

FINANCIAL FACTORS INFLUENCING GROWTH OF HORTICULTURAL SECTOR IN NAKURU COUNTY, KENYA

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Abstract

This study evaluated the financial factors influencing growth of horticultural sector in Nakuru County, Kenya. Of particular interest was the extent to which credit access and working capital affected the growth of horticultural firms. The study reviewed adverse selection theory and organizational theory of growth. A cross-sectional survey research design was adopted. The study targeted the 300 accounts, finance, and management staff working with the registered horticultural farms in Nakuru County. The sample size constituted 98 respondents. The study employed structured questionnaires. The research instrument was pilot tested. The data collected were subjected to relevant processing and analysis whereby the Statistical Package for Social Sciences software was used to aid in data analysis. Descriptive statistics tools were used. More so, inferential statistics were employed. The research hypotheses were tested at 0.05 level of significance. The findings of the study were presented in form of statistical tables. It was found that the influence of financial factors under study on growth of horticultural firms was significant. Working capital had the greatest influence on growth of firms. The study concluded that horticultural firms in Nakuru County highly invested in working capital and as such it influenced the firm's liquidity. It was inferred that horticultural firms were able to access short-term credit facilities. The study recommended that horticultural firms should source funds from various sources and negotiate for credit terms from such lenders as commercial banks. It is recommended that horticultural firms should effectively manage working capital.

Keywords: Access to credit, financial factors, firm growth, horticultural sector, working capital

INTRODUCTION

Horticultural farming falls under agribusiness in that it involves the production and sale of perishable agricultural produce such as fruits, vegetables, and flowers. Essentially, the aforementioned horticultural produces are a form of cash crop especially when farmed on a large scale. Diversified cash crop farming is 63 per cent and above more profitable than tea farming (Mwangi, Gicuru, Sibiko & Wanjiru, 2015). Diversified cash crop farming is exemplified by among others, horticultural farming. In Kenya, horticulture mainly constitutes fruits, cut flowers and vegetable production. It is an important foreign exchange earner whose contribution to the economy cannot be downplayed (Mutuku et al., 2004).

Working capital management is very imperative since it influences the risk, profitability and value of a firm. Essentially, investment in working capital involves a trade off between risks and profitability. This is because investment decisions leading to increase in profitability are inclined towards risk and the reverse is true. In the same breadth, efficiency and effectiveness in management of working capital also enhances cash flow to the firms. This in turn increases the growth opportunities for the firms and return to the shareholders (Ganesan, 2007).

Traditionally, financial viability of firms was pegged on the firms' liquidity. Maintaining high liquidity was believed to negatively affect the profitability of a firm. The relationship between profitability and liquidity is very close. Foregoing either profitability or liquidity at the expense of the other is bound to occasion serious problems for the firm. This is due to the fact that the two are very important goals for any form regardless of the sector. Whereas, profitability is a long term goal, liquidity is short term. As liquidity determines the survival of the firm, profitability influences the growth of the firm (Chowdhary & Amin, 2007).

Most of the developing countries export their horticultural produce to the European markets (Mutuku et al., 2005). Though the authors noted that the European market for horticultural produce has climaxed recently, dynamic across the world are generating concerns. One of the concerns is the saturation of the traditional European markets. It is asserted that most of the developing countries practicing horticultural farming export their produce to European countries where Netherlands is one of the most popular and favourite destinations (Mutuku et al., 2005).

Over 60% of Indian population depends on horticulture for survival. As such the horticultural sector in India has been on the rise since 1991 to 2014. More parcels of land have been put under different horticulture activities which, has led to increase in horticulture produce. Indeed, it is observed that production has increased to approximately 31,000 million tons in the year 2013/14. Particularly, it is observed that production of vegetables is the main activity contributing to about 59% of the total horticultural produce. Other horticulture products in the

country include spices, aromatic, plantation crops, fruits and flowers. However, it is noted that the sector has been facing various challenges among them inadequate exportability of produce due to lack of good quality produce. In addition post-harvest management has also been a concern that has hindered price stabilization (Netherland Enterprise Agency, 2015).

In Uganda it is noted that floriculture products in the horticultural sector are much more important than fruits and vegetables. This is due to the returns the floriculture products fetch in the international market coupled with the conducive environment for the production of flowers. However, compared to countries like Zambia and Kenya, the performance of horticultural sector in Uganda in terms of exports has been low since the country relies on fresh produce exports such as bananas and peppers mainly to UK. The slow development of the horticultural exports has been associated limited comparative advantage for production of good yields and quality of many temperate vegetables. In addition, lack of competitively priced sea-freight means that can compete with the major supplies of tropical fruits, the horticultural sector in the country is only limited to tropical and sub-tropical fruits and vegetables that have smaller market opportunities in Europe. The floriculture and horticulture sector in the country are under professional associations such as Ugandan Flower Exporters Association (UFEA) and Ugandan National Vanilla Association (UNVA) that aid in reducing input prices and securing competitively freight and airport handling in addition to representing the interests of small-scale growers of horticultural products. The horticulture sector has had its constraints that include lack of technical knowledge on production, high costs of export, insufficient supply and mistrust between exporters and producers among others (Gabre-Madhin & De Vette, 2004).

