STRATEGIC FACTORS AFFECTING ACCESS TO CREDIT FACILITIES BY SMALLHOLDER DAIRY FARMERS IN GITHUNGURI SUB-COUNTY, KIAMBU COUNTY, KENYA

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The Strategic JOURNAL of Business & Change MANAGEMENT
ISSN: 2312-9492 www.strategicjournals.com

Vol. 4, Iss. 2 (49), pp 865 - 888, May 25, 2017, www.strategicjournals.com, ©strategic Journals

DETERMINANTS OF PROCUREMENT PERFOMANACE IN STATE CORPORATIONS IN KENYA: A CASE OF GEOTHERMAL DEVELOPMENT CORPORATION

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Accepted: May 24, 2017

ABSTRACT

There is generally limited access to credit facilities for Small and Medium Enterprises (SMEs) by commercial banks in most African countries. This has been attributed to factors such as lack of valuable assets, high risk profile of Small and Medium Enterprises (SMEs), an oligopolistic financial sector and biasness by commercial banks against the SMEs with respect to accessing credit facilities such as loans, overdrafts or trade finance related credit products like guarantees and letters of credit. Many financial institutions have not given much priority to SME funding due to difficulties encountered in administering credit facilities to the SMEs. This study sought to evaluate the strategic factors that affect access to credit facilities by Smallholder Dairy Farmers (SDFs) in Githunguri Sub-County, Kiambu County in Kenya. A descriptive research design was applied while the target population comprised of SDFs in Githunguri Sub-County who rear not more than 10 dairy animals which are milked to raise income from the sale of milk. This study employed stratified random sampling technique in determining the sample size of 365 respondents from a total of 7423 SDFs selected based on the County Assembly Wards. Primary data was collected from the farmers using self-administered semi structured questionnaires. Based on the research findings, the study concluded that collateral availability, financial information awareness, farmer's managerial competency and credit requirements all affected access to credit facilities by SDFs in Githunguri Sub-County. Furthermore, based on research findings and conclusion, the study recommended that SDFs in Githunguri Sub-County should aimed at possessing high value collateral, maintain proper financial records, endeavor to improve their managerial competency levels, maintain a good track record and credit rating with financial institutions so as to increase their chances of qualifying for credit facilities form financial institutions. On the other hand, financial institutions should consider lowering finance charges, simplifying the end to end credit processes, innovate finance products more ideal for the SME category and have alternative communication channels compatible with the SME's in order to attract more SDFs for credit advancement.

Key words: *Collateral Availability, Information Awareness, Managerial Competency, Credit Requirements*

INTRODUCTION

In Kenya, the dairy sector contributes significantly towards broad-based development and poverty reduction (Mbugua, 2013). Unfortunately, SDFs often face serious constraints that limit their growth and development when it comes to scaling up their production. They have in the past been overlooked due to the cost of processing and servicing small unsecured loans yet rural households depend on informal credit for purchasing power. Data collected from SMEs Manufacturing Survey 2009 showed that out of surveyed SMEs, 37.6% have applied for bank loans while 62.4% applied for informal sources. Of the SMEs that applied for formal loans, 22% reported having problem in obtaining the loan. The argument behind the informal credit lending is that it could have increased due to the government's regulation on the formal sector. Also, actual investment targeting SDFs has been relatively small yet there have been institutions such as Small and Medium Enterprises (SME's) and Micro Finance Institutions (MFI's) set up in the rural areas where smallholder farmers are (Nyairo & Njuguna, 2015). The SDFs therefore continue to face challenges in accessing formal credit facilities which would enable them to enhance dairy farming techniques and generally their overall output due to various factors which maybe market related, individual based or institutional factors (FAO, 2014).

The credit problem is further aggravated by the inability of formal institutions to lend to smallholder farmers due to lack of farm records, lack of tangible collateral such as land titles or even lack of valuable assets (Muponda, 2015). Several reports have outlined problems facing small-scale dairy farmers in Kenya. These include high cost of production, low productivity, seasonality in production, lack of good quality animal breeds, poor husbandry and farming practices, poor access to breeding, animal health and credit services, and high cost of artificial insemination services (SNV, 2013; Wambugu et al., 2011; Technoserve, 2008). In terms of low productivity, Wambugu et al (2011) found that on average, farmers received 3.67 litres per cow per day in 2010. This is a pale comparison to productivity figures for developed dairy sectors such as Denmark and Australia which are producing well above 20 litres per cow per day (Technoserve, 2011). Data collected from SMEs Manufacturing Survey 2009 showed that out of surveyed SMEs, 37.6% have applied for bank loans while 62.4% applied for informal sources. Of the SMEs that applied for formal loans, 22% reported having problems in obtaining the loan.

Several studies have been conducted to evaluate factors affecting the access to credit facilities by the smallholder farmers. A study by Yehuala (2008) on determinants of smallholder farmer's access to formal credit in Metema Woreda, Ethiopia established that credit access to SDFs is still limited. Mwobobia (2012) also explored the determinants of credit facility demand and established that the level of education, collateral availability and use of technology are among the many factors that affect accessibility to credit facilities by small and medium size farmers. In Kenya, Nyairo and Njuguna (2015) conducted a study to establish the effect of formal lending conditions such as interest rates charged on loan facilities and collateral requirement on supply of agricultural credit to farmers. Mbugua (2013) established that collateral, basic loan requirements and interest rates charged on loans are key determinants to farmer's access to credit facilities.

