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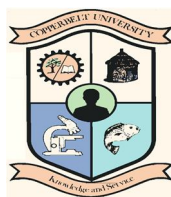
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# An Assessment of How Business Management Skills and Financial Performance of Small and Medium Enterprises (SMEs) Impact on Farmers and Suppliers in Zambia: Case of the Agro Industry

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*A Dissertation submitted to the Copperbelt University in partial fulfillment of the requirement for the award of the degree of Masters in Business Administration*



The Copperbelt University

**Abstract:** *Small and medium enterprises (SMEs) are a critical component to economical and National development of any given country. In this regards, agro-dealers are part of SMEs that are helping to grow and develop the agricultural sector in the country. Unfortunately, agro-dealers in Zambia are reported to be inconsistent in stocking of the products and taking long time to pay back the suppliers. This ultimately affects the suppliers and farmers in the agriculture industry. This study assessed how business management skills and financial performance of small and Medium enterprises (SMEs) impact on farmers and suppliers in Southern, Central and Lusaka Provinces of Zambia. Therefore, 120 SMEs agro dealers were randomly selected from the list of Government approved agro dealers in the chosen districts. 120 smallholder farmers were selected in the three provinces in the chosen districts and 13 large-scale suppliers were purposively selected. The study administered questionnaires to critical stakeholders. Primary data collection Was used in structured questionnaires that were administered to accountants and executive managers of the 120 SME firms in the 3 provinces Lusaka, southern and central. A mixed approach of qualitative and quantitative was used to bridge the gaps that exist between qualitative and quantitative data. Other questionnaires were administered to the farmers and also the suppliers of products to the SME agro-dealers.*

*Semi structured interviews were done to 120 farmers. Secondary data was collected through review of literature on financial management, competencies, skills training and capacity, financial management systems and variables leading to firm's profitability. To understand the extent and implications between the SME management skills, management systems and their performance, and failure to meet the expectations of farmers and suppliers, regression and correlation analysis together with descriptive statistics were used using SPSS. The study focused on: determining whether SME agro-dealers meet farmers and suppliers expectations, determining the business skills that SME agro dealers need to possess and the effects they have on meeting farmers and suppliers expectations, determining the business management systems and financial performance of SME agro-dealers impact on farmers and suppliers businesses. The results showed that SME agro dealers do not have necessary skill sets that are required to run the enterprises properly and profitably and hence fail to meet the famers' and suppliers' expectations. 81.7%% of the SME agro dealers indicated poor strategic planning and only 18.3% indicated had valid and robust strategic plans, .....budget analysis respectively. Regarding the SME agro dealers financial management systems affecting them not to meet the expectations of farmers and suppliers, the results showed that the SME agro dealers do not have necessary financial management systems in place. The results indicated 69.2% had poor financial management systems and 100% of the suppliers agreed that SME agro dealers had poor stock management systems that affected their business performance.*

*This in turn affected the availability of products and services to farmers. This implied a negative relationship existed between the suppliers/farmers and the SME agro dealers in terms of the nature of their commercial relationships. The study concluded that the SME agro dealers do not meet the expectations of the farmers' and the suppliers'. It was therefore recommended that firms should help build internal financial and business management systems to equip SMEs with technical knowledge and skills. SME agro-dealers require capacity building programs that should include mentorship programs that allow or gives chance to practice the skills. The problem of financial management can be resolved by introducing financial institutions that can quickly pay for all transactions instantly, and then it start waiting for the money, which will ensure consistent stocking of products by agro-dealers. E-payments innovations that secure the suppliers' finances and makes available the SME agro dealers' mark-ups are a secured system.*

## I. BACKGROUND TO THE STUDY

It is an internationally recognized fact that small and medium enterprises (SMEs) play an important role in the economic development of many countries. The aggregate contribution of SMEs to national development cannot be overlooked. The contribution of SMEs to economic development can be assessed in terms of their numbers, economic output, and employment opportunities they provide to local communities.

