

The Effect of Demographic on the Issues of Credit Accessibility within Small and Medium-Sized Enterprises in the South African Construction Industry

Olanrewaju Abdul Balogun¹, Justus Ngala² and Nazeem Ansary³

¹Lecturer, Department of Construction Management and Quantity Surveying, University of Johannesburg, Doornfontein Campus, Johannesburg South Africa, PH (27) 115596896, (27)713822103, Email: lbalogun@uj.ac.za

²Ph. D, Department of Construction Management and Quantity Surveying, University of Johannesburg, Doornfontein Campus, Johannesburg South Africa, PH (27) 115596488, (27)731767025, Email: jagumba@uj.ac.za

³Research Fellow, of Department of Construction Management and Quantity Surveying, University of Johannesburg, Doornfontein Campus, Johannesburg South Africa, PH (27) 115596049, (27) 727128565, Email: nansary@uj.ac.za

ABSTRACT

The contribution of Small and Medium-sized Enterprise (SME) sector in economic development, job creation and income generation has been recognized worldwide. This study aims to investigate the effect of demographic issues of credit accessibility within SMEs in South African construction industry. This paper utilises a combination of primary data emanating from structured survey questionnaires supplemented by secondary source of data from an extensive literature review, in order to present insightful commentary about credit accessibility within SMEs in South Africa. The structured survey questionnaire was administered to 600 construction small and medium organizations to elicit relevant data about their credit accessibility. The equation specified access to credit as dependent variable while firm and personnel characteristics as independent variable. The results indicate that firm characteristics influence access to credit accessibility. The study recommends that South Africa SME contractors and financial institution should maintain attractive firm attributes to stimulate lenders to extend credit accessibility to their investments.

INTRODUCTION

Small and medium enterprises (SMEs) are considered the actual growth engine in the economy of many countries. SMEs play a significant role in driving up the key macroeconomic indicators. The definition of SMEs varies in different countries, and even in various institutions within the same state. They can be categorized according to a number of different criteria: for instance, number of employees, the invested capital, and volume of sales. In the South Africa context, the SMEs are about 46% of the overall number in the Gauteng Province of South Africa, and about 36% in the Northern Cape of the country. The private sector owns approximately 80% of SMEs, while a small corporate owns only 16% and 3% of SMEs are owned by families

(Schiffer and Weder 2001). This study will examine the effect of demographic issues on credit accessibility in South Africa's on the construction SMEs.

LITERATURE REVIEW

Characteristics for SMEs. The characteristics of SMEs are significant factors that are all too often neglected in research. By exploring SME characteristics using a firm-level survey of SMEs in transition, and in developing and developed economies, Abor and Quartey (2010) noted that SMEs face growth obstacles in numerous functional areas. These areas include financing, unfavourable tax regimes, exchange rate management, anti-competitive business practices and corruption.

(1) Age of SMEs. Researchers suggest that country characteristics continue to explain the emergence and growth of construction SMEs worldwide. A study conducted in Malaysia by Mohd and Rosli (2013) found that government business coordination is important for the development of a plausible and stable construction SME sector. He further established that socio-ethnic features could explain the differential ages and performance of construction SMEs in various regions (Carpenter and Petersen 2006). In a similar but separate study Hideki (2002) reported that the presence of leading firms, a pooled market and applicability of research technologies explain the emergence of construction SME clusters in Japan. This research reveals that the age of SMEs in countries with old economies have exhibited the existence of relatively old SMEs compared to SMEs in countries with relatively new economies that have begun to emerge (Kyereboah-Coleman and Amidu 2008). Significantly, the existence of a stable business sector correlates with the prevailing nature of the economy (Hideki 2002). Therefore, a strong economy has the tendency to stimulate the emergence and maintenance of a formidable set of SMEs. Following this research premise, SMEs arguably cannot exist in a vacuum created by a lack of sustainable economic features to support their expansion (Yasuda 2005). In explaining the age of firms around the world, various researchers have established that although some small firms in developing countries are small relative to those in developed countries, this difference is not solely explainable by their date of establishment (Audretsch and Elston 1994).