Most existing studies such as (Nyairo & Njuguna, 2015; Mbugua, 2013; Yehuala, 2008; Muponda, 2015; Benjamin, Timo, Stefan & Jukka, 2015) have focused on farmers in general with no particular concentration on the SDFs, thus leaving a need to assess the strategic factors that affect SDFs access to credit facilities, since borrowers in the dairy sector are not homogeneous in terms of their needs. Large-scale dairy farmers in the country have better access to credit facilities compared to the SDFs yet there are many smallholder farmers in need of credit facilities. This study therefore will attempt to fill the vacuum created by these factors with regard to their influence on access to credit facilities by smallholder dairy farmers in Githunguri Sub-County in Kiambu.

Specific Objectives

The general object of this study was to assess strategic factors affecting access to credit facilities by smallholder dairy farmers in githunguri sub-county, kiambu county, Kenya. The study was guided by the following objectives;

- To assess the effect of collateral availability on access to credit facilities by smallholder dairy farmers in Githunguri Sub-County, Kiambu.
- To determine the effect of a farmer's financial information awareness on access to credit facilities by smallholder dairy farmers in Githunguri Sub-County, Kiambu.
- To establish the extent to which a farmer's managerial competency affects access to credit facilities by smallholder dairy farmers in Githunguri Sub-County, Kiambu.
- To determine how credit requirements by lenders affect access to credit facilities by smallholder dairy farmers in Githunguri Sub-County, Kiambu.

Literature Review

The agricultural sector in most developing countries including Kenya contributes immensely to employment, income generation, gross domestic product, foreign exchange earnings, and food security. The sector plays a pivotal role in the rural economy and economic development in general. The important role of agriculture in the economies of developing countries calls for an increase in investments in the sector to increase production. Anang et al (2015) investigated factors influencing smallholder farmers' access to agricultural microcredit in Northern Ghana. The paper explored access to agricultural microcredit in Ghana using household survey data collected for the 2013/2014 farming season. A multi-stage stratified random sampling technique was used to select 300 smallholder rice farmers from three irrigation schemes in Northern Ghana who were interviewed using a semi-structured questionnaire.

The study revealed that the following factors influence access to agricultural microcredit in Northern Ghana: gender, household income, farm capital, improved technology adoption, contact with extension, the location of the farm, and awareness of lending institutions in the area. Gender, household size, farm capital, cattle ownership and improved technology adoption were the significant factors determining loan size. The study recommends the improvement of extension service delivery to smallholder farmers to enable them access microcredit facilities for agricultural production. Agom (2009) conducted a research on the impact of micro-credit on performance of agricultural enterprises in Cross River State, Nigeria. The study used the ordinary least square multiple regression, discriminant analysis, simple descriptive statistical tools and ANOVA in his analysis. The results however indicated that there was a significant difference in interest rate; loan duration and disbursement lag among micro-credit sources. There was a significant difference between the mean returns of credit users and non-users, with non-users having higher returns.

Loan amount was found to have a significant positive contribution returns but users failed to harness this optimally. There was therefore increased mean total cost due to interest payment without a corresponding increase in total investment as most times the loans were used outside the farm business. Savings, education and number of dependents discriminated between users and non-users. Thuo (2014) conducted a research to determine the influence of credit accessibility on the growth of micro enterprises in Nakuru Central Business District, Kenya. The study was guided by four objectives namely; influence of interest rates, demand for collateral, influence of business skills and nature of business towards the growth of micro enterprises. The target population included 300 micro enterprises. The study employed descriptive research design with a sample size of 169. Data was collected through use of questionnaires. Inferential and descriptive statistics were used as data analysis techniques with the aid of statistical package for social scientist (SPSS).

The findings of the study indicated that there was a negative correlation between collateral and growth of micro enterprises. A strong positive correlation existed between business skills and growth of micro enterprises and the nature of business influenced the growth of micro enterprises. The study concluded that high interest rates affect growth of micro enterprises, use of collateral lowers on access to credit, business skills influences on the growth of micro enterprise and the nature of business influences on access to credit.

In a study based on the data from a sample survey of 699 randomly selected peasant farmers in Bolivia, Miller and Ladman (1983) applied discriminate analysis to identify a set of socio-economic, physical and psychological factors that influence credit use among small farmers with a view to differentiate between borrowers, potential borrowers, and non-borrowers. The results of the study indicated that borrowers were characterized by higher resource base, farm size, higher level of education, large number of cattle, higher household incomes, higher level of market integration, greater use of improved technology, larger operating costs and investments, higher risk ability, etc. Potential borrowers were characterized by further distance from markets, low level of market integration, higher transaction costs, less number of cattle, etc. Furthermore, non-potential borrowers were characterized by lack of interest to expand production, lower level of education, limited use of improved technology, shortage of labor and proximity to market.