The development of SMEs is the source of income in the broader layer of population. Internationally, experiences indicate that SMEs are becoming major contributors to economic growth. In India for example SMEs are said to contribute 70% towards Gross Domestic Product (GDP) (ministry of commerce, 2008). According to a 1996 baseline survey on micro and small enterprises in Zambia, the sector consists of approximately 97% of all enterprises in the country and employs 18% of the labor force of which 47% are women (Parker, 2010).

SMEs have the potential to drive the agriculture sector, which has been the biggest contributor to Zambia's gross domestic product and productive employment in the last 50 years of Zambia's independence. Also the Agro – industry is the biggest sub-sector of manufacturing activities.

In early 1981 the Zambian government recognized the importance of the SME sector and its contribution to economic development. With the decreasing profitability in the copper business, the Zambian government had to find alternative ways of sustaining its economy (Chibwe, 2008:35). The alternative ways included the recognition of agriculture by then UNIP government as an alternative economic development sector needed to be part of a serious government short and long term strategy. After 1991, when the economy was liberalized and private enterprise was encouraged as evidenced by the establishment of the industrial, commercial and trade policy in December 1994, the drive for enterprise development increased (Chibwe, 2008). Many SMEs emerged and got engaged in different businesses giving support to the agriculture sector. The SMEs form part of the private sector which government of Zambia has highly emphasized in the Sixth National Development Plan. Today the private sector has become the Centre of concern for the global world and hence most of the African countries have withdrawn from running the nation's economic activities and have moved to a more competitive market economy where a sizeable portion of the nations' economy is being run by the private sector.

To that effect the Zambian government has officially recognized the important role agro dealers play in the agriculture value chain. Hence the inclusion of the agro dealers in the government Farmer Input Support program (FISP) using electronic vouchers. It is believed that the agro dealer system in the Government FISP E Voucher plays a big role in bring transparency, saving, timeliness, diversification of input to both the government and the farmers other cooperating partners.

However, the good revolution of enterprise development that was witnessed after liberalization was never accompanied with capacity building mechanisms for the SMEs, specifically in the agro-industry for the agro-dealers. To date, Zambia has been struggling on how it can best address the issues that constrain the SME from performing the leading role. For a long time now, not only in Zambia but also even in other countries, the manufacturing and agro industry sectors, which mainly consist of the SMEs, has been stagnant (Chibwe, 2008:36). Generally, these businesses suffer from low earnings, low skill and education, low productivity, low capital investment and low levels of technology (Mkandawire, 2014:15). As such, many of the SME agro-dealers lack financial and business management skills that have a bearing on their performance, and have a great impact on farmers and suppliers businesses. Most of the agro-dealers in Zambia are reported with inconsistent stocking of products and long pay back periods for the suppliers of products. To help draw the attention of all stakeholders, the study assessed how business management skills and financial performance of small and medium enterprises (SMEs) impact on farmers and distributors in Zambia.



#### A. Defining Small and Medium Enterprises (SMEs)

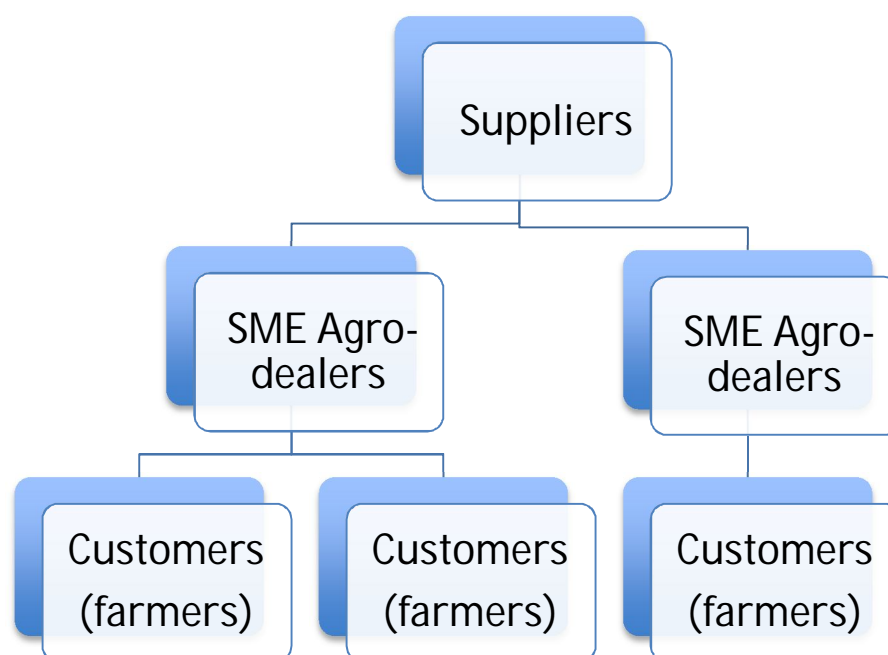
##### What are SMEs?

