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The Evaluation of the Factors Influence the Access to Debt Financing by Tanzanian SMEs

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Abstract

The primary objective of this study was to test the determinants of factor(s) impacts access to debt financing by Small and Medium-sized Enterprises (SMEs). The research evaluates the extent on how the firm and the owner-manager factors impact upon the firms' access to debt financing were evaluated. This study was conducted in 2012, based on a survey of 164 Tanzanian firms. The appropriateness and the support of the determinant factors impact SMEs' access to external debt financing were empirically analyzed. The research design was quantitative in nature involving testing various hypotheses and theories about the associations between perceived constructs. Study results were then compared with factual indicator data subjected to multiple regression and correlation analysis. The results of the regression analysis comply with other researches conducted in previous studies in relation to factors impact access to debt financing. These empirical findings provide among the factors influence access of debt financing by SMEs in Tanzania include: firms management's education, experiences of industry and business operations; furthermore, firm's location, industry, size, age, incorporation, and availability of collateral and business information are noticeable factors that impact firm's access to debt financing. The significances of the factors and their impacts have been addressed and reported in the study. Recommendations are made for owner-managers acquiring better management skills and qualifications to improve their managerial capabilities, experience and also, to adjust with financial institutions' requirements for them to access debt finances effortlessly. For government, implementation of appropriate strategic planning, education, training and government support to the SME sector.

Keywords: Debt financing, Firm characteristics, Owner-manager characteristic,; Small and Medium-sized Enterprises (SMEs), Tanzania

1.0 Introduction

The Small and Medium-sized Enterprise (SME) sector performs a significant roles worldwide (Abor, 2008). The emergence of SMEs sector is recognized widely due to their significant impacts on economic development (Reynolds 1991; Wright et al., 1998; Jackson et al., 1999; Lau & Busenitz, 2001). It has been particularly evident that SMEs have contributed significantly to the economic growth of developed and developing countries. SMEs have a potential contribution socially and economically by contributing noticeably in job creation, revenue generation, innovations; also acts as a catalyst for urban and rural area's growth (Hallberg, 2000; OECD, 2004; Williams, 2006; Fatoki & Asah, 2011). Large of the industrialized countries, over 98% of all manufacturing sector firms originate from the SMEs sector and they are main employment providers (Sanusi, 2003). The SME sector employs more than 22% of the productive labor force in the developing countries (Kayanula & Quartey, 2000).

This research aimed to investigate empirically the determinants of the factors that impact the access to debt financing by Tanzanian SMEs. The factors influencing the access to debt financing to firms are many and complex. To find out the factors impact the access on debt financing by SMEs, this research investigated and analyzed the firm and owner-manager characteristics of Tanzanian firms on how they influence the lenders to provide debt to their firms. The study established the extent to which the firm characteristics and the owner-manager characteristics influence the access to debt financing to impact their firms growth. A research model was developed to test the hypotheses and theory about associations between constructs. Outcomes were then compared with factual indicator data, subjected to multivariate regression analysis and correlation analysis. The research analyzed empirically the appropriateness and support of the determinants that affect SME access to debt financing. Recommendations were made for those business practitioners who are still trading in businesses with either high or low growth expectations which can be influenced by their access to debt financing from financial institutions.

1.1 The Research Problem

Researches on SME sector have attracted attention from researchers, policy makers, and practitioners due to their contributions to economic growth. Despite of the potentials it has on economic development and growth the sector is facing a serious challenge arising from lack of financing services (Livingstone, 2001; Bigsten et al. 2003; Fafchamps, 2004). Financing of SMEs' viable projects (Note 1) have an important implication on sustainability and growth of the SMEs. In spite of the noticeable significances from SME sector still financing difficulties merging as a problem weakening the growth of the sector. This study aimed to unveil factors influences access to debt financing by SMEs and give measures to encounter the problem.

In spite of the statistical difficulties in defining SMEs and defining business failure in different countries, there is general agreement that lack on access to debt financing cause difficulties for businesses' development. Pretorius and Shaw (2004) observed that accessibility to external finance is essential to solve shortage of SMEs cash flows. Financing is required for SMEs' to set up and enlarge their business operations, human resource development, new product development, research and development and acquirement of up-to-date production equipments and technology. Most of SMEs rely on internal finance (Note 2) since they can't afford external finance easily only prioritized source become internal finance but still internal finance is inadequate for SMEs' development and profitability. Failures of SMEs to access debt financing result into an inadequate capital structure. Demirquc-Kunt et al., (2006) pointed out that the main source of external financing for SMEs is equity and debt. Shane (2008) pointed out that external equity from stock exchange (capital markets) usually never exists for SMEs. Majed et al., (2010) and Sorooshian et al., (2010) pointed out that firm characteristics have an impact on access to debt financing, capital structure and performance of SMEs. In this study, firm characteristics include attributes such as firm's location, firm industry, firm size, firm age, firm legal status, the availability of both firm's collateral and business information.

Globally SME sector has been reporting difficulties in access to finance (Bebczuk, 2004; Slotty, 2009; Balling et al., 2009; Irwing & Scott, 2010; Yongqian et al., 2012). Access to external finance to SMEs has become more costly and troublesome while their accessibility has sharply declined. SMEs' financing-gap (Note 3) limits their investment opportunities and stagnant their growth. Access to finance is widely perceived to be an essential factor for firms and especially SMEs, to maintain their daily business operation as well as to achieve long-term investment opportunities and development targets. Presence of general limitations on access to capital markets led firms to rely heavily on the banking sector for credit. Therefore, a well-functioning financial system sector plays an important role in channeling resources to the best firms and investment ventures. Financing constraints crucially limit firm's growth, availability of productive resources resulting to sluggish of a sector which might pose threat to the sector's contribution to the economy.

The speed of innovation for high productivity led SMEs to require fund for high technology employment in production in raising productivity and maintaining competitiveness in recent years. SMEs innovative products and services great potentialities' might disappear if fund needed for investment to flourish the sector would not be available. If SMEs lack proper financing they require, brilliant ideas may fall by the edge and this represents a loss in potential growth for the economy.

Similar research studies on SME sector covering the determinants of factors impact the access to debt financing by SMEs by employing firm characteristics and owner-managers characteristics are much less common in the economics literature, particularly those with a focus on the Tanzanian SME sector. The aim of this study was to encompass the determinants of factors that impact access to external sources of financing by SMEs which has an important aspect on firms' growth. Moreover, the real picture of SMEs business activities in Tanzania has not been unveiled entirely in reflecting the determinants on factors impact their access to external financing. The existing studies have lacked systematic empirical evidence to help policy makers and practitioners to solve the problem. SMEs research has been recognized as an important contribution to SME development and dominance in innovation.

Shortage of financing to SMEs in developing countries led the sector not to provide enough support to economic development and growth (Sacerdoti, 2005). Lack of debt financing to SMEs affect their perfection to fulfill their roles. Bigsten et al. (2000) pointed out that the sluggishness growth of the SMEs sector in Africa, are associated with a scarcity of capital. Moreover, (Oshikoya, 1994; Fadahunsi, 1997) strengthened that lack of credit access also lowers SMEs investment in Africa. As a result, SMEs are more likely to be credit constrained and thus affect negatively their profitability and growth compared to large enterprises. The aim of this study is to ensure the firm

and the owner-managers' perceived characteristics provide a link for SMEs access to debt financing. Olomi (2007) pointed out that most of the SMEs in Africa obtain their finance from the informal sources (Note 4) while large enterprises access finances directly from formal sector i.e. banks. Presence of unequal access to finance by SMEs and large enterprises has undermined the role of SME sector in the economic development of African countries at large.

In Tanzania, the government has been attracted by SMEs to solve unemployment problem which recently is spreading across the country. Over 700,000 job seekers enter the Tanzanian labor market annually but only 40,000 new jobs are created annually within formal sector, as a result those who unable to find jobs in the formal sector end up in the informal sector whereby SMEs' dominate (Olomi, 2005). Regardless of SMEs' sector contributions in the job creation, their operations and development supports has been compromised by the persistent limitations on their access to financing from formal-financial sector. An existence of a finance gap in the Tanzanian SME sector, deteriorate SMEs' performances, their productivity and contributions to the country's economy.

The real picture of SMEs business activities in Tanzania has not been unveiled entirely in reflecting the firm and owner-manager's characteristics impacts in access to debt financing as it has key significance on SME's growth. The purpose of this study was to carry out such an investigation, with a view to making recommendations for more appropriate business support services at a local level. Furthermore, government support had promoted strongly an enterprise culture for enhancing further expansion on SME sector. This study recognizing that, the harder economic environment for SME sector become due to lack of supportive financing services, the less performances and growth of SME sector. The focus on this study is to unveil how owner-manager and firm attributes impact an access to debt financing; since debt is one of the internal determinants of business performance.