Mwangi (2013) also examined the impact of financial literacy on access to credit by households in informal settlements in Nairobi. The objective of this study was to evaluate the impact of financial literacy on access to credit by households in informal settlements in Nairobi. It also sought to gather information on the financial management skills used to manage personal finance by households in informal settlements, their financial literacy levels and its impact on credit access. To achieve this objective, the study involved four slums in Nairobi, which included Mathare, Kibera, Mukuru, Kwa Njenga and Korogocho. The research design utilized was survey method and convenience sampling which was carried out based on the relative number of households willing to participate. Data was organized, coded and analyzed using descriptive statistics and presented in form of ratios, tables, charts and graphs. The study found out that households in the informal settlements in Nairobi have low financial literacy which largely hindered them from accessing credit from formal financial institutions, government and non-governmental institutions.

The study gathered vital information to help the policy makers and patties concerned with financial education programs in decision making in solving challenges facing households in informal settlements, and also recommended further research in other formal and informal settlements in Kenya. Atuya (2014) conducted a research on the effect of microfinance credit on poverty alleviation at household level in Nakuru County. The study sought to find out the effect of microfinance credit on poverty alleviation at household level in Nakuru County.

The study employed descriptive research method. The population consisted households accessing microfinance credit in Nakuru County. Purposive sampling was to select households that were studied. The study used questionnaire to collect data which was then summarized, coded and tabulated and analyzed using SPSS version 21. Multivariate regression model was applied to determine the relative importance of each of the six variables (business expansion, housing and shelter, saving, expenditure on education, healthcare and better clothing) with respect to poverty alleviation. The results were tested using F-test, t-test, and ANOVA at 95% confidence level. The study found that microfinance credit access positively contributes to alleviation of poverty at household level in Nakuru County by providing finance access to low income earners, less educated and those in the informal sector which helps in expansion of business, acquisition of better residential places, and acquisition of education, health and improved welfare. The study also found that access to microfinance credit significantly increases household income and provide avenues for people to save.

The study recommends that microfinance institutions to continuously improve their outreach to enable them reach more deserving low income earners in all Counties in Kenya and households education on use of finances obtained enhanced. Yehuala (2008) explored the determinants of smallholder farmer’s access to formal credit with a focus on Metema Woreda, north Gondar, Ethiopia. The study sought to ascertain factors that affect smallholder farmer’s access to formal credit and also the status of women and different wealth groups’ access to formal and informal credit sources in the study area. The output from the study indicates that 43.1% of the sampled farm households were formal credit users, whereas the remaining 56.9% were non-users. It was also found out that credit access to female headed households is still limited and the difference between the wealth groups in accessing credit from the formal sources was also statistically significant. It was established that farmers acknowledge group lending which solves the problem of collateral requirement by lending institutions, controls misuse of borrowed funds and minimizes the risk of default and they also recognize the provision of saving services by MFI.

Ngari (2008) evaluated factors that affect the accessibility of credit services by small-scale tea farmers. The survey design was used in the study, since the objective was to investigate the factors affecting credit access. The population of study consisted of 450,000 registered small scale farmers and the credit providers.

The study employed stratified random sampling to choose a sample of 50 farmers for the study. One region out of seven regions as per KTDA geographical spread was selected and then a factory was selected from the region. Then 50 farmers registered at the factory were chosen randomly. The stratum was based on the sizes of tea farms of the respondent. Twenty credit providers were selected using the list of Banks licensed to operate in Kenya and the SACCO‘s that provide credit to the small scale tea farmers as per records available at KTDA. The data collection tool used was close-ended questionnaires. The data were analyzed and then presented using tables, pie charts and graphs. The findings showed that most farmers obtain their main income from tea, and tea farms ranged from half an acre to one acre. Factors that affected credit access were collateral and farmers lack of understanding of credit services and products. The source of money for inputs was established to be loans and farmers' savings. To improve credit access, the respondents recommended that infrastructure should be improved to ensure service providers are closer to the customers. Information technology should also be improved to ensure awareness among customers.

The study concluded that from the farmers' point of view, collateral and lack of information were the most significant factors affecting small scale tea farmer's access to credit facilities. The lack of information on the lending process also affected decision making among the small-scale tea farmers. The study recommended that improving access to credit facilities can only be successful if farmers are enlightened on the credit process, in addition, collateral should also be put ready by farmers applying for credit or alternatives to collateral sought.

Research Methodology

A descriptive research design was applied in this study. Descriptive research gives a researcher the opportunity to use both quantitative and qualitative data in order to find data and characteristics about the population or phenomenon that is being studied (Mugenda & Mugenda, 2003). The population for this study comprised of smallholder dairy farmers in Githunguri Sub-County in Kiambu, who were not more than 10 dairy animals which were being milked to raise income from selling the milk. Githunguri Sub-County is predominantly an agricultural area with most farmers practicing mixed farming. A sample of 365 was arrived at by calculating the target population of 7423 with a 95% confidence level and an error of 0.05 using the below formula taken from Mugenda and Mugenda (2003). Closed ended questions were used in an effort to conserve time and money as well as to facilitate an easier analysis as they are in immediate usable form; while the open-ended questions were used as they encourage the respondent to give an in-depth and felt response without feeling held back in revealing of any information. With open ended questions, a respondent's answer gives an insight to his or her feelings, background, hidden motivation, interests and decisions.