There is no universally accepted definition of small and medium enterprises (SMEs). Each country defines SMEs in different ways according to its economic position, among others. They could be defined using monitoring terms such as sales or capitalization, number of staff employed, size of firms and total net assets. The number of employees is the most common measure, though many definitions use monetary measure. The term SMEs covers a wide range of perceptions and measures, varying from country to country and between the sources reporting SME statistics (Ayyagari et al., 2003). The United Nations Industrial and Development Organization (UNIDO) define a small-scale enterprise as a firm that employs 5 to 19 workers. UNIDO also defines a medium-scale enterprise as a firm that employs 20 to 99 workers. The Ghana statistical services also define medium and large-scale enterprises as businesses with more than 10 employees (Canty et al., 2003).

The study defines and categorizes SME firms as those enterprises that are not manufacturers, not primary suppliers of agro products but are involved in selling of agro products to the final customer (stockiest, sales representatives and agents). The SMEs in the agro industry includes those that sell various crop seeds, agro chemicals, veterinary products and agriculture equipment. The other determinants will include the number of staff a firm has and the annual turnovers. For Zambia, the Small Enterprise Development Act of No 29 of 1996 statutory instrument 26 of 1997 defines an enterprise as an undertaking engaged in the manufacturing, construction and trading services but does not include mining or recovery of minerals; an enterprise whose total investment excluding land and building does not exceed 50 million Zambian kwacha; annual turnover that does not exceed 20 million Zambian kwacha and employing up to 10 persons.

#### B. Who are Agro-dealers?

There are many SMEs dealing with different core business and involved in different products and services. In the agriculture industry, agro-dealers fall under the SMEs. These SME agro-dealers are the intermediaries between suppliers and farmers. According to Alliance for a Green Revolution in Africa (AGRA, 2009a), the SME agro-dealers are 'small farm retailers' or 'trained and certified stockists', through which farm inputs such as seeds and soil nutrients, and knowledge about safe and efficient use of agriculture products like agro chemicals are channelled to smallholder farmers. In Kenyan farming communities, agro-dealers are defined as 'traders in agricultural inputs' (which may include improved seeds, fertilisers, pesticides, animal feeds, veterinary drugs and simple farm tools).



### C. SME and Their Significance in the Zambian Economy

SMEs are the engine of every nation's economy as they occupy a prominent position in the development of many countries in the world be it least developed, developing and developed countries. Contribution of SMEs can be well noted in a number of aspects including labor absorption, creation of entrepreneurial spirit and innovation, promotion of linkages and complementary role to large companies, wealth creation, among others. In "The Theory of Economic Development" Schumpeter (1912) emphasized the role of entrepreneur, as prime cause of economic development, being this development achieved through innovation. Therefore, it is evident that SMEs have been considered to be very vital in any society as early as the beginning of the 20<sup>th</sup> century (Chibwe, 2008). Small and Medium Enterprises across all sectors in Zambian economy provide one of the most prolific sources of employment and wealth creation and are the breeding ground for industries in various sectors including the agro industry. This is viewed as one of the sustainable ways of reducing poverty levels and improving the quality of life at households through wealth and job creation. SMEs are seen as a driving force of an economy and key to national economic development due to the fact that the SME sector forms the large percentage of the informal and formal sector. They form the future of national economic development and continuous evolution of technologies, modern based knowledge and service-sharing platforms.