1.2 Research Objectives and Hypotheses

SME sector is a backbone of many economies in developing and developed countries due to their contributions on creation of employment, competition, economic enthusiasm and innovation. The focus of this research was to investigate the determinants of the factors that impact the access to debt financing by SMEs whereby firm's and owner-manager's characteristics influence on access of debt financing by SMEs were evaluated. The study aimed to improve the policies and ways to make debt financing/credit available or delivered to SME sector.

The research hypotheses were constructed from other studies which have been conducted in different aspects on SMEs to attain the objective of this study. The main aim of the following hypotheses is to tackle objective of this research and to fill an existing financing gap on SMEs:

The size of a firm has an important influence on the debt ratios as firms with more real assets tends to have greater access to long-term debt (Burkart & Ellingsen, 2004). Honhyan (2009) find out that larger firms tend to be more diversified and fail less regularly; consequently size can be an inverse proxy for the probability of bankruptcy. Cassar (2004) argues that it may be relatively more costly for smaller firms to resolve information asymmetries with debt providers; impliedly led smaller firms to be offered less debt capital.

H_1: There an existence of a positive relationship between the size of the SMEs and access to debt finance from external sources.

Lenders that are geographically closer to their borrowers are better able to use soft qualitative information about their customers' credit quality. Geographical proximity to either critical buyers or suppliers produces a form of enhanced environmental scanning that enables SMEs to more easily identify and exploit growth opportunities in the market. The geographic proximity to banks and customers has a relationship on a firm's use of leverage (Berger & Udell, 2002). Gilbert (2008) points out that the geographical area where the firm is operating has implications for its access to markets and resources impacting their operations.

H_2: The location of a firm has a positive relationship on access to debt finance by SMEs.

Hall et al., (2000) suggests that the industry in which a firm operates does not directly determine its capital structure but may do so indirectly via the nature and composition of the firm's assets. The relationship between industry classification and financial leverage are based on the assumption that industry classification is a proxy for business risk (Barbosa & Moraes, 2004). The rationale for this may be that firms in the same industry face the same environmental and economic conditions and, therefore, tend to cluster with respect to variance of earnings and sales.

H_3: The industry that a firm operates positively impacts access to debt financing by SMEs.

Kitindi et al., 2007) evidenced that creditors, banks and other lenders use financial information provided by firms to analyze their present performance and predict future performance. Financial information obtained from the financial statements acts as indicator of borrower's future prospects and ability to repay back principal and stipulated interest attached. Lenders use available financial information to make an approval-rejection decisions; lack of adequate information leads to information asymmetry and credit rationing (Sarapaivanich & Kotey, 2006).

H_4: There is a positive relationship between business information and access to debt finance by SMEs from lenders.

Chandler (2009) pointed that the longer existence of a firm, it signals that that a firm can survive during a tough economic conditions. Klapper (2010) stated that younger firms (less than 5 years) rely less on bank financing and more on informal financing. Ngoc et al. (2009) find out that it is often difficult and expensive for young SMEs to access bank financing due a large information asymmetry between the banks and firms. Bougheas et al., (2005) point out that young firms are more failure prone than older ones.

H_5: There existence of a positive relationship between the age of the firm and access to debt finance from lenders by SMEs.

Cassar (2004) pointed out that lenders may perceive incorporation as a good signal that portrays credibility and formality of operations. Abor (2008) point out that the form of business organization could affect the debt-equity decisions of SMEs. The shareholders of corporations and limited companies have limited liability against losses, whereas general partners and owners of sole proprietorships have unlimited liability. Coleman and Cohn (2000) however find evidence suggesting a positive relationship between leverage and incorporation.

H_6: It is hypothesized that incorporation positively impacts on access to credit by SMEs.

Bougheas et al. (2005) argued that collateral is an important factor for SMEs in order to access debt finance. Collateral reduces the riskiness of a loan by giving the financial institution a claim on a tangible asset without diminishing its claim on the outstanding debt. Coco (2000) point out that collateral is the lender's second line of defense. Barbosa and Moraes (2004) argue that SMEs owners-managers that invest heavily in tangible assets tend to have higher financial leverage since they can borrow at lower interest rates if their debt is secured with such assets.

H_7: There is a positive relationship between collateral and access to debt finance by SMEs from lenders.

Managerial competencies as measured by education level, managerial experience, industry expertise and knowledge of the business positively impact on the performance of SMEs (Hisrich & Drnovsek, 2002). Martin and Staines (2008) found out that lack of managerial experience, skillfulness and personal qualities are found as the main reasons why SMEs fail. Fatoki and Assah (2011) found out that owner-manager's management competency (education and experience) has an influence on access to debt financing from commercial banks. Herrington and Wood (2003) points out that lack of education and training has reduced management capability in SMEs and account for one of the reasons for their high failure rates. In that perspective management education and experience do impact the firm's performance hence ability to access external debt financing by SMEs.

H_8: There is a positive relationship between managerial education and access to debt finance by SMEs from lenders.

H_9: There is a positive relationship between firm's management experience and access to debt finance by SMEs from lenders.

2.0 Literature Review

2.1 The Role and Significance of SMEs

SMEs play important roles in many countries' economy and make substantial contribution to employment and outputs regardless of the level of economic development of a country. SME businesses with less than 100 workers in the United States represent one-third of domestic employment and sales revenue (Velasco & Cruz 2001). SMEs represent 99.8 percent of all European Enterprises (European Small Business Alliance – The Independent Voice for Small Business, 2006). SMEs in the EU (those with fewer than 250 workers) account for about one-half of total value added and two-third of labor force (European Union 2002). SMEs contribute 40% and 50% of manufacturing output in Chinese Taipei, Japan and Republic of Korea in the 1990's (UNCTAD 1998). Wattanapruttipaisan (2003) evidenced that SMEs in ASEAN contribute up to 90% of business establishments and 70% to 90% of Domestic

workforce. Liu (2007) acknowledged SMEs as a major driving force in economic expansion in China, with more than 40 million SMEs and sole industrial and commercial proprietorships (*getihu* enterprises) are responsible for 59% of GDP, with 68.65% of imports and exports. They paid 48.2% of taxes and occupied more than 75% of employment in urban areas. SMEs have become a main driver of economic growth in China.

SMEs are expected to be an important vehicle to address the challenges of employment creation, sustainable economic development, equality on income distribution and overall stimulation of economic development in developed and developing countries. SMEs are also an important source of innovation in the development of new products, services and technologies (Fatoki & Garwe., 2010). SMEs in both advanced and developing countries comprise heterogeneous group of production units of diverse size, organization, managerial capacity, technological level and sophistication. In the advanced countries SMEs tend to be homogeneous (varying mainly in terms of firm size and technology). In third world SMEs are characterized by the coexistence of both very small craft type enterprises in the informal economy and small and medium businesses in the organized sectors (Bhalla, 1992).

SME operators tend to demonstrate greater flexibility in the face of recessions by holding on to their businesses since they are prepared to temporarily accept lower compensation (Olomi, 2005). SMEs through business connections, partnerships and subcontracting relationships can enable them to create great potential to balance large industries requirements. Strong developed productive industrial structure can only be attained where SMEs and large enterprises not only coexist but also function in a symbiotic relationship. Additionally, SMEs are observed as training grounds for entrepreneurship and managerial development and enable motivated individuals to find new avenues for investment and expanding their operations (Olomi, 2005).

2.2 SMEs Financing & Growth

The role of the SMEs as an engine of economic growth has garnered considerable public attention globally. Accompanying this heightened popular interest in the general area of SME sector has been an increased interest by policy makers, practitioners and researchers in the nature and behavior of the financial markets that fund small businesses. At the core of this sector are questions about the sources of financing for SME growth needs at various stages of their development, the nature of the private equity and debt contracts associated with this financing and the associates and substitutability among these alternative sources of finance arise. The private markets that finance SMEs are particularly interesting because they are so different from the public markets that fund large enterprises.

Berger and Udell (2002) pointed out that the most important attribute in defining SME sector access to finance is to review its information availability; the information comprise firm characteristics and owner-managers' characteristics. Berger and Udell (2002) stipulated that unlike large firms, SMEs do not enter into contracts that are publicly visible or widely reported publicly; contracts with their labor force, even their suppliers and their customers are generally kept private. In addition, SMEs do not issue traded securities that are continuously priced in public markets. Furthermore, most of SMEs do not have audited financial statements at all that can be shared with any provider of outside finance. As a result, SMEs often cannot credibly convey their quality. Moreover, SMEs may have difficulty building reputations to signal high quality or non-exploitive behavior quickly to access debt financing from financial institutions to finance their growth opportunities.

This study intend to offer specialized mechanisms to address these difficulties in which most of SMEs become unqualified to access these sources of debt financing. The financial intermediaries that operate in these markets actively screen, contract with, and monitor the SMEs they invest in over the course of their relationships to help resolve these obstacles to access to access debt financing problems.