Research Findings

Strategic Factors and Credit Facilities

Collateral Requirement

Respondents were requested to indicate the extent they use an asset to access credit facilities from financial institutions. The responses were as tabulated in Table 1.

Table 1: Extent an asset is used to access credit facilities from financial institutions

	Frequency	Percent
No Extent	10	3.8
Little extent	24	9.2
Moderate extent	24	9.2
Great extent	106	40.8
Very great extent	96	36.9
Total	**260**	**100.0**

Table showed the extent to which SDFs use assets to get credit facilities from financial institutions in Githunguri Sub-County, Kiambu County. From the research findings, majority of the respondents as shown by 40.8% were of the opinion that they use assets to get funding from credit institutions to a great extent, 36.9% of the respondents indicated to a very great extent, 9.2% to a moderate extent and little extent respectively; whereas 3.8% of the respondents indicated to no extent. This implied that most SDFs use assets to access credit facilities in Githunguri Sub-County, Kiambu County to a great extent. This conforms to Sanusi and Adedeji (2010) who said that collateral availability is stringent in developing countries because the financial environment in these nations typically involves opaque information and weak enforcement.

Table 2: Aspects of collateral requirement

	Mean	Std. Deviation
The amount of capital injected into the business	3.8077	1.33325
The total value of assets owned	3.8423	0.87110
Membership in a financial group and members acting as guarantors	3.5577	1.20189
The value of land and farm machinery owned	3.4923	1.34851

The respondents indicated with a mean of 3.8423 that the total value of assets owned affects access to credit facilities to a great extent, the respondent also indicated with a mean of 3.8077 that the amount of capital injected into the business affects access to credit facilities by SDFs to a great extent.

Respondents further noted with a mean of 3.5577 that membership in a financial group and members acting as guarantors affect access to credit facilities by SDFs to a great extent. Finally, respondents indicated with a mean of 3.4923 that the value of land and farm machinery owned affects access to credit facilities by SDFs in Githunguri Sub-County, Kiambu County to a great extent. The findings are according to Sanusi and Adedeji (2010) that collateral availability is stringent in developing countries because the financial environment in these nations typically involves opaque information and weak enforcement. However, little evidence is available with respect to the determinants of collateral for credit funding that are extended to SDFs in emerging and less developed markets. The findings also agree with Menkhoff et al (2012) that majority SDFs have a relatively low capital or asset base because majority have a small parcel of land and less than 10 cows therefore limiting their acceptability as adequate collateral.

Thus, SDFs who need credit beyond the maximum loan limits from microfinance institutions have difficulties obtaining credit limits higher than micro credit. Gangata and Matavire (2013) in their study on challenges facing smallholder enterprises in accessing funds from formal financial institutions, found out that very few smallholder farmers succeed in accessing funding from financial institutions, the main reason being failure to meet minimum lending requirements, key among them being failure to provide adequate collateral as security for the credit facilities. These findings concur with the resource based theory in that availability of property based resources like movable assets and land and the knowledge-based resources like family business history, entrepreneurial experience, industry specific know-how, training and social capital have the potential to influence access to credit facilities.

Financial Information Awareness

Respondents were requested to indicate the extent farmer's financial information awareness affected access to credit facilities. The responses were as tabulated in Table 3.

Table 3: Extent farmer's financial information awareness affects access to credit

	Frequency	Percent
No Extent	10	3.8
Little extent	28	10.8
Moderate extent	25	9.6
Great extent	125	48.1
Very great extent	72	27.7
Total	**260**	**100.0**

Table 3 showed the extent to which financial information awareness affects access to credit facilities by SDFs in Githunguri Sub-County, Kiambu County. From the research findings, majority of the respondents at 48.1% were of the opinion that financial information awareness affects access to credit facilities by SDFs in Githunguri Sub-County, Kiambu County to a great extent, 27.7% of the respondents indicated to a very great extent, 10.8% to a little extent, 9.6% to a moderate extent, whereas 3.8% of the respondents indicated to no extent. This implies that financial information awareness affects access to credit facilities by SDFs in Githunguri Sub-County, Kiambu County to a great extent.

Table 4: Aspects of Financial Information Awareness

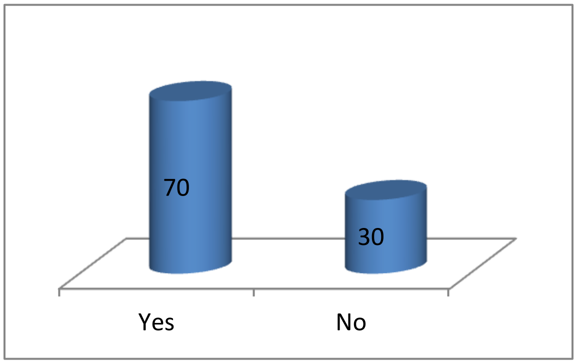
	Mean	Std. Deviation
Availability of finances for borrowing	3.5500	1.20544
Interest and related finance charges	3.8269	1.11364
Loan processing procedures	3.7192	1.17651

Table 4 showed the extent, to which the above aspects of financial information awareness affect credit access by SDFs in Githunguri Sub-County, Kiambu County. The respondents indicated with mean of 3.826 that interest and related finance charges affects access to credit facilities to a great extent, the respondent also indicated with a mean of 3.7192 that loan processing procedures affects access to credit facilities by SDFs to a great extent. Respondents further noted with a mean of 3.5500 that availability of finances for borrowing affects access to credit facilities by SDFs to a great extent. The findings are in agreement with Duy et al (2012) that credit facilities in particular rely on past financial performance as an indicator for the future profitability of projects.