In Zambia, there are many large enterprises involved in manufacturing of different goods, which require SMEs or agro-dealers as intermediaries for their products to reach the final consumers, who are farmers in the agriculture industry. Furthermore the number of employees by SMEs also highlights the significance of the SMEs in the economy. It is estimated that only 500,000(12.5%) of the potential labor force of about 4,000,000 Zambians are in formal employment. The remaining 3,500,000 (87.5%) are engaged in informal employment.

Total Investment and Employment in Zambia from 1993-2006

Sector	Total investment	Total employment
Manufacturing	1,402,656,791	73,785
Agriculture	643,354,224	78,881
Service	748,636,802	15,759
Mining	485,301,725	15,117
Construction	271,696,980	11,190
Engineering	8,237,089	421
Fisheries	9,009,036	1,918
Transport	197,692,949	4,293

Source: ZDA 2007

The SMEs have however struggled to graduate and have remained stagnant.

- 1) *SME Agro-dealers as Intermediaries for the Rural Poor Farmers in Zambia:* Key to the development of the agriculture industry is the long -term development of strong agro dealership networks in the rural communities and districts that are robust and supported by strong primary firms or suppliers managed by managers that have products, innovation, product information and financial management skills. Strengthening the link between SME agro-dealers and suppliers of agricultural products have proved valuable many times. The suppliers build capacity in the SME agro-dealers to distribute products and to inform and train their own customers who are the farmers. The SME agro-dealer networks clearly address the question of missing market links for the farmers in the rural areas. This clearly indicates SME agro-dealers as intermediaries between suppliers and farmers. Agriculture remains a key priority sector in the growth and poverty reduction agenda of Zambia. Over 60 percent of the population derives its livelihood from agriculture. In this regard, agriculture development has the potential to impact on extreme poverty and hunger, which affects most rural populations. Despite Zambia experiencing strong economic growth in the recent past, agriculture has not performed well. Regardless of the potential presented by the agricultural industry, there has been an increase in food insecurity in rural areas due to factors such as the collapse of government extension services coupled with poor or non-existence of input and output distribution private sector dealership networks that are not strongly supported by the primary firms in the communities and or districts, leaving farmers with no proper access to agriculture information, products, advice and farm technical support especially to small-scale farmers in the outlying areas. Therefore, SME agro-dealers have the potential to be the source of innovation and consequently help farmers businesses and create employment (Machacha, 2002). This is because; SME agro-dealers form the intermediary inter-phase with the farming community for agriculture inputs, technology, product knowledge and information from the suppliers of products and services.