Agriculture is the backbone of the Kenyan economy. It directly contributes to about a quarter of the country's Gross Domestic Product (GDP). Indeed, it accounts for about 65 per cent of Kenya's foreign exchange (HCDA, 2010). The results of the First Medium Term Plan (2008-2012) in the IMF Country Report No. 10/224 indicated that agriculture contributes 24% of the Gross Domestic Product (GDP) in Kenya; 75% of industrial raw materials and 60% of export earnings. It employs 3.8 million in farm, livestock production and fishing and 4.5 million in off-farm informal sector activities. The report shows there was an increase in production and export agricultural products. There was an average increase in production and export of agricultural products between 2002 and 2006 of 30%. The report notes that the agricultural sector faces challenges such as high cost of inputs, over-subdivision of land to uneconomic units, limited application of agricultural technology and innovation, weak farmer institutions, poor livestock husbandry, limited extension services, over-dependence on rain-fed agriculture and inadequate credit facilities.

According to Mwangi et al (2015) horticultural sector is positively significant to wealth generation, poverty alleviation and promotion of gender equity particularly in the rural areas. In addition, the sector is said to be very fundamental to the national economy in that it has created employment opportunities to thousands of Kenyans. It has also contributed significantly to foreign exchange.

It is further posited that the uptake of horticultural farming amongst the traditional cash crop farmers is likely to enhance income levels and income security. Mwangi et al documented the implication of shift of resources to horticulture on profitability of small-scale farmers in Gatanga District. Productivity and profitability of farms in this region was argued to be very crucial given that most of the farming is on small scale. The scholars noted that diversification to horticulture could possibly greatly enhance farm profitability amongst farmers who have hitherto been practicing traditional cash crop farming.

Statement of the Problem

Agriculture as the mainstay of the Kenyan economy underscores the importance of the sub-sector to the country. Horticultural farming is arguably the second most important sub-sector in Kenyan agricultural sector in that it contributes 20% of the foreign earnings from the sector (Amde et al., 2009). There are many farmers who prefer horticultural farming to other forms of agribusiness due to its presumed profitability (Mwangi et al., 2015). However, the sub-sector has been facing key challenges. Farming activities are more cost intensive compared to other forms of agribusiness. More so, ripples in the global market for horticultural produce have aggravated the situation. The government being aware of the significance of the horticultural industry has allocated a lot of resources to the sector. During the 2015/16 annual budget, the sector was allocated Kshs. 564 million in order to enhance its activities. In spite of this, the sector, just like other agricultural areas, has failed to realize its vision. Most horticultural farms and firms still complain of less funding and lack of marketing for other products. Farmers are not able to reap the expected benefits due to a number of reasons. In addition, the stringent conditions for quality standards have further made it more difficult for horticultural farmers. The foregoing is bound to occasion financial challenges in that abiding with the set quality standards there is cost implication. The saturation of traditional global market for horticultural produce is also likely to affect the profitability of the sector. The implications of the foregoing challenge are far reaching in that millions of Kenyans depend directly and indirectly on the sub-sector for their livelihoods. More so, the country's economy is likely to be affected.

General Objective

The general objective of the study was to evaluate the financial factors influencing growth of horticultural sector in Nakuru County, Kenya

Specific Objectives

- i. To determine the influence of credit access on growth of horticultural sector in Nakuru County
- ii. To determine the influence of working capital on growth of horticultural sector in Nakuru County

Research Hypotheses

H₀₁: The influence of credit access on growth of horticultural sector in Nakuru County is not significant.

H₀₂: The influence of working capital on growth of horticultural sector in Nakuru County is not significant.

THEORETICAL FRAMEWORK

A theoretical framework is comprised of the concepts and theories relevant to study variables. A theoretical framework is further defined as the structure that can hold or support a theory of a research study. The framework introduces and describes the theory that explains why the research problem under study exists (Swanson, 2013). In this study, theories put into perspective are adverse selection theory and organizational theory of growth.

Adverse Selection Theory

The theory of adverse selection of credit markets is attributed to Stiglitz and Weiss (1981). The theory assumes that lenders cannot distinguish between borrowers of different levels of risk, and that loan contracts are subject to limited liability. This is due to hidden information which implies that lenders do not have absolute knowledge of the borrower's capacity to service a certain amount of loan. It is on this premise that the theory posits that lending institutions demand for collateral to be put up as a mitigating measure against loan defaults.

This theory also holds that the interest rates charged on credit facilities may fail to raise enough to guarantee that all loan applicants secure credit particularly when loanable funds are scarce. The theory further states that borrowers possessing greater wealth to put up as collateral obtain cheaper credit, have incentives to work harder, and indeed may earn additional income eventually. Inequality in the distribution of assets that can be used as collateral denies

many people and corporate from accessing sufficient credit facilities to run their operations (Ghosh, Mookherjee & Ray, 2000). The adverse selection theory works against such enterprising businesses as horticultural firms in that they are required to have sufficient collateral in order for them to access huge credit from either local or international lenders. This is against the acknowledgment that these firms are capital intensive and the degree of risk is also high since they deal with perishable produce.

Organizational Theory of Growth

The organizational theory of growth was pioneered by Naghavi and Ottaviano (2006). The theory puts into perspective the dynamic effects of the organizational choices of firms on innovation and growth. The theory is based on a growth model earlier developed by Grossman and Helpman (1991). The theory focuses on both static and dynamic implications of the fragmentation of production. The theory illustrates that in event that a firm decides to outsource; the static gains from specialized production may possibly be linked to relevant dynamic losses for consumers because of slower innovation.