These findings are in line with demand and supply theory which claims that having financial knowledge helps the SDFs to determine the overall cost of credit and hence react accordingly. When credit cost goes up and the marginal utility per shilling is raised, the household therefore chooses to consume, not consume or use less of the credit and hence the credit goes down.

Farmer's Managerial Competency

The study was interested to know if the SDFs have managerial competency attained through training in dairy management. The findings were noted as shown in Figure 1.



Training in Dairy Management

The study found out that 70% of the respondents agree that they had at least attended some form of training on dairy management while 30% of the respondents had never attended any form of training on dairy management. This concurs with Ibrahim and Aliero (2012) who identified the skills as the ability to manage a business, process relevant information, adapt to changing demands and liaise with the public private service providers.

Table 5: Extent farmer's managerial competency affects access to credit facilities

	Frequency	Percent
No Extent	15	5.8
Little extent	55	21.2
Moderate extent	46	17.7
Great extent	68	26.2
Very great extent	76	29.2
Total	**260**	**100.0**

Table 5 showed the extent to which farmer's managerial competency affects access to credit facilities by dairy farmers in Githunguri Sub-County, Kiambu County. From the research findings, majority of the respondents as shown by 29.2% were of the opinion that farmer's managerial competency affects access to credit facilities by dairy farmers to a very great extent, 26.2% of the respondents indicated to a great extent, 21.2% noted little extent,17.7% indicated moderate extent whereas 5.8% noted no extent. This implies that farmer's managerial competency affects access to credit facilities by dairy farmers in Githunguri Sub-County, Kiambu County to a very great extent. This agrees with Hitayezu (2010) who noted that household's perception and efficient response to the dynamic economic conditions is proportional to their resource allocation ability, which is subsequently linked to their human capital endowment.

Table 6: Aspects of farmer's managerial competency

	Mean	Std. Deviation
Level of education	3.3500	1.21945
Nature of farm management	3.1885	1.43288
Farmer's experience and training	3.5423	1.30419

The respondents indicated with a mean of 3.5423 that farmer's experience and training affects access to credit facilities to a great extent, the respondent also indicated with a mean of 3.3500 that the level of education affects access to credit facilities by SDFs to a moderate extent. Respondents finally indicated with a mean of 3.1885 that the nature of farm management affects access to credit facilities by SDFs to a moderate extent. The findings agree with Hitayezu (2010) who noted that household's perception and efficient response to the dynamic economic conditions is proportional to their resource allocation ability, which is subsequently linked to their human capital endowment.

This is true since education increases skill level of an individual for increased productivity in trade and farming activities. Furthermore, Ibrahim and Aliero (2012) identified the skills as the ability to manage a business, process relevant information, adapt to changing demand and liaise with the public private service providers.

Further, the findings concur with neoclassical consumer theory and information asymmetry theory which claims that for credit access, the description of a product permits the analysis of farmers' preference in terms of the utility they perceive to result from various credit attributes where modern economic theory, including the theory of the consumer, is not universally cherished.

Credit Requirement

The study sought to know the extent credit requirements by funding institutions affects access to credit facilities by SDFs in Githunguri Sub-County, Kiambu County.

Table 7: Extent credit requirements by financial institutions affect access to credit

	Frequency	Percent
No Extent	14	5.4
Little extent	69	26.5
Moderate extent	41	15.8
Great extent	84	32.3
Very great extent	52	20.0
Total	**260**	**100.0**

Table 7 showed the extent to which credit requirements laid down by lenders affects access to credit facilities by SDFs. From the research findings, majority of the respondents at 32.3% were of the opinion that credit requirements affect access to credit facilities by SDFs to a great extent, 26.5% to a little extent, 20% to a very great extent, 15.8% to a moderate extent and 5.4% to no extent. This implies that credit requirements affect access to credit facilities by SDFs in Githunguri Sub-County, Kiambu County to a great extent. This concurs with Winborg and Landstrom (2008) who claimed that some small business managers tend to be restrictive when it comes to providing external financiers with detailed information about the core of the business, since they believe in one way or the other, information about their business may leak through to competitors.

