stages which is different from the perceived once-off decision of financing made by SMEs (Osei-Assibey et al., 2012; Quartey et al., 2017a). The category of financing types listed for participants to choose multiple options they have used is not only broad and encompassing but also unique and gives a deeper understanding of the choices of financing they opt for. The evidence that SMEs opt mostly for internal financing sources (own savings, family/friends, equity savings) at all three stages implies that there is room for financiers and policymakers to address how they can meet the financing needs of SMEs. One recommendation will be for stakeholders to provide training for SMEs across sectors so that they can develop all the necessary technical knowledge to not only run their businesses efficiently but also project their businesses as worthy of external financing. Policies can include different financing schemes targeted at the startup, during daily operations and at expansion phases of the SME financing stages. Conditions of the schemes could include SMEs formalizing their businesses by formally registering the businesses, maintaining records and submitting annual financial information to reduce the incidence of opaqueness associated with this group of businesses.

The study had its limitations in the sampling, methodology and type of analysis chosen. Future research could focus on other methods and approaches to achieve other perspectives in SME financing decisions.

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