3.0 Methodology

The study aim of any research is to establish the degree of representation of the sample to the population so that basic assumptions could be made. With respect to the methodological choice for this study, a quantitative approach was used. This empirical study investigated on how the characteristics of firm(s) and owner-manager(s) impact access to debt finance to boost firm's growth in the SME sector. To test the hypotheses properly, detailed survey questionnaires were prepared and tested, then used to collect data across Tanzanian firms. Data were collected as part of a larger study of investigation in SMEs. The criterion used for selecting the sample firms was that, they belonged to the any category of SMEs operating in Tanzania. The data was collected based on zones: Coastal zone (Dar es Salaam), Northern zone (Arusha), Zanzibar (Unguja) and Southern-Highland zone (Mbeya) of United Republic of

Tanzania. This study concentrated on SMEs which are recognized by the Ministry of Industry, Trade and Marketing; Tanzania Chamber of Commerce and Small Industries Development Organization (SIDO). Participants were asked to volunteer for a study involving the discussion of specific ways they developed their businesses and how do they finance their needs on external financing. To qualify for the study, the SMEs have to be Tanzanian business, registered and genuinely independent, in need and ever applied for external debt finances, not a division, subsidiary, or franchise of a big corporation. The population of SMEs was 250, whereby to establish the sample size of this study we opted for Raosoft (Note 5) sample size calculator to calculate the sample size. Even though Raosoft provided a minimum recommended sample size of 152 SMEs to be involved in this study, 200 questionnaires were distributed because of data collection limitation such as non response.

The study captured both qualitative and quantitative data. The collection of data was conducted through a survey questionnaire comprising open and closed questions. The questions were comprehensible and constructed easily for respondents to understand and reply the questions. The collection of data for this research was primary derived from field survey data collection through interview. All the derived data were analyzed using statistical techniques in order to detect required answers to the identified research hypothesis. The data were collected ranges for variables required to construct a comprehensive multivariate model on SMEs access to debt financing. In data analysis the Statistical Package for Social Sciences (SPSS) was used. Statistical analysis includes Pearson correlation, logistic regression and descriptive statistics were also conducted. Pearson correlation was used to analyze the relationships exist between the variables and access to debt financing as well as establish if the multicollinearity between variables existence. Multiple regressions were used to measure the relationships between the independent and dependent variables. The dependent variable for SMEs' access to debt financing was the firm's access to external finance. A comprehensive set of independent variables was derived in this study for the determinants of SMEs access to finance which does impact firm's growth. Validity and reliability were guaranteed by using a statistician and a panel of experts to weigh up the research instrument for theoretical clarity, pre-testing the research instrument in a pilot study and in depth reviewing the literature for theoretical constructs and empirical conclusions relating to this study. The Kolmogorov-Smirnov test was used to determine the normality of the data.

Econometric model was used to hypothesize the determinants of the factors impact the access to debt financing by Tanzania SMEs. The firms and owner-managers' characteristics were the determinant factors to be tested on access to debt financing by SMEs in Tanzania in this study's econometric model. The multiple regression equation with all of the variables to be associated in establishing a relationship with access to debt financing by SMES was formed as shown in equation (1), (2) and (3).

$$AtDF_{jt} = f\ (FC, OC) + \varepsilon_{jt} = \beta FirmCharactreristics_{jt} + \alpha Ownermanager Characteristics_{jt} + \varepsilon_{jt} \quad (1)$$

Where: $AtDF_{jt}$ is the debt/credit access by a firm j at time t; $f(FC, OC)$ = access to debt financing is the function of firm's characteristics and owner-manager's characteristics; ε_{jt} is the error component that varies over both individual firms and time.

$$AtDF = \alpha + \beta\,(Size + Location + Industrial\ sector + BusinessInformation + Age + Incorporation + Collateral) + \gamma(Education + Experience) + \varepsilon \quad (2)$$

$$AtDF = \alpha + \beta_1 Size_{jt} + \beta_2 Loc_{jt} + \beta_3 Ind_{jt} + \beta_4 Binfo_{jt} + \beta_5 Age_{jt} + \beta_6 Inco_{jt} + \beta_7 Coll_{jt} + \gamma_1 Medu_{jt} + \gamma_2 MExp_{jt} + \varepsilon_{jt} \quad (3)$$

$$\beta_1 > 0; \beta_2 > 0; \beta_3 > 0; \beta_4 > 0; \beta_5 > 0; \beta_6 > 0; \beta_7 > 0 \quad (4)$$

$$\gamma_1 > 0; \gamma_2 > 0 \quad (5)$$

Where: $AtDF_{jt}$ is the debt/credit access by a firm j at time t; $Size_{jt}$ is the size of a firm j (measured by the number of employees) at time t; Loc_{jt} is the Location of a firm j at time t; Ind_{jt} is the industrial sector in which a firm j operates at time t; Age_{jt} is the age of a firm j at time t; $Binfo_{jt}$ is the business information (maintenance/preparation of financial statements annually) kept by a firm j at time t; $Inco_{jt}$ is the form of business organization (incorporation) or legal status of a firm during the debt/loan application at time t; $Coll_{jt}$ is the status of collateral owned or controlled by a firm while applying for a loan/debt financing at time t; $Medu_{jt}$ is the owner-manager education level of firm j at time t; $MExp_{jt}$ is the owner-manager business experiences of firm j at time t (in terms of years working in the business/industry). $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \gamma_1$ and γ_2 are parameters to be estimated which are positively related to access to debt financing by a firm. ε_{jt} is the error component that varies over individual firms and at a given time. Logistic regression was used to estimate regression to establish which firms 'and owner-managers' characteristics have influence on access to debt financing in during firms' operations. The study assumes the disturbance parameter Ɛ has normal distribution.

4.0 Results and Analysis

The study focused on SMEs establishments operating in Tanzania. Using the data collected from the field survey 250 firms were stratified and randomly selected to form the population. A sample of 200 SMEs was first randomly drawn and questionnaires were administered, carried out between months April to August 2012. This brought the number surveyed firms to 164 out of 200 questionnaires administered. Based on an evaluation of the characteristics of the owners who responded to the survey, it was decided that the sample could be considered to be a reasonably adequate representation of the small business population for this study. Fortunately, the nature of Tanzania SME sector and response usually associated with survey, the response rate was considered to reasonable representative of the industry. The sample surveyed provided a broad range of services including manufacturing, retail and transportation. Respondent firms were distributed within different economic sectors: agriculture and natural resources sectors including food, wood, wood products and furniture, and non-metallic minerals sectors; manufacturing industries sector include textile; machinery and equipments; chemicals; food processing, metal and metal products and other forms manufacturing; and the final sector comprises services and retail business including garments; retail; construction and transport sectors. As per Raosoft (Note 6) the initial intention was to obtain a response rate of at least 152 respondents (76%) of the 250 surveyed questionnaires, however, a response rate of 164 respondents (82%) was yielded, proving that it was more satisfactory response rate. Using the data from owner-managers in the industry reduced heterogeneity and assured adequate numbers of respondents.

Table 1: Composition of sample

Variables		No. of observation	Percent
Size	Small	91	55.5
	Medium	43	26.2
	Large	30	18.3
Location	Urban	116	70.7
	Rural	48	29.3
Industrial Type	Primary	50	30.5
	Secondary	37	22.5
	Tertiary	77	47.0
Financial Statements	FS- Yes	99	60.4
	FS-No	65	39.6
Age	Age 1-4 years	62	37.8
	Age 5-9 years	42	25.6
	Age 10-19 years	32	19.5
	Age 20 years and above	28	17.1
Incorporation	Private Limited Company	73	44.5
	Sole proprietorship	61	37.2
	Partnership	30	18.3
Management Education	Less than Secondary Education	8	4.90
	Secondary Education	39	23.8
	Vocational Training Education	50	30.5
	Graduate Education	67	40.9
Management Experience	Low (Less than 5 years)	38	23.2
	Medium (5-9 years)	46	28.0
	High (10-19 years)	52	31.7
	Very High (20+years)	28	17.1
Collateral	Have Collateral (Yes)	76	46.3
	No Collateral (No)	88	53.7

Source: *Author's own calculations based on field data collected in Tanzania*

Table 1 report the composition of the study's sample according to firm's characteristics: size, location, industrial type, availability/management of financial records (financial statements), legal status (incorporation), age and collateral availability: as well as owner-manager characteristics: owner manager's education and experience selected for the 164 firms responding to the survey questionnaire that they have accessed debt financing. Small firms employ 1 to 49 employees, Medium firms employ 50 to 99 employees and large firms employ over 100 employees. Proportions of firms participated in this study according to size (determined by number of employees) were 55.5 percent, 26.2 percent and 18.3 percent for small, medium and large firms respectively. This indicates that SMEs' business owner-mangers may have interest in research findings to impact their access to debt financing. 70.7 percent of the firms were located in rural areas while 29.3 were from rural areas.

Industry type classifies business operation as primary, secondary or tertiary industrial sector. Firms from primary industrial sector proportion of the sample was 30.5 percent; primary industrial sector comprised of agriculture and natural resources sectors including food, wood, wood products and furniture, and non-metallic minerals sectors.