Table 8: Aspects of credit requirements

	Mean	Std. Deviation
Availability of financial reports and farm records	3.0692	1.30747

Previous credit experiences	3.7808	1.06271
Period of operation since the farm was started	4.1077	0.97653

The respondents indicated with mean of 4.1077 that the period of operation since inception of the farm affects access to credit facilities to a great extent. The respondents also indicated with a mean of 3.7808 that previous credit experiences affect access to credit facilities by SDFs to a great extent. Respondents further indicated with a mean of 3.0692 that availability of financial reports and farm records affects access to credit facilities by SDFs to a moderate extent. The study is supported by Mustafa (2015) who noted that start-up businesses are more financially constrained when it comes to borrowing from financial institutions compared to businesses with longer presence in the market which are perceived as being stable. This is because start-up businesses lack sufficient financial information and have inadequate assets that could serve as collateral for access to funding. Start-ups also lack audited financial reports required for credit review and they are also considered to be of a higher risk compared to older businesses in the market. These features contribute to many failures by new or start-up businesses within their first year of operation in Saharan Africa. Furthermore, Voordeckers and Steijuersin in their study of 2,698 SMEs in Belgium (2003-2011), found out that the age, cash-flows and assets of a business significantly affect the business ability to access credit facilities from financial institutions. These results also correspond to information asymmetry theory which argue that the limitation of the information available to the buyer may lead to the seller offering less than average quality of products in the markets which eventually leads to reduction in size of the market and assumes that at least one party to a transaction has relevant information whereas the other(s) do not.

Access to Credit Facilities

The SDFs were also requested to show their farm trends on certain aspects for the last five years.

Table 9: Access to Credit Facilities

	Mean	Std. Deviation
Access to loans for business expansion	3.5231	0.85393
Funds for short term working capital	4.4615	1.19299
Amount of funds borrowed	3.1885	1.49357
Frequency of applying for loan/accessing loan facilities	4.3423	1.23422

Funding for short term working capital had improved in the last five years with a mean of 4.4615. The respondents further indicated with a mean of 4.3423 that frequency of applying for loans/accessing loan facilities had improved for the past five years. The respondents also noted with a mean of 3.5231 that loans for business expansion had improved for the last five years. This concurs with Gangata and Matavire (2013) who in their study on challenges facing smallholder enterprises in accessing funds from formal financial institutions, found out that very few smallholder farmers succeed in accessing funding from financial institutions, the main reason being failure to meet minimum lending requirements, chief among them being failure to provide adequate collateral as security for credit.

Finally, respondents noted with a mean of 3.1885 that the funds borrowed have remained constant for the past five years. The findings are similar to demand and supply theory claims that when income increases, the demand for most goods increases. Smallholder investors tend to cluster and limit their business activities to similar products mostly of lower quality targeted for that cadre. This leads to lower returns that cannot empower the business owners to borrow credit where the trader will be required to undergo implicit and explicit costs. This agrees with Nouman et al. (2013) who argue that low interest borrowers such as the smallholder dairy farmers may be removed from the list of potential customers and banks may skip these customers

Correlation Results

The correlation matrix shows the strength or degree of linear association of a variable with itself or between variables, (Gujarati, 2003). Collinearity between variables is shown in the table 10 below. From the test results, the main diagonal entries from the upper left to the lower right corner give the correlation of one variable with itself, which is and should always be one. The other variables are pair-wise correlation among variables. Severe Multi collinearity problem is present if the correlation figures are high and there is no collinearity problem if the figures are low. From the matrix, the conclusion is that the model does not have Multicollinearity challenges.

Table 10: Bivariate Correlations

		Access to Credit Facilities	Collateral Availability	Farmer's Managerial Competency	Financial Information Awareness	Credit Requirements
Access to Credit Facilities	Pearson Correlation	1				
	Sig. (2-tailed)	0.000				
	N	260				
Collateral Availability	Pearson Correlation	0.613	1			
	Sig. (2-tailed)	0.000				
	N	260	260			
Farmer's Managerial Competency	Pearson Correlation	0.452	0.412	1		
	Sig. (2-tailed)	0.000	0.000			
	N	260	260	260		
Financial Information Awareness	Pearson Correlation	0.434	0.513	0.516	1	
	Sig. (2-tailed)	0.000	0.000	0.000		
	N	260	260	260	260	
Credit	Pearson Correlation	0.311	0.645	0.817	0.798	1

Requirements	Sig. (2-tailed)	0.000	0.000	0.000	0.000	
	N	61	61	61	61	61

From the analysis, it can also be concluded that there is a positive correlation between access to credit facilities by SDF's in Githunguri Sub-County, Kiambu County, Kenya and collateral availability, financial information awareness, farmer's managerial competency and credit requirements. In addition, the study reveals that collateral availability is related to access to credit facilities by SDF's in Githunguri Sub-County, Kiambu County, Kenya ($r=0.613$, $p < 0.00$) implying that collateral availability affects access to credit facilities by SDF's in Githunguri Sub-County, Kiambu County, Kenya and the relationship is statistically significant. This concurs with Sanusi and Adedeji (2010) who said that collateral availability is stringent in developing countries because the financial environment in these nations typically involves opaque information and weak enforcement.

Further, the study reveals that financial information awareness is related to performance of financial sector in Kenya ($r=0.434$, $p< 0.00$) implying that financial information awareness affects access to credit facilities by SDF's in Githunguri Sub-County, Kiambu County, Kenya and the relationship is statistically significant. These is in line with Hitayezu (2010) who noted that household's perception and efficient response to the dynamic economic conditions is proportional to their resource allocation ability, which is subsequently linked to their human capital endowment. The study also established that farmer's managerial competency is related to access to credit facilities by SDF's in Githunguri Sub-County, Kiambu County, Kenya ($r=0.452$, $p < 0.00$) implying that farmer's managerial competency affects access to credit facilities by SDF's in Githunguri Sub-County, Kiambu County, Kenya. the study reveals that credit requirements are related to access to credit facilities by SDF's in Githunguri Sub-County, Kiambu County, Kenya ($r=0.311$, $p< 0.00$) implying that credit requirements affect access to credit facilities by SDF's in Githunguri Sub-County, Kiambu County, Kenya and the relationship is statistically significant.