(2) Size of SMEs. According to McMahon (2001), a firm's size is significant for the performance of its business. Also, the large SMEs were found to have better success in business and wider access to credit. The study conducted by Burkart and Ellingsen (2004) pointed out that the sizes of SMEs have an important impact on their debt ratios and SMEs with diverse origins can get a greater proportion of the funding. Most of SME sector in South Africa has suffered some obstacles and difficulties related to the start-up and growth stages of business because these firms face barriers resulting in a shortage of funding. Moreover, SMEs size is viewed to depend on numerous factors existing in the economy. Significant evidence indicates that the level of growth of SMEs remains significantly correlated with the extent to which the economy develops.

(3) Sectors of SMEs. SMEs belong to various sectors such as manufacturing, retailing, wholesale, construction, mining/quarrying, motor trade, miscellaneous services and road transport. These industries vary considerably in the degree to which their performance is determined. In some industries, products and services are

relatively simple and managers and entrepreneurs leverage external sources such as specialised technology suppliers, consultants and employees. This enables small and medium-size enterprises to acquire knowledge about their business operations. The role of the SME sector in driving a country's economy cannot be understated.

THE CONCEPTUAL MODEL AND HYPOTHESIS (H)

A study conducted by Pandula (2011a) explains that the restrictions on credit are greater for smaller firms. According to the same author, older firms with well-established track records, legal identities, and well-developed accounting systems can easily obtain loans from financial institutions. With regard to the SME sector, Pandula (2011b) explains that lending banks and institutions favour some industry sectors that show growth potential and will more easily lend money to firms in these sectors. In this study, the conceptual models outlining the presence of a financial gap are still a concern and an obstacle faced by South African SMEs. This means SMEs need access to finance to fill this financial gap. Therefore, this study tests the relationship between demographic factors and access to finance for SMEs based on three variables. The present study also measures and quantifies access by South Africa's SMEs to financing and the obstacles they face in this regard. Size, age, and sector were used to measure demographics factors and their effect on access to financing. Therefore, based on the conceptual model and previous literature described above; a hypothesis is developed as follows.

H: There is a positive relationship between SMEs' demographic factors and access to financing.

The following model has been utilised to test the validity of this hypothesis:

$$CA = \alpha + \beta_1 AGE + \beta_2 SIZE + \beta_3 SEC + \varepsilon \quad (1)$$

Where AGE= Age, SIZE = Size, SEC= Sector and CA = Credit Accessibility.
AGE, SIZE, SEC was used to measure demographics (DE) and their effect on CA.

RESEARCH METHODOLOGY

Description of variables. (1) Age of SMEs. The age of a SME in South Africa can be described as the period in which the SME has been in existence and operational. This period can affect the SME's credit accessibility in the sense that SMEs that have been in existence for a short period of time may find it difficult to access credit because they have not been tried and tested compared to their counterparts who have been in existence for longer (Beck et al. 2005). The age of SMEs is measured by the number of years between the time the firm was established and the time it seeks credit, which in others words can be termed as the number of years between the time they were established and the current date.

(2) Size of SMEs. SME size is a very important demographic factor and the size of SMEs differs from country to country. There is no clear definition for size of SMEs in South Africa. Therefore, Department of Public of Works, Construction Industry Development Board (CIDB) and Department of Trade and Industry (DTI) South Africa classified that firms with 10-49 employees/workers are small size; and those with 50-200 employees/workers are medium size.

(3) Sector of SMEs. The sector in which the SME operates is commonly described on the basis of the products generated by such SMEs; and SMEs that are involved in a similar line of production or service offering are said to be in the same sector. Therefore, the sector of SMEs means all small and medium projects which belong to different investment activities. Department of Trade and Industry (CIDB 2006) has classified these sectors into two categories, namely service sector and manufacturing sector (Beck et al. 2006).

Data. The questionnaire was tested as our research instrument through a pilot study covering 30 construction SMEs firms. The purpose of the pilot study was not only to identify the common problems within the designed questionnaire but also to incorporate the respondent's comments that enhanced the quality of the questionnaire that met the purpose of study. A deductive methodological approach was used to examine this problem. This paper utilises a combination of primary data emanating from structured survey questionnaires supplemented by secondary source of data from an extensive literature review, in order to present insightful commentary about credit accessibility within SMEs in South Africa. The structured survey questionnaire was administered to 179 construction small and medium organizations to elicit relevant data about their credit accessibility. Logistic regression was applied to determine the influence of demographic variables on credit accessibility. The equation specified credit accessibility as dependent variable while firm and personnel characteristics as independent variable. The statistical package for social science version 22 was used. The results indicate that firm characteristics accessibility to credit. The study recommends that South Africa SME contractors should maintain attractive firm attributes to stimulate lenders to extend credit to their investments.