More so, it is posited that outsourcing, particularly offshore outsourcing, may slow organizational growth. This is due to reduction in feedback. It is argued that firms are heterogeneous and as such, is important to include decisions passed by firms on their organizational form which should essentially tally with their individual level of productivity (Baldwin & Robert-Nicoud, 2006). According to Naghavi and Ottaviano (2007), as firms' composition moves towards off-shoring mode, labour that is released from research and development and increased average productivity of the remaining vertically integrated firms stimulate innovation and as such foster growth. This theory can be employed to explain growth of horticultural firms given that a number of them are multinational while almost all of them rely on export markets.

EMPIRICAL REVIEW

Empirical studies on credit access, working capital and growth of firms particularly in the horticultural sector are reviewed in this section.

Credit Access and Firm Growth

It is ascertained that access to credit is a cardinal factor for accelerating business growth (Shinozaki, 2012). The author further noted that less credit constrained small and medium enterprises are able to increase their sales growth than their credit constrained counterparts. Aivazian, Mazumdar and Santor (2003) on the other hand established that small firms usually

suffer in their ability to access credit where financial markets are underdeveloped, segmented or when subjected to arbitrary credit-allocation mechanisms. According to the authors, the World Bank interventions have provided Sri Lankan financial constrained small and medium firms with heavily subsidized loans.

According to Maertens (2008) credit constraint is a major issue to small holder farmers in Senegal. It is noted that such farmers are credit constrained in that they lack access to credit at all while others access but not to desired amounts necessary to purchase the required farm inputs and make necessary investments. As such, the author noted that credit constraints among smallholder farmers limit their agricultural production and productivity growth. The author therefore saw the need for smallholder farmers to engage into off-farm employment and income in order to alleviate credit and input constraints.

Sasu and Egyir (2010) established that constraints in accessing working capital are a major impediment to intensity of export success. It is further noted that lack of access to working capital adversely influence the intensity of export success of Ghanaian horticultural exporting firms. The author noted that stakeholders and government interventions are important in addressing lack of working capital in horticulture exporting firms.

Hatab and Hess (2013) note that small agricultural exporters suffer from small amounts of liquidity which make it difficult for the firms to cater for costs of exportation and exchange disparities. It is also noted that such firms lack adequate capital, experience high costs of credit access and export loans from financial institutions. In other circumstances, the author note that small agricultural firms do not access loans due to the reluctance of the banks to serve them. As such, the author not that it is important for firms to develop closer ties and collaborations with firms that supply them with quality agricultural products and also gather information about prices and regulations of foreign markets.

Working Capital and Growth of the Firm

Working capital is the most crucial factor for maintaining firm liquidity, survival, solvency and profitability of a firm (Mukhopadhyay, 2004). According to Raheman, Afza, Qayyum and Bodla (2010) such elements of working capital as cash, marketable securities and inventory management play a crucial role in performance of the firm. In the same vein, Ganesan (2007) report that efficiency in managing working capital increases cash flow of firms which in turn increases the growth opportunities for firms and return to the shareholders. Indeed, Shah and Sana's (2006) noted managing working capital is important for generating return to shareholders and firm growth.

One of the fundamental elements considered important in operations of the firm is working capital (Azhagaih&Radhika, 2012). The authors ascertained that working capital is crucially important in enhancing growth of sales in firms. In addition, the authors argued that a target in sales growth can be achieved only if it is supported by adequate working capital. Vijayakumar and Venkatachalam (2003) on the other hand reiterated that keeping optimum level of working capital is a prerequisite for financial health of a firm. Moreover, Arora (2013) established that working capital, specifically net working capital influenced the growth rate of sales and profit of Hindustan Unilever Company of India. However, Thuvarakan (2013) noted that various components of working capital did not influence performance of manufacturing and construction companies listed in London stock exchange.

Firm Growth

It is suggested that a firm begins at infant stage, grows and matures and finally growth may decline (Gupta, Guha & Krishnaswami, 2013). Further it is suggested that firm growth may follow a linear and predictable path or it may be fairly opportunistic and unpredictable. Gupta et al (2013) noted that internal as well as external factors affect the growth of small and medium enterprises. Indeed, the author noted that internal factors such as innovativeness, operational, financial and technical capabilities and external factors such as political and economic environment influenced firm growth. Davidsson, Achtenhagen and Naldi (2006) suggested that the growth of a firm depends on the size, sectoral affiliation, location among other factors. The authors highlighted that availability of capital and management efficiency were among major factors that fuel growth of firms. In addition, the authors noted that young and small firms grow organically but as they expand, their larger share of growth is achieved through acquisitions.

According to UNCTAD (2012) horticulture is the largest category that accounts for more than 20% of the world agricultural exports. Goger, Hull, Barrientos, et al (2014) noted that the growth of the horticulture sector and exports in Africa has been apparent. This is ascribed to more integration of smallholder producers into horticulture global value chain. Indeed, Evers, Amoding, and Krishnan (2014) noted that Africa's horticultural earnings increased by over US\$8bn from 2001 to 2011. Goger et al (2014) further noted that the rapid growth in the Africa's horticulture sector and export has been fuelled by increased regional and global demand for high value horticulture products in the UK, Asia, Middle East and Sub-Saharan Africa.