Finally, this implies that all the variables had a positive and significant correlation with access to credit facilities by SDF's in Githunguri Sub-County, Kiambu County, Kenya. This is in line with Gangata and Matavire (2013) who in their study on challenges facing smallholder enterprises in accessing funds from formal financial institutions, found out that very few smallholder farmers succeed in accessing funding from financial institutions, the main reason being failure to meet minimum lending requirements, chief among them being failure to provide adequate collateral as security for credit.

Regression Analysis

Regression analysis shows how the dependent variable is influenced by the independent variables.

Table 11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.790	0.624	0.618	0.151

Table 11 is a model fit which establishes how fit the model equation fits the data. The adjusted R^2 was used to establish the predictive power of the study model and it was found to be 0.618 implying that 61.8% of accessibility to credit facilities is affected by the following variables; collateral availability, financial information awareness, farmer's managerial experience and credit requirements, leaving 38.2% unexplained. Therefore, further studies should be done to establish the other unexplained factors at 38.2% that influence the access to credit facilities by SDFs in Githunguri Sub-County, Kiambu County. This concurs with Omonona et al (2010) who notes that access to credit enhances the production efficiency of smallholder farmers thereby reducing rural poverty and food insecurity.

Table 12: ANOVA Results

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	9.82	4	2.455	105.7	0.000
Residual	5.92	255	0.023		
Total	15.74	259			

The probability value of 0.000 indicates that the regression relationship was significant in determining how collateral availability, financial information awareness, farmer's managerial competency and credit requirements influence the access to credit facilities by SDFs in Githunguri Sub-County, Kiambu County. The F calculated at 5 percent level of significance was 105.7. Since F calculated is greater than the F critical (value = 2.4495), this shows that the overall model was significant.

Table 13: Coefficients of Determination

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.345	0.182		18.379	0.000
Collateral availability	0.654	0.196	0.584	3.337	0.0010
Financial information awareness	0.586	0.213	0.539	2.751	0.0065
Farmer's managerial competency	0.785	0.248	0.672	3.165	0.0018
Credit requirements	0.674	0.212	0.582	3.179	0.0017

The established model for the study was:

$$Y = 3.345 + 0.654 X_1 + 0.586 X_2 + 0.785 X_3 + 0.674 X_4$$

The regression equation above has established that taking all factors into account (collateral availability, financial information awareness, farmer's managerial competency and credit requirements), Constant at zero, the collateral requirement is 3.345.The findings presented also show that taking all other independent variables at zero, a unit increase in the collateral availability would lead to a 0.654 increase in the score of credit accessibility This conforms to Sanusi and Adedeji (2010) who said that collateral availability is stringent in developing countries because the financial environment in these nations typically involves opaque information and weak enforcement. Further, it was found that a unit increase in the scores of financial information awareness would lead to a 0.586 increase in the scores of credit accessibility. This was in agreement with Hitayezu (2010) who noted that household's perception and efficient response to the dynamic economic conditions is proportional to their resource allocation ability, which is subsequently linked to their human capital endowment.

Further, the findings show that a unit increases in the scores of farmers' managerial competency would lead to a 0.785 increase in the scores of access to credit by SDFs. This concurs with Ibrahim and Aliero (2012) who identified the skills as the ability to manage a business, process relevant information, adapt to changing demand and liaise with the public private service providers. The study also found that a unit increase in the scores of credit requirements would lead to a 0.674 increase in the scores of access to credit by SDFs in Githunguri Sub-County, Kiambu County. This concurs with Winborg and Landstrom (2008) who claimed that some small business managers tend to be restrictive when it comes to providing external financiers with detailed information about the core of the business, since they believe in one way or the other, information about their business may leak through to competitors.

Overall, the farmer's managerial competency had the greatest effect on the credit accessibility; followed by credit requirements and then financial information awareness had the least effect on credit accessibility by SDFs in Githunguri Sub-County, Kiambu County. All the variables were thus significant with $p<0.05$.

Summary, Conclusion

Collateral Availability

The finding summarizes that collateral availability affects access to credit facilities by SDFs in Githunguri Sub-County, Kiambu County to a great extent. The amount of money or capital injected into the business was found to affect access to credit facilities by SDFs to a great extent. The respondents indicated that the value of assets owned more specifically the value of land and farm machinery affects access to credit facilities. Financial group membership and members co-guaranteeing each other for credit facilities affects credit access by SDFs to a great extent. Collateral availability is stringent in developing countries because the financial environment in these nations typically involves opaque information and weak enforcement. However, little evidence is available with respect to the determinants of collateral availability for loans that are extended to smallholder borrowers in emerging and less developed markets.