Firms from secondary industrial sector proportion of the sample was 22.5 percent; secondary industrial sector was made up of manufacturing industries include textile; machinery and equipments; chemicals; metal and metal products; and other types of manufacturing. Firms from tertiary industrial sector proportion of the sample were 47.0 percent; tertiary industry was comprised with services and retail business including garments; retail; construction and transport sectors. Firms which maintain their business information represented by 60.4 percent while 39.6 do not maintain their financial records. Firms aged 1 to 4 years repented by 37.8 percent (SMEs dominant here). Firms aged from 5 to 9 years representation on this study's sample was 25.6 percent. Firms with age ranking from 10 to 19 years proportion of the sample was 19.5 percent while the firms above 20 years proportion was 17.1 percent. Firms which have collateral to be pledged as a security while applying for a debt financing/loan were 46.3 percent while firms without collateral during access to debt financing proportioned to 53.7 percent. Legal status represents incorporation of a firm: Publicly listed companies are those firms listed in stock markets (None); Private held limited companies are those companies which are legal and separate entities but are not listed at stock market. Sole proprietorship and partnership are forms of business organizations without separate legal entity. Other legal entities represent all other forms of business organization which not fit in public listed company, privately held company, sole proprietorship or partnership such as cooperatives, non governmental organizations (NGO), religious business operations etc. The proportion of firms which are private limited companies in the study's samples was 44.5 percent. The sample proportions for sole proprietorship and partnership were 37.2 percent and 18.3 percent respectively. The proportions for owner-managers with less than secondary and secondary education in the study's sample were 4.9 percent and 23.8 percent respectively. Owner-managers with some vocational college/university trainings were 30.5 percent while with at least university degree were 40.9 percent. Owner-manager with experience less than 5 years proportioned 23.2 percent while with medium experience proportioned 28 percent. Owner-managers with high and very experience in their industrial sector ranked 31.7 percent and 17.1 percent respectively of this study's sample.

4.1 Descriptive Results and Analysis

Overall 200 survey questionnaires were administered and 164 firm's owner-managers participated in the study and the distributions of the businesses in the industry in terms of access to finance, location, employment size, business sectors, maintenance of business records and years of operation were investigated. Also owner-manager features such education level and experiences were evaluated. Table 2 presents data on the firm's access to debt financing which was discussed in the previous chapters. The numbers of SMEs face difficulties in access to debt financing in Tanzania were 81 firms (49.4%), according this study's sample. These firms were unsuccessfully access debt finance, giving particularly evidence of a constraint on financing almost a half of all the firms were rejected whenever applied for debt financing.

Table 2: Access to debt financing

Variable	Frequency	Percent	Valid Percent	Cumulative Percent
Loan Access-Yes	83	50.6	50.6	50.6
Loan Access-No	81	49.4	49.4	100.0
Total	**164**	**100.0**	**100.0**	

Source: *Author's own calculations based on field data collected in Tanzania*

Small firms were leading firm size for encountered rejections (financial constraints), 76.5% of all small firms applied for debt financing were rejected; followed by Medium firms, 19.8% of medium firms applied for a loan were rejected while only 3.7% of large firms applied for loans were rejected. This result demonstrated how hardship for SMEs (small and medium) face hardships in accessing debt financing, indicating in total 96.3% of the firms rejected were SMEs.

Table 3: Firm by size on access to debt financing

Variables		Frequency	Percent	Valid Percent	Loan Rejected Percent
Size	Small	91	55.5	55.5	76.5
	Medium	43	26.2	26.2	19.8
	Large	30	18.3	18.3	3.7
	Total	164	72.6	100.0	100.0
Total	**164**	**100.0**	**100.0**		

Source: *Author's own calculations based on field data collected in Tanzania*

Sources of financing to SMEs: In this study among the requirements a firm must have declared to have a financial constraint and apply for a loan from any sources of financing. Among the sources discovered in this study include: Access of debt financing (loan) from banks comprises 84.3% of all loans; followed by microfinance institutions 9.7% and finally government agencies i.e. pension funds with 6.0%. Table 4 provides descriptive statistics of all variables used in this study according to sample. The means and standard deviations of all the variables used to test the hypotheses are summarized in Table 4.

Table 4: Summary of statistics

Variables		Observation	Mean	Std. Deviation	Minimum	Maximum
Size	Small	164	0.5549	0.4985	0.0000	1.0000
	Medium	164	0.2622	0.4412	0.0000	1.0000
	Large	164	0.1829	0.3878	0.0000	1.0000
Location	Urban	164	0.7073	0.4564	0.0000	1.0000
	Rural	164	0.2927	0.4564	0.0000	1.0000
Industrial Type	Primary	164	0.3049	0.4618	0.0000	1.0000
	Secondary	164	0.2256	0.4193	0.0000	1.0000
	Tertiary	164	0.4695	0.5006	0.0000	1.0000
Financial Statements	FS -Yes	164	0.6037	0.4906	0.0000	1.0000
	FS-No	164	0.3963	0.4906	0.0000	1.0000
Age	Age1to4	164	0.3780	0.4864	0.0000	1.0000
	Age5to9	164	0.2561	0.4378	0.0000	1.0000
	Age10to19	164	0.1951	0.3975	0.0000	1.0000
	Age20&Above	164	0.1707	0.3774	0.0000	1.0000
Incorporation	PVLC	164	0.4451	0.4985	0.0000	1.0000
	Solepro	164	0.3720	0.4848	0.0000	1.0000
	Partnerp	164	0.1829	0.3878	0.0000	1.0000
Management Education	LSEdu	164	0.0488	0.2161	0.0000	1.0000
	Sedu	164	0.2378	0.4270	0.0000	1.0000
	VTEdu	164	0.3049	0.4618	0.0000	1.0000
	Graduate	164	0.4085	0.4931	0.0000	1.0000
Management Experience	Lexp	164	0.2317	0.4232	0.0000	1.0000
	Mexp	164	0.2805	0.4506	0.0000	1.0000
	Hexp	164	0.3171	0.4668	0.0000	1.0000
	VHExp	164	0.1707	0.3774	0.0000	1.0000
Access Debt Financing	AtDFYes	164	0.5061	0.5015	0.0000	1.0000
	AtDFNo	164	0.4939	0.5015	0.0000	1.0000
Collateral	CollYes	164	0.4634	0.5002	0.0000	1.0000
	CollNo	164	0.5366	0.5002	0.0000	1.0000

Source: *Author's own calculations based on field data collected in Tanzania*

4.2 Cross Tabulation

Cross tabulations display the joint distribution of two or more categorical variables, and are commonly used to explore how demographic variables are related to various attitudes and behaviors (Rodeghier, 1996). In this study, cross tabulation was used to explore the relationship between accesses to debt financing with individual variables i.e. firm age, firm size, owner-manager education etc.

Table 5 shows results on firm's access to debt financing as per firm's characteristics and owner-manager (entrepreneur) characteristics. Under firm size; 35% of the firm's applied for a loan were successfully to acquire the loan but 76.5% of the small firms loans rejected. Medium and large firms were treated the same (32.5%) when applied for loans but 19.8% and 3.7% of medium and large firms respectively were rejected. Firm located in urban represent large part of the firms successfully 96.4% secure the loan from financial institutions but also on the rejection 93.8%. Basing on industrial type firms under tertiary sector where most of them are SMEs were rejected 61.7%. Firms which do not maintain financial records were mostly rejected to access loans (53.1%); this is one of the features of SMEs as the cost to maintain financial records/information is expensive and cost. Young firms aged less than 5 years were the most rejected (63%). SMEs are among the firms starts business with hardship on access to debt finance. Most of the firms which their incorporation (form of business organization) statuses are those which with no legal liability (partnership and sole proprietorship) 60.5% dominated with SMEs since costs for registration are expensive. Under owner-manager's education influence indicates most of rejections are from those from secondary and vocational training education 34.6% and 38.2% respectively. Owner-manager's experience indicates no big variances on proportions on rejections between medium 38.3% and high 32.1% experiences. The results also demonstrated that a firm without a collateral access to debt finance is difficult.