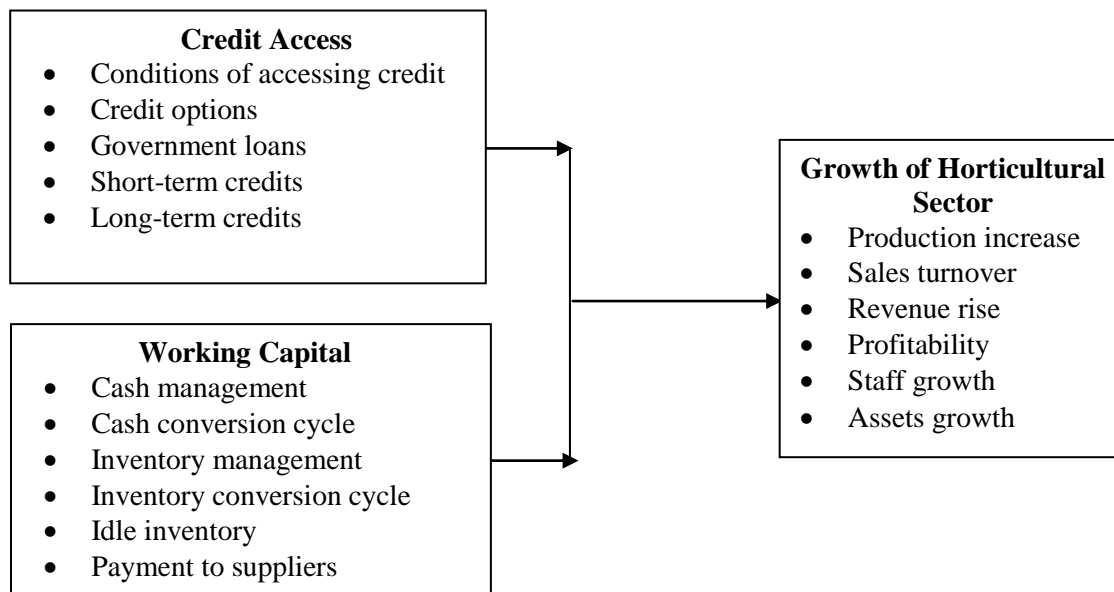
Mwansakilwa, Tembo and Mugisha (2013) noted that despite a remarkable reduction in the growth of the horticultural sector in Zambia owing to the collapse of largest horticultural export company in 2004, the subsector has experienced a steady growth in terms production,

earnings and workforce over a few years due to government's significant support, European investment bank and private investments. In addition, it the author noted that the performance of the horticultural and other agricultural exports has been determined by the volume or growth of production domestically and also the quantity of exports from competing countries.

Conceptual Framework

A conceptual framework is a diagrammatic representation of the hypothesized relationship between study variables as outlined in Figure 1. As indicated credit access and working capital are the independent variables. The dependent variable is the growth of the horticultural sector. It was held that the two independent variables related to the dependent variable. This implied that each of them influenced the growth of horticultural sector in Nakuru County.

Figure 1: Conceptual Framework



METHODOLOGY

Research methodology entails the steps taken to carry out a research study. It outlines the research design suitable for the study, target population, sampling procedure, research instrument, pilot testing, reliability, data collection procedure and how the collected data were processed and analyzed. It also states how the study findings were presented.

Research Design

Research design is the means to achieve the research objectives (Chandran, 2004). According to Creswell (2009) research design is the plan and structure of investigation so conceived as to obtain answers to research questions. On the other hand, Kothari, (2004) defines research design as the arrangement of conditions for collections and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. A good research design enables the study to be conducted effectively and successfully.

In this study a cross-sectional survey research design was adopted. This was founded on the basis that the study involved various horticultural firms in Nakuru County. More so, cross-sectional studies are carried out at a specific point in time or over a short period of time (Olsen & George, 2004); a fact that agreed with the present study which took approximately three months.

Population

According to Mugenda and Mugenda (2003) population refers to the entire group of individuals, events or objects having a common observable characteristic. On the other hand, accessible population is a subset of the target population from which the sample is derived. While the accounts, finance, and management staffs working with horticultural farms in Kenya registered with Horticultural Crop Development Authority constituted the target population, the accessible population comprised of 300 such staff working with the registered horticultural firms in Nakuru County. The targeted employees were perceived to be conversant with issues touching on financial performance of their respective firms.

Sample Size and Sampling Technique

This part presents the sampling frame, how sample size was calculated, and the methods of obtaining the sampled respondents. A sampling frame is described as an exhaustive list of individuals from which a sample is derived. Therefore, the 300 accounts, finance and management staff working with the registered horticultural firms constituted the sampling frame. Kombo and Tromp (2006) define a sample as a finite part of a statistical population whose properties are studied to gain information about the whole sample. A sample is a subset of the accessible population. The accessible population (300) was quite large and this necessitated sampling. To scientifically calculate the sample size, Nassiuma's (2009) formula was employed as shown below.

$$n = \frac{NC^2}{C^2 + (N-1)e^2}$$

Where,

n = Sample size

N = population size

C = Coefficient of variation ($21\% \leq C \leq 30\%$)

e = Error rate ($2\% \leq e \leq 5\%$)

Substituting these values in the equation, estimated sample size (n) was:

$$n = \frac{300 (0.3)^2}{0.3^2 + (300-1)0.025^2}$$

$$n = 97.52$$

$$n = 98 \text{ respondents}$$

Therefore, the sample size constituted 98 respondents drawn from the 30 horticultural firms in Nakuru County. The study adopted stratified random sampling method to get the 98 sampled respondents from the accessible population. Stratified random sampling involves dividing the population into homogeneous subgroups and then taking a simple random sample in each subgroup making it possible to make reliable estimates for each stratum as well as for the population as a whole (Cooper & Schindler, 2003). The 30 registered horticultural farms in Nakuru County constituted 30 strata. Stratified sampling ensured that all the 30 firms were proportionately represented in the study. Further stratified random sampling was conducted within each firm in order to ensure equitable representation of accounts, finance, and management staff. The method hugely minimized sampling bias.