Financial Information Awareness

The study noted that financial information awareness affects credit access by SDFs in Githunguri Sub-County, Kiambu County to a great extent. The study established that awareness by SDFs of the availability of finances affect credit access by SDFs to a great extent. The respondents indicated that awareness of various credit products available in the market affects access to credit by SDFs. Loan processing procedures also affect access to credit facilities by SDFs to a great extent.

Finally, the findings showed that interest and related finance charges affect access to credit facilities to a great extent. The findings are in agreement that credit facilities in particular rely on past financial performance as an indicator for the future profitability of projects.

Farmer's Managerial Competency

The study finding summarizes that a farmer's managerial competency affects access to credit facilities by SDFs in Githunguri Sub-County, Kiambu County to a very great extent. The study noted that the farmer's experience affects access to credit facilities to a great extent. The level of education affects access to credit facilities by SDFs only to a moderate extent. Finally, the results of the findings noted that the nature of farm management affects access to credit facilities by SDFs to a moderate extent.

Credit Requirement

The study established that credit requirements laid out by financial institutions affects access to credit facilities by SDFs in Githunguri Sub-County, Kiambu Countyto a great extent. The study results show that the period of operation from when the farm was started affects access to credit facilities by SDFs to a great extent. It was further revealed by the study that previous credit experiences affects access to credit facilities by SDFs to a great extent. The findings were also clear that availability of financial reports and farm records from farmers affects access to credit facilities by SDFs to a moderate extent.

Access to Credit Facilities

From the findings, the funding for short term working capital to SDFs had improved in the last five years. The study further showed that frequency of accessing loan facilities had also improved in the past five years. Loans for business expansion had improved in the last five year according to the findings of the study. Finally, the study established that the amount of funds borrowed by individual SDFs had remained constant in the past five years.

Conclusion of the Study

Based on the research findings, the study concludes that collateral requirement affects access to credit facilities by SDFs in Githunguri Sub-County, Kiambu County. The value of land and farm machinery owned as assets, the amount of capital injected into the business and membership in a financial group all affect access to credit facilities by SDFs in Githunguri Sub-County, Kiambu County. Additionally, the study concludes that financial information awareness affects access to credit facilities by SDFs in Githunguri Sub-County, Kiambu County. The study established thatawareness of availability of finances and various credit products open for consumers, interest and other finance chargesrelated to credit facilities and the loan processing procedures affect access to credit facilities by SDFs.

The study also concludes that the farmer's managerial competency affects access to credit facilities by SDFs in Githunguri Sub-County, Kiambu County. The study noted that the farmer's years of experience, level of education as well as the nature of farmer's management practices all affect access to credit facilities. Finally, the study established that credit requirements spelt out by lending institutions affect access to credit facilities by SDFs in Githunguri Sub-County, Kiambu County. The period of operation from the inception of the farm business, previous credit experiences and availability of financial statements, reports and other relevant farm records are all aspects of credit requirements that affect access to credit facilities by SDFs in Githunguri Sub-County, Kiambu County.

Recommendations of the Study

Based on the research findings and conclusions, under the strategic factor of collateral availability, the study recommends that in order for the SDFs in Githunguri Sub-County, Kiambu County to have better access to credit facilities, they should aim at possessing assets as collateral since these are a must have in accessing credit facilities from lending institutions. Assets owned by the farm should be of high value in order to attract reasonable credit amounts from lending institutions. Furthermore, the farmers should also raise their capital investment into the business as a going concern.

Regarding financial information awareness, the study advises SDFs in Githunguri Sub-County, Kiambu County to embrace different media channels for accessing important financial information so as to benefit from financial information shared on digital platforms which is accessible more promptly. They should also come together and form co-operative associations which would give them a collective bargaining power especially towards accessibility of credit facilities. The study also recommends financial institutions to consider lowering finance charges and simplify the credit processing procedures in order to attract more SDFs for credit advancement.

SDFs in Githunguri Sub-County, Kiambu County should strive to attend trainings on dairy management practices in order to improve managerial competencies. The trainings will enhance knowledge and skills of the SDFs and hence improve their chances of accessing credit. These SDFs should also strive to maintain a good track record and credit ratings from lending institutions. This can be achieved by ensuring they make every effort to repay credit facilities promptly with no default instances since the financial institutions majorly consider historical data and past experience when screening credit applications from consumers.

In order to access credit facilities more easily, the SDF's must maintain financial statements, reports and farm records since these are significant tools under the minimum credit requirements that are prescribed by financial institutions for accessing credit facilities. The SDF's can also use these records for future reference when reviewing farm performance and identifying areas of improvement.

Suggestions for Further Studies

From the above findings, conclusions and recommendations, the study suggests that an in-depth study to determine the key challenges faced by SDFs in Githunguri Sub-County, Kiambu County in accessing credit facilities from financial institutions. Also, the study recommends that a study should be done to determine the strategic factors that influence access to credit facilities by SDFs in other counties within Kenya apart from Kiambu County. Since there is a 23% error term, other studies should explore other factors not tackled in this study that affect access to credit facilities by SDFs. The study can be done by focusing on different variables not tackled in this study. This study was done over a period of one year. The suggested further study can be done for a longer period like three to five years in order to establish the validity of the findings.

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