Table 5: Debt financing by firms characteristics and Owner-managers characteristics

Variables		Debt Financing			
		Approved	Percent	**Rejected**	Percent
Size	Small	29	35	62	76.5
	Medium	27	32.5	16	19.8
	Large	27	32.5	3	3.7
Location	Urban	80	96.4	36	44.4
	Rural	3	3.6	45	55.5
Industrial Type	Primary	30	36	20	24.7
	Secondary	26	31.4	11	13.6
	Tertiary	27	32.6	50	61.7
Financial Statements	FS- Yes	69	83.1	31	38.3
	FS-No	14	16.9	50	61.7
Age	Age 1-4 years	8	9.6	54	66.7
	Age 5-9 years	34	41	8	9.9
	Age 10-19 years	16	19.3	16	19.7
	Age 20 years and above	25	30.1	3	3.7
Incorporation	Private Limited Company	47	56.6	26	32.1
	Sole proprietorship	24	28.9	37	45.7
	Partnership	12	14.5	18	22.2
Management Education	Less than Secondary Education	3	3.6	5	6.2
	Secondary Education	11	13.3	28	34.6
	Vocational Training Education	19	22.9	31	38.2
	Graduate Education	50	60.2	17	21.0

	Low (Less than 5 years)	23	27.7	15	18.5
Management	Medium (5-9 years)	15	18.1	31	38.3
Experience	High (10-19 years)	26	31.3	26	32.1
	Very High (20+years)	19	22.9	9	11.1
Collateral	Have Collateral	76	91.6	0	0
	No Collateral	7	8.4	81	100
	Total	**83**	**100**	**81**	**100**

Source: *Author's own calculations based on field data collected in Tanzania*

4.3 Correlations Between Key Variables

Correlation analysis was conducted to establish the degree of correlation on the variables intended for this study. To establish the relationship between variables the correlation analysis was conducted among to find out the association exists between the independent variables and the dependent variable as well to establish whether the multicollinearity problem exists among the independent variables.

The correlation analysis was used to describe the strength and direction of the linear relationship between two variables (Pallant, 2001). There are a number of different statistics available, depending on the level of dimension. In this study, the procedure for obtaining and interpreting a Pearson's correlation coefficient was used. Given that correlations between independent variables can cause problems with multicollinearity in regression analysis examining the significance of the correlation coefficients takes on added importance.

Table 6: Correlation matrix (A)

Variables	AtDF	Small	Medium	Large	Urban	Rural	Primary	Secondary	Tertiary	FSYes
AtDF	1.000									
Small	-0.419**									
	0.000									
Medium	0.145	-0.666**	1.000							
	0.064	0.000								
Large	0.373**	-0.528**	-0.282**	1.000						
	0.000	0.000	0.000							
Urban	0.571**	-0.360**	0.170*	0.270**	1.000					
	0.000	0.000	0.029	0.000						
Rural	-0.571**	0.360**	-0.170*	-0.270**	-1.000**	1.000				
	0.000	0.000	0.029	0.000	0.000					
Primary	0.124	-0.233**	0.177*	0.098	0.077	-0.077	1.000			
	0.113	0.003	0.023	0.213	0.329	0.329				
Secondary	0.212**	-0.368**	0.176*	0.273**	0.155*	-0.155*	-.357**	1.000		
	0.006	0.000	0.024	0.000	0.048	0.048	0.000			
Tertiary	-0.293**	0.523**	-0.311**	-0.319**	-0.200*	0.200*	-.623**	-0.508**	1.000	
	0.000	0.000	0.000	0.000	0.010	0.010	0.000	0.000		
FSYes	0.471**	-0.475**	0.200*	0.383**	0.438**	-0.438**	-0.032	0.199*	-0.137	1.000
	0.000	0.000	0.010	0.000	0.000	0.000	0.684	0.011	0.080	
FSNo	-0.471**	0.475**	-0.200*	-0.383**	-0.438**	0.438**	0.032	-0.199*	0.137	-1.000**
	0.000	0.000	0.010	0.000	0.000	0.000	0.684	0.011	0.080	0.000
Age1to4	-0.588**	0.243**	-0.093	-0.206**	-0.521**	0.521**	0.112	-0.060	-0.053	-0.397**
	0.000	0.002	0.236	0.008	0.000	0.000	0.154	0.447	0.499	0.000
Age5to9	0.356**	-0.093	-0.064	0.192*	0.255**	-0.255**	0.036	-0.116	0.064	0.190*
	0.000	0.237	0.416	0.014	0.001	0.001	0.645	0.139	0.417	0.015
Age10to19	0.306	0.069	0.056	-0.153*	0.080	-0.080	-.192*	-0.119	0.277**	-0.010
	0.039	0.377	0.474	0.050	0.309	0.309	0.014	0.131	0.000	0.899
Age20&	0.351**	-0.278**	0.135	0.204**	0.292**	-0.292**	0.016	0.337**	-0.297**	0.301**

Above	0.000	0.000	0.085	0.009	0.000	0.000	0.836	0.000	0.000	0.000
PVLC	0.247**	-0.457**	0.191*	0.370**	0.306**	-0.306**	0.153	0.104	-0.228**	0.450**
	0.001	0.000	0.014	0.000	0.000	0.000	0.050	0.187	0.003	0.000
Solepro	-0.173*	0.385**	-0.229**	-0.234**	-0.226**	0.226**	-0.071	-0.144	0.186*	-0.408**
	0.026	0.000	0.003	0.003	0.004	0.004	0.365	0.066	0.017	0.000
Partnerp	-0.100	0.106	0.041	-0.183*	-0.112	0.112	-0.108	0.046	0.061	-0.068
	0.201	0.175	0.605	0.019	0.155	0.155	0.169	0.555	0.442	0.387
CollYes	0.819**	-0.447**	0.169*	0.383**	0.544**	-0.544**	.155*	0.201*	-0.311**	0.453**
	0.000	0.000	0.031	0.000	0.000	0.000	0.048	0.010	0.000	0.000
CollNo	-0.819**	0.447**	-0.169*	-0.383**	-0.544**	0.544**	-.155*	-0.201*	0.311**	-0.453**
	0.000	0.000	0.031	0.000	0.000	0.000	0.048	0.010	0.000	0.000

**. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Table 7: Correlation matrix (B)

AtDFYes	FSNo	Age1to4	Age5to9	Age10to19	Age20 & Above	PVLC	Solepro	Partnerp	CollYes	CollNo
FSNo	1									
	0.397**	1								
Age1to4	0									
	-0.190*	-0.457**	1							
Age5to9	0.015	0								
	0.01	-0.384**	-0.289**	1						
Age10to19	0.899	0	0							
Age20&	-0.301**	-0.354**	-0.266**	-0.223**	1					
Above	0	0	0.001	0.004						
	-0.450**	-0.319**	0.149	0.054	0.181*	1				
PVLC	0	0	0.057	0.489	0.021					
	0.408**	0.233**	-0.076	-0.061	-0.148	-0.689**	1			
Solepro	0	0.003	0.335	0.441	0.059	0				
	0.068	0.119	-0.097	0.006	-0.047	-0.424**	-0.364**	1		
Partnerp	0.387	0.129	0.217	0.941	0.55	0	0			
	-0.453**	-0.548**	0.323**	-0.026	0.358**	0.275**	-0.184*	-0.123	1	
CollYes	0	0	0	0.745	0	0	0.018	0.115		
	0.453**	0.548**	-0.323**	0.026	-0.358**	-0.275**	0.184*	0.123	-1.000**	1
CollNo	0	0	0	0.745	0	0	0.018	0.115	0	

**. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Table 8: Correlation matrix (C)

Variables	AtDFYes	LSEdu	Sedu	VTEdu	Graduate	Lexp	Mexp	Hexp	VHExp
AtDFYes	1								
	-0.059	1							
LSEdu	0.45								
Sedu	-0.250**	-0.126	1						