Data Collecting Instrument

A research instrument facilitates collection of data from the respondents. The present research employed structured questionnaires to collect primary data. This was based on the fact that questionnaires are the most appropriate tools for collecting data in survey studies and in the cases where the respondents are quite many (Kothari, 2008). The questionnaire facilitated collection of data on employee and firm backgrounds, and also on both independent and dependent variables.

Pilot Study

The research instrument was pilot tested before its administration for data collection in the main research study. The pilot testing involved administering the structured questionnaires on a few

respondents working with horticultural firms in Nyandarua County. The participants in this study were 10 per cent (10 respondents) of the sample population (Kothari, 2004). The filled questionnaires underwent both reliability and validity tests.

Reliability Test of the Research Instrument

The rationale behind pilot testing was to assess any potential weaknesses in the research instrument. This was achieved through validity and reliability tests. To test for reliability, a research question must be answered by respondents the same way each time. The Cronbach alpha coefficient was employed to test the reliability of the research instrument. The findings of the reliability test are as shown in Table 1 indicated that questions on all variables captured in the questionnaires were reliable since they had alpha coefficients greater than 0.7.

Table 1 Reliability Test Results

Variables	Test Items	Alpha Coefficients (α)
Credit Access	6	0.760
Working Capital	6	0.814
Growth of Firm	6	0.751

Validity Test of the Research Instrument

Validity is defined as the degree to which a test measures what it is supposed to measure (Kimberlin & Winterstein, 2008). There are various forms of validity including face validity, construct validity and content validity. However, in this study, the content validity of the questionnaire was determined through consultation with the assigned university supervisor.

Data Collection Procedure

Data collection was preceded by obtaining permission to do so from Jomo Kenyatta University of Agriculture and Technology and also seeking consent of the management of the firms from where data will be obtained. The questionnaires which were self-administered were issued to the respondents through their respective departments by the researcher in person.

Data Processing and Analysis

The data collected were subjected to relevant processing and analysis whereby the Statistical Package for Social Sciences (SPSS) software was used to aid in data analysis. Descriptive statistics which included measures of distribution including percentages, central tendencies such as mean, and variation in form of standard deviation were used. More so, inferential

statistics in form of correlation and multiple regression analysis were employed. The following multiple regression model guided multiple regression analysis of the collected data.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon$$

Where: Y	Represents	Firm Growth
β_0	Represents	Constant
X_1	Represents	Credit Access
X_2	Represents	Working Capital
ϵ	Represents	Error Term
β_1, β_2	Represent	Régression Coefficients of the Independent Variables

RESEARCH FINDINGS

Response Rate

A total of 98 questionnaires were issued to the sampled respondents where 75 of them were filled and collected, hence a 76.5 percent response rate. According to Nulty (2008) 70% is an acceptable or adequate response rate in survey studies.

Descriptive Findings

The study requested respondents to give opinions in regard to credit accessibility, working capital and growth of horticultural firms. The responses were on a scale of five points where 5, 4, 3, 2, and 1 represented strongly agree, agree, not sure, disagree, and strongly disagree respectively.

Credit Access and Growth of Firm

The opinions of the respondents in relation to credit access and growth of horticultural firms in Nakuru County are outlined in Table 2.

Table 2: Descriptive Statistics for Credit Access

	n	Min	Max	Mean	Std. Dev
i. Access to credit facilities from lenders is easy	75	1	5	2.04	1.340
ii. Commercial banks set out strict conditions on credit facilities	75	1	5	3.79	1.106
iii. There are various options from which our firm can access credit facilities	75	1	5	3.35	1.214
iv. Government loans are easily accessible	75	1	5	2.72	1.214
v. Short-term credits are accessible	75	1	5	4.05	1.126
vi. Long-term credits are accessible	75	1	5	3.13	1.178

The findings illustrated that respondents admitted (mean \approx 4.00; std dev $>$ 1.000) that commercial banks set out strict conditions on credit facilities and that short term credits were accessible. Respondents disagreed (mean = 2.04; std dev = 1.340) that access to credit facilities from lenders was easy. However, respondents were unsure (mean \approx 3.00; std dev $>$ 1.000) whether there were various options from which the firm could access credit facilities and whether government loans were easily accessible. In addition, respondents were non-committal (mean = 3.13; std dev = 1.178) regarding the views that long-term credits were accessible. On all issues touching on credit access, respondents held extreme opinions as reflected by the relatively large standard deviations (std dev $>$ 1.000).

Working Capital and Growth of Firm

The study further sought the views of the respondents in respect to working capital in the horticultural firms they worked with in Nakuru County. The findings are shown in Table 3.

Table 3: Descriptive Statistics for Working Capital

	n	Min	Max	Mean	Std. Dev
i. Cash management is effective	75	1	5	3.16	1.480
ii. Cash conversion cycle is relatively short	75	1	5	2.99	1.214
iii. Inventory management is effective	75	1	5	3.88	.972
iv. Inventory conversion cycle is relatively short	75	1	5	1.80	1.115
v. Idle inventory is minimal	75	1	5	2.27	1.004
vi. Suppliers are always paid in good time	75	1	5	2.49	1.155

The findings revealed that respondents concurred (mean = 3.88; std dev = 0.972) with the assertion that inventory management in horticultural firms was effective. It was, however, not clear (mean \approx 3.00; std dev $>$ 1.000) whether cash management was effective and whether cash conversion cycle was relatively short. Respondents strongly disagreed (mean = 1.80; std dev = 1.115) that inventory conversion cycle was relatively short. Respondents further disagreed (mean \approx 2.00; std dev = 1.155) that idle inventory in the firm was minimal and that suppliers were always paid in good time.