DATA ANALYSIS AND DISCUSSION

Reliability Evaluation of Demographic Factors of SMEs. Table 1 shows the result of Cronbach's alpha examining the reliability of demographic factors for SMEs. This result indicates all of these items have item correlations between variables. Reliability result of Cronbach's alpha for age and size of SMEs at 0.9 are interpreted as excellent. The result of Cronbach's alpha for sectors of SMEs at 0.8 is interpreted as good. This means all item are valid for study and analysis.

Table 1. The Validity Results of Each Item of the Questionnaire.

Number of item	Item-total correlation	Cronbach's Alpha (If an item deleted)
Age	0.714	0.9212
Size	0.725	0.9134
Sectors	0.685	0.8161

The demographic issues and credit accessibility on construction SMEs. (1) Descriptive Statistics of Demographic Issues and Credit Accessibility. Table 2 presents the descriptive statistics for the demographic issues and credit accessibility. It is clear that age of construction SMEs (independent) has the highest mean among the demographic variables with a mean (maximum) of 3.4452 (5.00).

Table 2. Descriptive Statistics of Demographic Issues and Credit Accessibility.

	N	Minimum	Maximum	Mean	Std. Deviation
CA	557	15.00	38.75	28.2724	4.23616
AGE	557	1.00	5.00	3.4452	0.96669
SIZE	557	1.00	5.00	3.4237	0.88960
SECTOR	557	1.00	4.00	2.9318	1.05036
Valid N	557				

In contrast the lowest of the mean of demographic factors of SMEs is *SECTOR* with a mean (Maximum) of 2.9318 (4.00). Table 2 also shows the highest standard deviation is related to *SECTOR* with a value of (1.05036). In addition, Table 2 shows the same minimum of demographic factors of (*AGE*, *SIZE* and *SECTOR*).

(2) Correlation Coefficients of the Demographic Issues and Credit Accessibility. The correlation coefficients shown in Table 3 demonstrate how the independent (demographic factors) variables are correlated with the dependent variable (access to finance) in SMEs. According to Table 3, access to finance has significant and positive correlation with most demographic factors (*AGE*, *SIZE* and *SECTOR*) of SMEs. Moreover, *CA* has a higher positive correlation with *AGE*, *SIZE* and *SECTOR*.

Table 3. Correlation Statistics of Demographic Factor and Credit Accessibility.

		CA	AGE	SIZE	SECTOR
CA	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	557			
AGE	Pearson Correlation	0.258	1		
	Sig. (2-tailed)	0			
	N	557	557		
SIZE	Pearson Correlation	0.268	0.759	1	
	Sig. (2-tailed)	0	0		
	N	557	557	557	
SECTOR	Pearson Correlation	0.237	0.090	0.106	1
	Sig. (2-tailed)	0	0.033	0.012	
	N	557	557	557	557

Denote significant at 1% and 5% level, respectively.

The size of SMEs has a significant and positive correlation with *CA*, *AGE* and *SECTOR* with values ($0.268 < 0.01$, $0.759 < 0.01$ and $0.106 < 0.05$) respectively. In a similar vein, the *SECTOR* of demographic factor has significant and positive

correlation with CA, AGE and SIZE with value ($0.237 < 0.01$, $0.090 < 0.05$ and $0.106 < 0.05$) respectively. Generally, a positive and significant coefficient means that changes in the demographic factor (AGE, SIZE and SECTOR) of SMEs tend to positively affect finance. This means that as any demographic factor (AGE, SIZE and SECTOR) increases by one unit, the corresponding CA increases by the value of correlation units.

(3) Discussion of Results. This study has used ANOVA to clarify the relationship between an independent variable (independent factor) and a dependent variable (credit accessibility, CA). The results are noted below.