	0.001	0.107							
	-0.167*	-0.15	-0.370**	1					
VTEdu	0.033	0.055	0						
	0.399**	-0.188*	-0.464**	-0.550**	1				
Graduate	0	0.016	0	0					
	0.109	-0.057	-0.001	0.107	-0.074	1			
Lexp	0.165	0.466	0.987	0.172	0.345				
	-0.225**	-0.078	0.002	-0.001	0.033	-0.343**	1		
Mexp	0.004	0.318	0.98	0.993	0.672	0			
	-0.008	0.028	0.05	-0.053	-0.007	-0.374**	-0.425**	1	
Hexp	0.916	0.72	0.522	0.502	0.934	0	0		
	0.157*	0.123	-0.063	-0.054	0.051	-0.249**	-0.283**	-0.309**	1
VHExp	0.045	0.117	0.422	0.492	0.513	0.001	0	0	
	0.571**	0.021	-0.270**	-0.185*	0.398**	-0.028	-0.106	0.035	0.114
Urban	0	0.787	0	0.018	0	0.723	0.179	0.655	0.147
	-0.571**	-0.021	0.270**	0.185*	-0.398**	0.028	0.106	-0.035	-0.114
Rural	0	0.787	0	0.018	0	0.723	0.179	0.655	0.147
	0.124	-0.088	-0.183*	-0.036	0.231**	-0.144	0.058	0.061	0.016
Primary	0.113	0.26	0.019	0.649	0.003	0.066	0.459	0.437	0.836
	0.212**	-0.055	-0.096	-0.072	0.175*	-0.158*	-0.077	0.008	0.259**
Secondary	0.006	0.488	0.222	0.358	0.025	0.043	0.326	0.915	0.001
	-0.293**	0.127	0.249**	0.094	-0.359**	0.265**	0.011	-0.063	-0.232**
Tertiary	0	0.104	0.001	0.234	0	0.001	0.889	0.42	0.003
	-0.419**	0.146	0.299**	0.220**	-0.529**	0.172*	0.04	-0.049	-0.181*
Small	0	0.062	0	0.005	0	0.028	0.608	0.534	0.021
	0.145	-0.135	-0.138	-0.003	0.181*	-0.032	-0.094	0.1	0.024
Medium	0.064	0.085	0.079	0.966	0.02	0.687	0.229	0.201	0.758
	0.373**	-0.034	-0.227**	-0.279**	0.473**	-0.185*	0.056	-0.051	0.204**
Large	0	0.666	0.003	0	0	0.018	0.479	0.515	0.009
	0.471**	-0.164*	-0.279**	-0.113	0.420**	0.002	0.034	-0.118	0.103
FSYes	0	0.036	0	0.149	0	0.982	0.664	0.134	0.191
	-0.471**	0.164*	0.279**	0.113	-0.420**	-0.002	-0.034	0.118	-0.103
FSNo	0	0.036	0	0.149	0	0.982	0.664	0.134	0.191
	-0.588**	-0.06	0.214**	0.112	-0.264**	0.168*	-0.011	-0.072	-0.086
Age1to4	0	0.447	0.006	0.154	0.001	0.032	0.89	0.361	0.271
	0.356**	-0.133	-0.098	-0.024	0.166*	0.009	0.162*	-0.13	-0.043
Age5to9	0	0.09	0.212	0.756	0.034	0.91	0.038	0.098	0.581
	-0.006	0.246**	0.014	-0.025	-0.096	-0.052	-0.033	0.160*	-0.101
Age10to19	0.939	0.002	0.858	0.748	0.22	0.512	0.671	0.04	0.199
Age20 &	0.351**	-0.028	-0.177*	-0.089	0.249**	-0.172*	-0.139	0.074	0.268**
Above	0	0.726	0.023	0.256	0.001	0.027	0.076	0.347	0.001
	0.247**	-0.203**	-0.183*	-0.193*	0.429**	-0.085	0.069	-0.03	0.05
PVLC	0.001	0.009	0.019	0.013	0	0.281	0.38	0.701	0.524
	-0.173*	0.294**	0.015	0.203**	-0.332**	0.086	-0.059	0.045	-0.081
Solepro	0.026	0	0.852	0.009	0	0.275	0.451	0.568	0.303
	-0.1	-0.107	0.217**	-0.005	-0.137	0.002	-0.015	-0.017	0.037
Partnerp	0.201	0.172	0.005	0.949	0.081	0.982	0.853	0.825	0.64
	0.819**	-0.097	-0.232**	-0.137	0.372**	0.069	-0.199*	-0.029	0.196*
CollYes	0	0.217	0.003	0.079	0	0.378	0.011	0.714	0.012
	-0.819**	0.097	0.232**	0.137	-0.372**	-0.069	0.199*	0.029	-0.196*
CollNo	0	0.217	0.003	0.079	0	0.378	0.011	0.714	0.012

**. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Source: *Author's own calculations based on field data collected in Tanzania*

Table 6, 7 and 8 (a,b,c) demonstrate correlation matrix in this study. All results indicate variables are correlated with access to debt finance. The study's results indicate that accessibility of debt finance from external sources in Tanzania is positively impacted by the firm's size, location, industry, age, incorporation, the availability of collateral and business information. Some owners-managers traits are correlated with access to debt financing. Furthermore, the correlation coefficients show that there is no high correlation among independent variables used in this analysis and thus make us to understand that no multicollinearity problem exists among the variables. The study conducted Field (2005) hypothesize that multicollineality is likely to be a problem in a data set if the correlation coefficient between predictors is greater than 0.90 (r >0.90).

4.4 The Multiple Regression Results

Several approaches can be used by a researcher to model metric or dichotomous variables; include probit, logistic regression and discriminate function analysis. Mostly, logistic regression is the best options among all approaches, used to analyze the relationship between dichotomous dependent variables or independent dichotomous variables by many researchers because of its flexibility and strongly on violation of the normality assumption within a model (Agresti, 1996). Logistic regression also authorizes forecast of a dependent variable from a set of predictors that may be discrete, dichotomous, and continuous or a combination of any of these (Fabowale et al., 1995). Alternatively, while discriminant analysis can be used to model dichotomous dependent variables, the analysis is only used with continuous predictors (Fabowale et al., 1995). Nature of data involved in this study, researcher opted to analyze data by using logistic regression to establish the extent to which each of the variables play a part in firm's access to debt financing.

The variables obtained from the survey were tested for their influence on influence of firms' and owner-managers' characteristics over the access to debt financing. A number of variables were correlated individually with access to debt finance; then were regressed with access to debt financing. Of the greatest interest are the multiple correlations of those variables which were correlated collectively and simultaneously with access to debt finance in a statistically significant manner.

All of the variables in the analysis indicated their direct impact on access to debt financing from lenders. Regression equations 1 to 5 were reported in section 3.0 of this study, which included all of the statistically significant variables or subsets of them. Table 9 shows the details of regression results in line with the combined firm and owner-manager characteristics. The multiple regression equation contains all of the variables found to be associated simultaneously and significantly with access to debt financing as well as some which were statistically insignificant.

As an empirical examination of the individual factors were analyzed separately in relation with access to debt financing. Table 9 shows each of the variables individually in the model which yields some useful insights into the nature of the interrelationships between the variables in the model. The results, in aggregate, indicate various significant performances. Some of the variables were individually significant, and some were not important influences on firm's access to debt financing.

Table 9: Results of logistic Regression

		Debt Financing		
Variables		Odd Ratio	Confidence interval (95%)	**P-value**
Size	Small	2.68	2.75 - 3.92	0.325
	Medium	5.35	3.11 - 6.58	0.043
	Large	6.33	2.03 - 7.65	0.012
Location	Urban	7.12	3.52 - 7.08	0.010
	Rural	1.01	2.05 - 3.26	0.453
Industrial Type	Primary	1.43	0.68 - 2.79	0.250
	Secondary	5.82	2.35 - 7.65	0.038
	Tertiary	2.85	2.05 - 6.32	0.210

Financial Statements	FS- Yes	7.85	2.65 -5.98	0.005
	FS-No	2.85	2.13 - 3.78	0.326
Age	Age 1-4 years	1.12	0.35 - 1.42	0.532
	Age 5-9 years	4.58	2.42 - 6.32	0.032
	Age 10-19 years	5.26	3.25 -6.92	0.024
	Age 20 years and above	7.01	3.11 - 8.86	0.042
Incorporation	Private Limited Company	4.53	2.24 - 7.85	0.043
	Sole proprietorship	3.01	2.14 - 3.25	0.321
	Partnership	1.23	0.43 - 1.59	0.354
Management Education	Less than Secondary Education	1.02	0.31 - 1.49	0.532
	Secondary Education	3.68	2.52 - 5.43	0.046
	Vocational Training Education	3.26	2.98 - 5.46	0.024
	Graduate Education	6.45	3.25 - 6.86	0.018
Management Experience	Low (Less than 5 years)	1.28	0.85 - 1.55	0.585
	Medium (5-9 years)	4.58	2.42 - 6.32	0.032
	High (10-19 years)	5.01	3.43 - 5.88	0.038
	Very High (20+years)	4.36	3.03 - 5.36	0.046
Collateral	Have Collateral	8.75	3.05 - 8.12	0.001
	No Collateral	1.23	2.15 - 3.65	0.392

*.Significant at the 0.05 level

Source: *Author's own calculations based on field data collected in Tanzania*

Theoretically, this study expectation concerning the coefficients of the variables involved in this study: firm attributes $Size_{jt}$, Loc_{jt}, Ind_{jt}, Age_{jt}, $Binfo_{jt}$, $Inco_{jt}$ and $Coll_{jt}$ as well as owner manager's characteristics: $Medu_{jt}$ and $MExp_{jt}$ of firm j at time t to carry positive indication to have relationship with access to debt. The data for the dependent and independent variables used in the regression analysis were collected from the primary data from field survey.

The coefficient of firm's location was positive and statistically significant and confirms the study's expectations of the hypothesis. The odd ratio for a firm situated in the urban location is 7.12 with a p-value 0.010 while for a firm located in rural areas has odd ratio of 1.01 with p-value 0.453; This indicates that access to debt financing is positively related to firm's location; study results supported Berger & Udell (2002) and Gilbert (2008) that firms located in urban areas have a higher possibility on access to loan or debt financing than firms located in the rural area.

The coefficient of industry of the firm was positive and statistically significant and confirms the study's hypothesis. The odd ratio for primary firm industry is 1.43 with a p-value 0.250; odd ratio for secondary industry is 5.82 with a p-value 0.038; odd ratio for tertiary industry is 2.85 with a p-value of 0.210; while odd ratio for quaternary industry is 1.33 with a p-value of 0.450. Results implies that access to debt financing is positively related to firm's industry whereby most of the sources of financing prefer lending more to the secondary sector while other sectors left unsupported by lenders. Therefore, results comply with Hall et al., (2000) and Barbosa & Moraes (2004) that industry that a firm operates influence access to debt financing.