Growth of Firm

Lastly, the respondents were asked to indicate their level of agreement or disagreement regarding propositions floated to them. Table 4 illustrates these findings.

Table 4: Descriptive Statistics for Growth of Firm

	n	Min	Max	Mean	Std. Dev
i. There has been increased production over time	75	1	5	3.67	1.178
ii. Sales turnover has always been increasing	75	1	5	3.87	.759
iii. Revenue has always been on the rise	75	1	5	3.71	.969
iv. Profitability has always been increasing over the past five years	75	1	4	2.07	1.308
v. Recruitment of staff has been on the rise and employee turnover is low	75	1	5	3.35	1.268
vi. The assets of our firm are on the rise	75	1	5	3.60	1.284

Respondents concurred (mean \approx 4.00; std dev \approx 1.000) that there has been increased production over time and that sales turnover has been on the rise. In addition, it was agreed (mean \approx 4.00; std dev \approx 1.000) that revenue has always been on the rise and that the assets of the firm were on the rise. It was disagreed (mean = 2.07; std dev = 1.308) that profitability has always been increasing over the past five years. It was unclear (mean = 3.35; std dev = 1.268) whether recruitment of staff had been on the rise and employee turnover was low.

Inferential Findings

Using correlation analysis, the study established the relationship between credit access, working capital and growth of the firm. The established relationship was further explained.

Influence of Credit Access on Growth of the Firm

The study determined how credit access influenced growth of the firm. In addition, the relationship between the two study variables was ascertained. Table 5 displays the results.

Table 5: Correlation between Credit Access and growth of Firm

		Growth of the Firm
Credit Access	Pearson Correlation	.648**
	Sig. (2-tailed)	.000
	n	75

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

The findings indicated that credit access and growth of horticulture firms had positive, moderately strong and statistically significant relationship ($r = 0.648$; $p < 0.05$). This meant that

credit access largely influenced growth of the firms. The ability to access and procure credit from financial lenders enabled the firms to expand their production, fund assets and more so fund the operations of the firm and therefore not only ensure going concern but also enhance growth of the firm. The findings of this study reinforced earlier findings that there exists a relationship between credit access and growth of firms (Muli, 2013).

Influence of Working Capital on Growth of the Firm

The study further evaluated how working capital of the firm influenced their growth. The outcome of the analysis is shown in Table 6.

Table 6: Correlation between Working Capital and Growth of Firm

		Growth of the Firm
Working Capital	Pearson Correlation	.667**
	Sig. (2-tailed)	.000
	n	75

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

The study established that there existed a positive, moderately strong and statistically significant ($r = 0.667$; $p < 0.05$) relationship between working capital and growth of horticultural firms. Working capital significantly and largely influenced growth of the firm. As such it is argued that horticulture firms adequately invested in working capital in order to undertake growth activities such as expanding production and expanding workforce. As such working capital in the firms is fundamentally important in boosting their growth. There was, however, a point of departure between the findings of this study and the observations of Dutta (2000) and Chiou et al (2006). These scholars had demonstrated and observed that gross working capital was negatively correlated with sales growth, and that sales growth was negatively influenced by working capital requirements.

Regression Analysis for Overall Model

The study evaluated how the financial factors under study (credit access and working capital) influenced growth of horticultural firms in Nakuru County. Using multiple regression analysis and Analysis of Variance (ANOVA), the combined effect of liquidity, credit access, working capital and cash flows on growth of the firms was established. The relevant results are indicated in Table 7, Table 8, and Table 9 respectively.

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.725 ^a	.525	.498	.67974

a. Predictors: (Constant), Credit Access, Working Capital

As indicated in Table 7 the adjusted coefficient of determination ($r^2 = 0.498$) shows that 49.8% of growth of the horticultural firms in Nakuru County could be explained by credit access and working capital. The 50.2% of the growth of horticultural firms resulted from other factors such as industry specific factors, economic factors among others not investigated by the current study.

Table 8: Analysis of Variance (ANOVA^b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35.773	4	8.943	19.356	.000 ^a
	Residual	32.343	70	.462		
	Total	68.116	74			

a. Predictors: (Constant), Credit Access, Working Capital

b. Dependent Variable: Growth of the Firm

According to the ANOVA results the association between the financial factors under study (credit access and working capital) and growth of the firm was positive and significant as indicated by the F calculated ($F = 19.356$; $p < 0.05$).

Table 9: Significant Test Results for Overall Model

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.335	.366		3.651	.001
	Credit Access	.323	.106	.360	3.052	.003
	Working Capital	.333	.109	.377	3.057	.003

a. Dependent Variable: Growth of the Firm

Table 9 shows the overall significant test results for the hypothesized research model. The interpretations of the findings indicated follow the following regression model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon$$

Therefore,

$$Y = 1.335 + 0.323X_1 + 0.333X_2$$

It was noted that the financial factors investigated in the study significantly influenced growth of the firm ($t = 3.651$; $p < 0.05$). It was further noted that credit access ($t = 3.052$; $p < 0.05$) and working capital ($t = 3.057$; $p < 0.05$) significantly influenced growth of the horticultural firms in Nakuru County. This implied that both the first (H_{01}) and second (H_{02}) null hypotheses were rejected. In addition, it is noted that holding the financial factors (credit access and working capital) constant, the growth of the firm would be 1.335. This would be as a result of other factors not investigated in the study. Out of the four factors investigated, credit access and working capital were the most important since to generate one unit of growth of the firms, 0.323 units of credit access and 0.333 units of working capital must be increased. Therefore, horticultural firms in Nakuru County ought to focus more on working capital and credit accessibility in their growth strategies and decisions.