Table 4. ANOVA Analysis of the Equation (1) Related to Hypothesis.

Model	Sum of Squares	df	Mean Square	F	R ²	Adjust R ²	Durbin-W	Sig
Regression	1220.58	3	406.86	25.69	0.47	0.45	1.70	0.00b
Residual	8756.89	553	15.84					
Total	9977.47	556						

a. Dependent Variable: Credit Accessibility (CA).

b. Predictors: (Constant), SECTOR, AGE, SIZE.

The analysis in Table 4 shows that both R² Square and Adjusted R Square of the model are, to some extent, acceptable. Moreover, the result in this table means that the demographic factors have positive and significant effect on the CA. That is, our hypothesis is supported.

Table 5. Coefficients of Equation (1) Related to Hypothesis.

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std.Error	Beta	t	Sig
Constant	21.45	0.8		26.818	0.000
Age	0.540	0.268	0.123	2.014	0.044
Size	0.724	0.292	0.125	2.482	0.013
Sector	0.847	0.162	0.21	5.24	0.000

a. Dependent Variable: CA.

CONCLUSION

The SMEs sector has the prospect of becoming the engine of growth for the overall private sector. This has been clearly demonstrated by government interventions towards SMEs development in a number of ways. The sector has also proven to be significantly essential for the economic growth of the country. This study has attempted to examine the effects of demographic issues of construction SMEs on credit accessibility. This study has contributed to identifying the demographic characteristics of small and medium enterprises, which have a positive impact on access to credit. The results of this study demonstrate that there is significant relationship and interdependence between demographic factors (size, age and sector) of construction SMEs and credit accessibility. All identified demographic factors positively and significantly affect credit accessibility (CA).

REFERENCES

- Abor, J. and Quartey, P. (2010). "Issues in SME Development in Ghana and South Africa." *Aiaa Journal*, 39(7), 218-228.
- Audretsch, D.B. and Elston, J. A. (1994). *Does firm size matter? Evidence on the Impacts of Liquidity Constraints on Firm Investment Behaviour in Germany*. Social Science Electronic Publishing, Germany.
- Beck, T., A. Demirgüç-Kunt, and V. Maksimovic (2002). "Financial and Legal Constraints to Growth: Does Firm Size Matter?" *Proceedings from the World Bank*, Washington, D.C., U.S., 137-177.
- Beck, T. and Demirguc-Kunt, A. (2006). "Small and medium-size enterprises: access to finance as a growth constraint." *Open Access Publications from Tilburg University*, 30(11), 2931-2943.
- Burkart, M. and Ellingsen, T. (2004). "In-kind finance: A theory of trade credit." *American Economic Review*, 94(3), 569-590.
- Carpenter, R. E. and Petersen, B. C. (2006). "Is the growth of small firms constrained by internal finance?". *Review of Economics & Statistics*, 84(2), 298-309.
- Mcmahon, R. G. P. (2001). "Growth and performance of manufacturing smes: the influence of financial management characteristics." *International Small Business Journal*, 19(19), 10-28.
- Pandula, G. (2011). An Emperical Investigation of Small and Medium Enterprise's Access to Bank Finance: The Case of an Emerging Economy. *Proceedings from ASBBS Annual Conference*, Las Vegas, U.S.,(pp.255-73), Retrieved from <http://asbbs.org/files/2016/ASBBS2016v1/PDF/P/PandulaG.pdf>
- Mohd, M. and Rosli (2013). "Determinants of small and medium enterprises performance in the malaysian auto-parts industry." *African Journal of Business Management*, 8235-8241.
- Schiffer, M. and Weder, B. (2013). "Firm size and the business environment: worldwide survey results." *Plos One*, 8(12), e82904-e82904.
- Hideki Y. (2002). "The evolution and structure of industrial clusters in Japan." *Small Business Economics*, 18(1), 121-140.
- Kyereboah-Coleman, A. and Amidu, M. (2008). "The Link Between Small Business Governance and Performance: The case of Ghanaian SME Sector." *Journal of African Business*. 19(3), 10-28.
- Yasuda, T. (2005). "Firm growth, size, age and behavior in japanese manufacturing." *Small Business Economics*, 24(1), 1-15.