The coefficient of size of business (measured by the number of employees) confirms to the study's hypothesis by carrying a positive sign and significant statistically. The odd ratio for small firms' is 2.68 with a p-value 0.325; odd ratio for medium firms' is 5.35 with a p-value 0.043; whilst the odd ratio for large firms' is 6.33 with a p-value of 0.012. The study results comply with Bukart and Ellingsen (2004) and Cassar (2004) that larger firms have higher

access to debt financing than smaller and medium sized firms because of economies of scale. Therefore, larger firms find easier to borrow money from financial institutions for expansion thereby enjoy the economies of scale which SMEs can't. Large firms also manage to purchase in large scale materials and factors of production such as capital, land, equipment, and machinery as well as employing qualified workers who will ultimately increase productivity and profitability while SMEs can't as they are referred as risk borrowers by lenders.

Lenders (i.e. creditors, banks and other sources of finance) tend to utilize financial information issued by firms to evaluate and forecast the future performance of the firm. The information acquired from the firm's financial statements portrays the firm's forecasted financial capability and indicate whether their loan interest and principal could be settled when matured. The odd ratio for firms' that maintain financial information is 7.85 with a p-value 0.005 while the odd ratio for the firms which do not maintain financial information is 2.85 with a p-value 0.326. The result indicates that firms which maintain business information have higher possibility to access debt financing than those never maintain financial information. Therefore, this study results support Kira and He (2012) and Fatoki and Assah (2011) studies that there is a positive relationship between the availability of business information and access of debt financing by SMEs.

The coefficient of the firm's age indicates a positive association between access to credit loan and age of the firm as per study's hypothesis. The odd ratio for firms younger firms (less than 5 years) is 1.12 with a p-value of 0.532; the odd ratio for firms between 5-9 years is 4.58 with a p-value of 0.032; the odd ratio for firms between 10-14 years is 5.26 with a p-value 0.024 while the odd ratio for aged firms (15 years and above) is 7.01 with a p-value 0.042; The result supported Klapper (2010) and Ngoc et al., (2009) that younger firms find difficult to access debt financing from lenders while older firms find it easier. Regarding the study results, Tanzanian business environment demonstrates a positive relationship between access of loan and age of business which is a burden to young firms whereby SMEs are dominant.

The results supported Coleman and Cohn (2000) findings on the existence of a positive association between the firm employing debt with incorporation and as per study's hypothesis. The odd ratio for limited firms' is 4.53 with a p-value 0.043; the odd ratio for the sole proprietorship and partnership (Note 7) is 3.01 with a p-value 0.321. This study finds out most of the firms operating as a sole proprietorship or partnership face difficulties in access the debt finance from lenders as because of high costs and lack of trust. Openness declared in the financial statements and limited liability make limited companies and corporation easy to access debt financing than unlimited liability forms of organization (partnership and sole proprietorship).

The availability of collateral coefficient indicates a positive relationship with access to finance. Collateral is a decisive aspect for borrower to succeed in accessibility of debt financing from lenders. The odd ratio for firms' with collateral is 8.75 with a p-value 0.001 while the odd ratio for the firms which do not have collateral is 1.23 with a p-value 0.322. The results indicate that lack of collateral by SMEs hinder their access to debt financing. Most of the firms rejected were those lack assets to be pledged as collateral. Therefore, study results support Bougheas et al., (2005) and Fatoki and Assah (2011) that collateral requirement is a key characteristic for SMEs to succeed to access debt finance from financial institutions.

The results of the regression results owner-manager's capabilities to be attributed are: education (Owner-managers with vocational level or some university trainings (r = 3.26; p-value = 0.024) and graduates (r = 6.45, p-value = 0.018) were more favored by financial institutions than other levels of education. Owner- manager working experience was another factor which this study found out that financial institutions use to decide on access to debt financing by firms. Owner-managers with more than five years and above of experience (medium level to very high) were more favored compared to less experienced owner-managers. The odd ratios and p-values for owner-manager's experiences are: medium (r = 4.58, p-value = 0.032), high (r =5.01, p-value = 0.038) and very high (r = 4.36, p-value =0.046). This study's results comply with Fatoki & Assah (2011) and Kira & He (2012) that owner-managers competence influences firms access to debt finance by SMEs.

6.0 Recommendations and Conclusion

SMEs are the core to solve unemployment problem which is growing in Tanzania and other developing countries. However, SMEs still have reported acute problems of access to external finance. This study results explores the factors impact the access to external debt financing which will enable policy makers and planners to formulate proper measures to encounter firms' financing obstacles. The study explores what can determine financing constraint

to a firm by assessing firm characteristics: firm age, firm size, incorporation, firm location, sector/industry of economic activity; firm's management of records and ownership of collateral to be pledged as security; owner-managers education and experience as have an influence on access to debt financing by SMEs in Tanzania. The study find out that most of the firms experiencing financing obstacles tended to possess SMEs' features i.e. firms located in rural, small and medium, young, sole proprietorship and partnership mostly operating in tertiary industrial sector. Firms owned or managed by managers with low level of education and experience also encounter difficulties to access debt financing from lenders.

This research has indicated that there is evidence that SMEs in Tanzania face major barriers to access debt financing from lenders i.e. banks. In this aspect, actions to help SME sector is required to increase debt access by SMEs. Policies, strategies and programs have to be modified to adjust with their needs. Harmonization measures to improve the structural, economic and most important regulatory conditions for the participation of financial intermediaries to SMEs sector are required. This would have at some stage added the positive outcome of making financial institutions more relevant and able to attain their true potential of serving SMEs that are insufficiently developed due to lack on access investment capital.

6.1 SMEs Initiatives to Access Debt Financing from Financial Institutions

In support of development and SMEs survival access to debt financing is very important in their potential investments opportunities as well as their routine operations. For access to debt financing by SMEs to happen, SMEs operators have to play their role to gain access on external debt financing from financial institutions (lenders). Without adequate finances from lenders to SME sector, SMEs cannot acquire or absorb new technologies nor can they expand to compete in global markets or even strike business linkages with larger firms. Similarly, lenders cannot consider taking financing to SMEs as a viable option unless their priorities are addressed by SMEs owner-managers. In this regard, SMEs should be ready to be assisted largely by public initiatives involving participation of the lending industry (financial institutions) by struggling to meet their requirements:

Advancement on the records management is crucial; SMEs have to appreciate the need to maintain properly records to build credibility from lenders; financial information systems should be improved by SMEs. This involves a proper financial accounting system for SMEs which has to assure adequate disclosure of financial information at least in three basic components of the budgetary period: the income statement, the balance sheet and the cash flow statement. This information disclosure may allow financial institutions to be better informed on the governance of SMEs, in order to evaluate more adequately their credit risk that might be involved. The support system for SMEs should involve support in accessing information storage, processing and retrieval systems. The dissemination of information and communication technologies has increased the availability and affordability of dedicated software on standard accounting programs customized for SMEs. The improvement of better communication with credit providers can be also achieved by providing support to SMEs on business plan preparations for both start-ups and for the development of existing firms. A well-prepared business plan can serve both as a roadmap for the improvement in the management of SMEs and as a means to assure better channels of communication between SMEs and lenders. It is crucial then to build up the skill base of SMEs in financial analysis and business plan writing. This may allow improving credit prospects for young small firms that lack tangible asset to be pledged as collateral for capital security or do not have a credit history.

SMEs have to start saving to be able to own tangible assets that in future can be pledged as security to acquire loan at low interest rates. Collateral is an important determinant factor for any firm to gain access to debt/credit from financial institutions. This indicates that SMEs without collateral will find it difficult to obtain debt finance from lenders i.e. commercial banks, finance companies. Therefore, it necessary for owners of SMEs to start investing on tangible assets that can be used as collateral when applying for debt financing/credit facilities from lenders in future needs of capital investments. Consequently, SMEs owners should be investment ready as Clarke et al., (2006) points out that investors look out for very specific things when they assess requests for funding. SMEs' owner-managers (entrepreneurs) must be made aware of the needs and concerns of particular types of investor. Access to consultations by SMEs for training and advises on the requirements of financial institutions i.e. banks, finance companies, trade creditors etc. can help to make SME owners to get investment ready and thus improve access to debt financing. Also, lenders need to create awareness of their debt qualifications especially the importance of collateral through advertisements and communication with trade fairs and exhibitions.

Study discovered that location traceability is limited by most of SMEs. Most businesses operate from isolated, temporary, informal and even illegal sites or premises. Some businesses operate on location not surveyed, there are no street names to facilitate traceability and access by service providers also limits their properties i.e. buildings to be used as collateral by financial institutions. Therefore, owner-managers have to evaluate their future location of their properties (i.e. buildings which might be used as debt security) and their business premises as they influence access to debt financing.