SUMMARY

It was agreed that commercial banks set out strict conditions on credit facilities and that short term credits were accessible. Further, it was disagreed that access to credit facilities from lenders was easy. However, respondents were unsure of the view that there were various options from which the firm could access credit facilities. In addition, the views that government loans were easily accessible and that long-term credits were accessible were inconclusive. The findings indicated that credit access and growth of horticulture firms had positive, moderately strong and statistically significant relationship.

The findings indicated that inventory management in the horticulture firm was effective. It was however not clear whether cash management was effective and whether cash conversion cycle was relatively short. It was disagreed that idle inventory in the firm was minimal and that suppliers were always paid in good time. It was further strongly disagreed that inventory conversion cycle was relatively short. The relationship between working capital and growth of the firm was positive, moderately strong and statistically significant. The study ascertained that there has been increased production over time and that sales turnover has been on the rise. In addition, it was agreed that revenue and assets of the firm were on the rise. It was however disagreed that profitability has always been increasing over the past five years. The

view that recruitment of staff has been on the rise and employee turnover was low was inconclusive.

The multiple regression analysis revealed that substantial growth of the horticulture firms in Nakuru County was as a result of liquidity, credit access, working capital and cash flows. The analysis of variance indicated that the influence of Liquidity, Credit Access, Working capital and Cash flows on growth of the firm was positive and significant. Indeed, multiple regression results indicated that the aforementioned financial factors significantly influenced growth of the firm .It was noted that credit access and working capital were the most important financial factors that enhance growth of horticulture firms in Nakuru County.

CONCLUSIONS

The study inferred that horticulture firms were able to access short-term credit facilities. However, commercial banks set out strict conditions on the credit facilities. Access to credit was noted to largely enhance growth of the firms since credit or loans would finance assets, expand production and other operations aimed at enhancing growth. Access to credit was crucially important in improving horticulture firms. A firm's working capital ensures that funds are available for the firm to run its daily operations and more so trade profitably. The study noted that inventory management in the horticulture firm was effective. However, idle inventory in the firm was not kept at minimum level and inventory conversion cycle was not short. As such it was concluded that working capital in the firms was not properly managed. However the study concluded that working capital positively and largely enhanced growth of the horticulture firms. It was therefore vital for the firms to focus on working capital management.

RECOMMENDATIONS

The study recommends that horticulture firms should source for funds from various sources and negotiate for credit terms from such lenders as commercial banks. In addition, proper management of the funds borrowed is also recommended so as to ensure that funds are channeled to their intended purpose of ensuring growth. It is recommended that horticulture firms should adequately manage working capital that is cash, inventory, cash conversion cycle and the inventory conversion cycle in order to enhance profitability and consequently growth of the firms.

LIMITATIONS OF THE STUDY

The study faced limitations including respondents being skeptical to participate in the study. This was due to fear of victimization by their bosses for divulging certain information concerning

their firms. To allay this fear, they were assured that their identity would remain anonymous and that the study was exclusively for academic purposes. Traversing the entire Nakuru County to the horticultural firms was time consuming. To counter this challenge, the researcher made prior appointments with key informants in the aforesaid firms in order to avoid making more than one trip to each of these firms.

SUGGESTIONS FOR FURTHER RESEARCH

Drawing from the study findings and conclusions, the study suggests areas for further research in Kenya. These include the effect of working capital management on growth of firms in the service sector; the influence of capital structure on growth of exporting horticultural firms in Kenya; an assessment of financial factors influencing profitability of listed agricultural firms in Kenya.

REFERENCES

- Aivazian, V., Mazumdar, D., & Santor, E. (2003). Financial Constraints and Investment: Assessing the impact of a world bank loan program on small and medium-sized enterprises in Sri Lanka. Bank of Canada Working Paper 2003-37, Bank of Canada, Canada.
- Made, M., Chan, P., Mihretu, M., & Tamiru, K. (2009). Microeconomics of Competitiveness. Country: Kenya, Cluster: Tea
- Arora, A.K. (2013). Negative working capital and its impact on profitability: Case study of Hindustan Unilever Company. Mumbai, India.
- Azhagaiah, R., & Radhika, G. (2012). An empirical study on the impact of working capital management on profitability: Evidence from Indian sugar industry. *Journal of business management studies*, 8(2), 46-59.
- Baldwin, R.E., & Robert-Nicoud, F. (2006). Trade and Growth with Heterogeneous Firms. NBER Working Paper No. 12326.
- Chandran, E. (2004). *Research Methods: A quantitative approach*. Nairobi, Kenya: Daystar University.
- Chiou, J. R., Cheng, L., & Wu, H.W., (2006). The determinants of working capital management. *Journal of American Academy of Business*, 10, 149-155
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods environmental economics and policy in Africa*. Retrieved from: [http://www.ceepa.co.za/Climate change /pd/](http://www.ceepa.co.za/Climate%20change/pd/) Accessed on (5-22-01)
- Davidsson, P., Achtenhagen, L., & Naldi, L. (2006). *Research on Small Firm Growth: A Review*. Jönköping, Sweden.
- Dutta, J.S. (2000). *Working capital management of horticulture industry in HP: A case study of HPMC*. Himachal Pradesh University.
- Evers, B., Flavia A., & Aarti, K., (2014). Trends in social and economic upgrading in floriculture global value chains: Flowers and cuttings GVCs in Uganda. *Capturing the Gains Working Paper* forthcoming. Manchester, UK.
- Gabre-Madhin, E., & De Vette, H. (2004). *Uganda Hortifloriculture Sector Development Study*. Washington D.C.: World Bank.

- Ghosh, P., Mookherjee, D., & Ray, D. (2000). Credit rationing in developing countries: an overview of the theory. London: Blackwell.
- Goger, A., Hull, A., Barrietos, S., Gereffi, G., & Godfrey (2014). Capturing the gains in Africa: Making the most of global value chain participation Center on Globalization, Governance & Competitiveness. Duke University, Durham, Carolina, United States.
- Grossman, G., & Helpman, E. (1991). Innovation and growth in the global economy. Cambridge, MA: MIT Press.
- Gupta, Guha, & Krishnaswami (2013). Firm growth and its determinants. Journal of innovation and entrepreneurship, 2(15), 134-148.
- Hatab, A.A., & Hess, S. (2013). Opportunities and constraints for small agricultural exporters in Egypt. International Food and Agribusiness Management Review, 16(4), 77-100.
- Horticultural crop development authority, HCDA (2010). Export statistics in volumes and values for fresh fruits, vegetables and flowers for the year. Nairobi, Kenya
- Kimberlin, C.L., & Winterstein, A.G. (2008). Research fundamentals. Am J Health-Syst Pharm, 65.
- Kombo D.K., & Tromp, D.L.A. (2006). Proposal and Thesis Writing: An Introduction. Nairobi: Paulines Publications Africa.
- Kothari, C.R. (2004). Research Methodology: Methods and Techniques, (2nd Ed.). New Dehli: New Age International Publishers Ltd.
- Kothari, R. (2008). Research methodology: Methods and Techniques. New Delhi: New Age International (P) Limited publishers.
- Maertens, M. (2008). Horticulture export, Agro-industrialization and farm-nonfarm linkages with small holder farm sector: Evidence from Senegal. LICON discussion paper series Discussion paper, Katholieke Universiteit Leuven, Belgium.
- Mugenda, O., & Mugenda, A.G. (2003). Research Methods: Quantitative and Qualitative Approaches. Nairobi: Acts Press.
- Muli, A. (2013). The relationship between capital financing and growth of small and medium enterprises in the agribusiness sector. MBA project, University of Nairobi, Kenya.
- Mutuku, G., & Pereira, E.T. (2005). The Internationalization of Portuguese SMEs. International Journal of Business and Globalization, 1(3), 369-390.
- Mutuku, M., Tschirley, D., & Michel, T.W. (2004). Improving Kenya's Domestic Horticultural Production and Marketing Systems: Current Competitiveness, Forces of Change, and Challenges for the future. Tegemeo Institute of Agricultural Policy and Development, Working Paper No.08B/2004. Vol II. Horticultural Marketing.
- Mwangi, J.K., Gicuru, K.I., Sibiko, K.W., & Wanjiru, R.W. (2015). Factors influencing profitability of diversified cash crop farming among smallholder tea farmers in Gatanga District, Kenya. Journal of Economics and Sustainable Development, 6(3), 87-96.
- Mwansakilwa, C., Tembo, G., & Mugisha, J. (2013). Growth and competitiveness of non-traditional agricultural exports in Zambia. Modern Economy, 4, 794-808.
- Naghavi A., & Ottaviano, G.I.P. (2006). Off shoring and product innovation. CEPR working paper No. 6008. N
- Nassiuma's K. (2009). Survey sampling: Theory and methods. Nairobi, Kenya: Nairobi University Press.
- Netherlands Enterprise Agency (2015). Horticulture Sector in Gujarat State-India. Hague: Netherlands Enterprise Agency.
- Nulty, D.D. (2008). The adequacy of response rates to online and paper surveys: What can we do? Assessment and Evaluation in Higher Education, 33(3), 301-3148

- Olsen, C., & George, D.M. (2004). Cross-sectional study design and data analysis. Chicago: College Entrance Examination Board.
- Raheman, A., Afza, T., Qayyum, A., & Bodla, M.A. (2010). Working capital management and corporate performance of manufacturing sector in Pakistan. *International Research Journal of Finance and Economics*, 47, 151-163.
- Sasu, A. F., & Egyir, I.S. (2010). Tobit estimation of the intensity of export success of horticultural enterprises in Ghana. University of Ghana, Legon, Accra.
- Shah, A., & Sana, A. (2006). Impact of working capital management on the profitability of oil and gas sector of Pakistan. *European Journal of Scientific Research*, 15(3), 301-307.
- Shinozaki S. (2012). A new regime of SME finance in emerging Asia: Empowering growth-oriented SMEs to build resilient national economies. ADB Working Paper Series on Regional Economic Integration; No. 104.
- Stiglitz, J., & Weiss, A. (1981). Credit rationing in markets with imperfect information. *American Economic Review* 71, 393–410.
- Swanson, R.A. (2013). *Theory Building in Applied Disciplines*. San Francisco, CA: Berrett-Koehler Publishers.
- Thuvarakan, S. (2013). Impact of working capital management on financial performance in UK Manufacturing Industry. Social Science Research Network.
- Vijayakumar & Venkatachalam (2003). Working capital Management: A case study of Tamil Nadu Sugar Corporation. *Finance India*, 10(3), 95-110.