Lack of business expertise and managerial competencies (education and experiences) are also important reasons why finances are not available to SMEs. For SMEs to improve their access to debt financing, there is a need for SMEs' owner-managers to develop themselves in the area of business and management skills through training and where necessary they have to hire consultants. Most of Tanzanian universities, colleges and vocational training have entrepreneurs' centers for SME short courses, consultancy and incubators for practical trainings to educate SMEs stakeholders.

6.2 Tanzania Government's Initiatives to assist SMEs Access Debt Financing from Financial Institutions

Government should speed-up the national identification system to easy traceability of SMEs owners or reduce difficulties arise due to lack of proper addresses and trustworthy identities of all people and potential borrowers from financial institutions. National database of all firms operating is also required to be managed by government for easy traceability of businesses, management of records and follow-ups on different strategies directed to the SME sector.

However, in Tanzania various public initiatives to promote finance to SMEs have not been as successful as envisaged because there has been some overlapping of regional and national initiatives. Efforts to harmonize the standards and practices need to be properly coordinated to facilitate SME finance. Tanzania has good plans to help SME sector but still not kept in good application. Example MKUKUTA (NSGRP I & II) stipulated how to combat SMEs problems including how to solve financing gap affecting the sector but still the problems exist. NSGRP recognizes the need to address SMEs challenges in improving access to finance by the private sector including enhancement on access to credit by SMEs and rural especially rural ones. The program advised about how to improved investment environment by a design and implementation of a program for enhancing access to commercial courts by SMEs. On SMEs sector development, the strategy provides that, domestic firms including SMEs will be supported and encouraged to be innovative, paying attention to product development, quality assurance and superior marketing strategies that make them competitive and capable of responding to global market conditions. The factors put-aside to be improved include: (i) Addressing SMEs' entrepreneurship development needs for rural and urban private producers on all sectors including agricultural based industries, formal and informal enterprises; (ii) Guaranteeing access to technological and managerial skills including marketing, market information and contacts; (ii) Facilitating linking-up of domestic producers with local and foreign R&D institutions; (iii) Developing infrastructure such as utilities, transport, power, water and ICTs at competitive prices in rural and urban areas (Note 8). Implementation of the MKUKUTA is through sector policies, strategies and programmes, which have been designed to address the SMEs issues during strategy implementations. More effort is required by ministries, government agencies and local governments to play their role in empowering the SME sector as it was declared in the NSGRP so that the benefits generated from the sector to be harnessed fully and for the development of our Tanzanian economy (Note 9).

Further researches analysis particularly using time-series variation, microeconomic data and country case studies are needed to explore in more detail the policies and financing tools that can help SMEs overcome financing constraints and expand their access to external finances. Future study also is relevant in lenders context, it important to focus on financial institutions that are important for SMEs' access to finance as well as going along with searching for alternative financing tools that can work around financial institutional deficiencies to help SMEs to have permanent access to debt financing.

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Appendices

Appendix 1: Variable Definitions and Sources

Variable	Abbreviation of Variables	Definition	Source
Small	Small	Dummy variable that takes on value 1 if a firm is Small enterprise, otherwise 0.	Field Survey in Tanzania
Medium	Medium	Dummy variable that takes on value 1 if a firm is Medium enterprise, otherwise 0.	Field Survey in Tanzania
Large	Large	Dummy variable that takes on value 1 if a firm is Large enterprise, otherwise 0.	Field Survey in Tanzania

Urban	Urban	Dummy variable that takes on value 1 if a firm is located in urban, otherwise 0.	Field Survey in Tanzania
Rural	Rural	Dummy variable that takes on value 1 if a firm is located in rural, otherwise 0.	Field Survey in Tanzania
Primary	Primary	Dummy variable that takes on value 1 if a firm operates in primary industrial sector, otherwise 0.	Field Survey in Tanzania
Secondary	Secondary	Dummy variable that takes on value 1 if a firm operates in secondary industrial sector, otherwise 0.	Field Survey in Tanzania
Tertiary	Tertiary	Dummy variable that takes on value 1 if a firm operates in tertiary industrial sector, otherwise 0.	Field Survey in Tanzania
Maintain Business Records	FS -Yes	Dummy variable that takes on value 1 if a firm is maintains its business records, otherwise 0.	Field Survey in Tanzania
No Business Records	FS-No	Dummy variable that takes on value 1 if a firm is do not maintains its business records, otherwise 0.	Field Survey in Tanzania
Firm Age from 1 to 4 years	Age1to4	Dummy variable that takes on value 1 if a firm is Less than 5 years, otherwise 0.	Field Survey in Tanzania
Firm Age from 5 to 9 years	Age5to9	Dummy variable that takes on value 1 if a firm is from 5 years to 9 years, otherwise 0.	Field Survey in Tanzania
Firm Age from 10 to 19 years	Age10to19	Dummy variable that takes on value 1 if a firm is from 10 years to 19 years, otherwise 0.	Field Survey in Tanzania
Firm Age 20 years and above	Age20&Above	Dummy variable that takes on value 1 if a firm is above 20 years and above, otherwise 0.	Field Survey in Tanzania
Private Limited Company	PVLC	Dummy variable that takes on value 1 if a firm is Private held Limited Company, otherwise 0.	Field Survey in Tanzania
Sole proprietorship	Solepro	Dummy variable that takes on value 1 if a firm is a Sole proprietorship, otherwise 0.	Field Survey in Tanzania
Partnership	Partnerp	Dummy variable that takes on value 1 if a firm is Partnership, otherwise 0.	Field Survey in Tanzania
Less than Secondary Education	LSEdu	Dummy variable that takes on value 1 if a firm's owner-manager education is less than secondary education, otherwise 0.	Field Survey in Tanzania
Secondary Education	Sedu	Dummy variable that takes on value 1 if a firm's owner-manager education is secondary education, otherwise 0.	Field Survey in Tanzania
Vocational/some University Trainings Education	VTEdu	Dummy variable that takes on value 1 if a firm's owner-manager education is Vocational or some university trainings, otherwise 0.	Field Survey in Tanzania
Graduate	Graduate	Dummy variable that takes on value 1 if a firm's owner-manager education is graduate level and above, otherwise 0.	Field Survey in Tanzania
Low Experience (less than 5 years)	Lexp	Dummy variable that takes on value 1 if a firm's owner-manager experience is less than 5 years (low), otherwise 0.	Field Survey in Tanzania

Medium Experience (5 to 9 years)	Mexp	Dummy variable that takes on value 1 if a firm's owner-manager experience is from 5 to 9 years (medium), otherwise 0.	Field Survey in Tanzania
High Experience (10 to 19 years)	Hexp	Dummy variable that takes on value 1 if a firm's owner-manager experience is from 10 to 19 years (high), otherwise 0.	Field Survey in Tanzania
Very High Experience (20 and above years)	VHExp	Dummy variable that takes on value 1 if a firm's owner-manager experience is from 20 years and above (very high), otherwise 0.	Field Survey in Tanzania
Collateral (During Loan application) Yes	CollYes	Dummy variable that takes on value 1 if a firm is own collateral to pledge as collateral during external debt application, otherwise 0.	Field Survey in Tanzania
Collateral (During Loan application) No	CollNo	Dummy variable that takes on value 1 if a firm is don't own collateral to pledge as collateral during external debt application, otherwise 0.	Field Survey in Tanzania

Appendix 2 Footnotes

Note 1 Viable projects are those projects with positive Net Present Value (NPV). Projects which are able to generate back cash invested and also cover the costs (loan = principal + interest).

Note 2 Internal financing includes retained earnings, contributions from friends, family members and owner's personal savings

Note 3 This "financing gap" is all the more important in growing SME sector because of its need of expansion and involvement of technology to boost productivity. Since most of the SME owners cannot afford to spend a large amount of money to buy fixed assets or for use in business development, there is a wide financing gap in the area of long-term investments and, to some extent, working capital requirement.

Note 3 These are sources of financing from family member (relatives), friends or personal saving of the owner sometimes SME owners rise capital from black market money lenders (unofficial).

Note 5 Raosoft sample size calculator is statistical software that enables researchers to determine the sample size given the following variables: The margin of error, the confidence level, the population and the expected response distribution (Raosoft, 2010).

Note 6 The population of 250 firms was opted for this study whereby to establish the sample size of this Raosoft sample size calculator provide a minimum recommended sample size of 152 firms to be involved in this study

Note 7 Sole proprietorship and partnership form of business organization consist of lack of separate legal entity i.e. separation of business and personal affairs.

Note 8 The National Strategy FOR Growth and Reduction of Poverty (NSGRP I & II) or [MKUKUTA (I & II)] MKUKUTA is a Swahili acronym for the National Strategy for Growth and Reduction of Poverty.

Note 9 Policy Dialogue Seminar Paper on Opportunities and Challenges for Rural SMEs Development in Tanzania; Economic and Social Research Foundation (ESRF) Donath Olomi (2006); 23rd March