- 2) *SME Agro-dealer and the Supplier Relationship*: Robust and stable commercial relationships between agro dealers and the suppliers remain critical in the supply chain of agro input products to the farmers. Functional and commercial grounded relationships between the agro-dealers and the firms set the access potential of inputs and technology transfer to the farming communities. Growth of the SME agro-dealers is largely dependent on stable commercially grounded business arrangements that offer support to the agro-dealers for their business growth in more sustainable ways. The agro-dealers capacity to manage their business remains critical for the maintenance of the stable business relationships between them and the suppliers. By working with agro-dealers, suppliers receive feedback more quickly from the farmers such as poor germination of seeds for example, from the agro-dealers who are interacting with the farmers directly. By working closely with the suppliers, SME agro-dealers are able to save on transport costs and also able to get the products on a consignment basis.
- 3) *Financial Management as a Key Success Factor for SME Agro-dealers*: An important success factor to the SMEs is the role of financial management process and decision-making. Internal management issues and external environmental issues influence these. Further, an important key to the successful development and survival of small and micro firms is the role of financial management (Bank of England, 1999b). However, it is important to understand how financial management transactions happen in the small firms. The dynamics of financial management process and decision are influenced by a number of issues that are internal and external (Delmar and Shanes, 2003). A more appropriate view is that, all business decision impact on financial performance, therefore, every manager must be a money manager. Managers who understand the financial decision making process will be better able to address financial concerns and will more often get the resources they need to attain their own goals. The link between financial management and profitability is quite complicated but need to be understood. Therefore, it is very important to examine specific financial management mechanisms, which make firms, operate profitably. Evidence through a study of an SME enterprise in agriculture indicate that, producers who use some form of investment analysis, whether it be the payback period, cash flow analysis to assess payment, or discounted cash flow analysis were substantially more profitable than their peers (Deloof, 2003). Further, financial management should establish a strong internal control process in a day-to-day operation that in most of the SMEs does not happen. The process should include both preventative controls and detective controls. In this case preventive controls are proactive controls designed to avoid unintended event or result. Preventive controls would include the separation of duties related to cash receipts, cash disbursement and authorization policies among others (Schwernk and Srader, 1993). Financial managers for example needs to keep a careful eye on operating trends, cash flow management with emphasis on the timely billing and collection of fees accompanied by a summary to help in decision making. Strategic management ideas are significant in enterprises' financial management since they must make effort to analyze and grasp general environment and development tendency of an enterprise and therefore to improve the adaptability and applicability of financial management to uncertain environment. Almost in all firms there is a good association between company's competitive advantage and its performance and finally lead the company towards high profits. For example competences join knowledge and skills, they signify both knowledge and skills required to perform actions. Competences discriminate the firm and generate unique advantage. The most essential strategic possession is the knowledge and skilled expertise that the firms gather over time (Schwernk and Srader, 1993). By definition financial management refers to financial management theories according to which financing should be conducted in the most proper way, the collected capital should be utilized and managed in the most effective way in enterprises and decisions on the reinvestment and distribution of profits should be made more reasonably. Other scholars' like Barry, Ellinger and Hopkins describe financial management as the acquisition and use of financial resources and protection of equity capital from various sources of risk. This in simple terms will include among the most common topics budgeting, financial control systems and investment analysis. It's the ability of managing the acquisition of financial resources, and of using them economically (Myers and Majlaf, 1984). According to Myers and Majlaf (1984) the overall task of the financial manager can be broken into investment or capital budgeting, and financing decisions (financial management and farm profitability). Indeed in most businesses, the employees represent both an organization biggest expense and its most valuable asset. This means the company's productivity, and ultimately its profitability depend on making sure all of its workers perform up to, if not exceed their full potential. The definitions in summary emphasize the importance of acquiring and investing resources and efficient operation of the businesses. Therefore, key competences in financial management for the firm are very important not only of its strategic reasons but also its long-term achievements. According to McMahon et al. (1993), competency is what people need to be able to perform a job well. It is an ability to meet performance expectations in a role and deliver the required results. Financial management competence is formed by a number of bundle related skill areas which include; strategic financial management competence, competence in financing the venture, skills concerning the management of liquidity and financial accounting skills. It includes normative, strategic and

operational financial management aspects and also procedural understanding as it proposes a financial management cycle to commence with planning activities, which are followed by acquisitions of funds, the subsequent management of these funds and the final controlling of the financial management process (Jan, 2011). For example sound working capital management (WCM) ensures that organization or firms have the ability to meet their short-term liabilities adequately and on time. This further makes it possible to curb the situation where firms have accumulated idle resources, which may not generate any income (Kwame, 2010). The most important issue in WCM is the maintaining of liquidity in the day-to-day operation of the firm. This is crucial so as to prevent creditors and suppliers whose claims are due in the short term from exerting unwarranted pressure on management and thus ensure smooth running of the firm. Clear that the firm is to have key competences in financial management that simply include; maintaining financial records, implementing control systems, analyzing whole-firm profitability, investment analysis, stock management and decision-making. The linkage between financial management is quite complicated because the variables are less endogenous with profitability, the potential for an endogenous relationship is quite high, and reasonable for the financial management variables are difficult to obtain. Profit = f (personal and business characteristics, business analysis/control, investment analysis /decision making, capital acquisition practices). Financial management remains crucial in an enterprise because of the critical roles it plays in enabling the firm to obtain capital for growth, allocate resources efficiently, maximize the income potential of the business activity and monitor results through accounting documents (financial management for growing businesses).

#### *D. Statement of the Research Problem*

SMEs are the engine of every nation's economy as they occupy a prominent position in the development of many countries in the world be it in the least developed, developing and developed countries (Chibwe, 2008). SMEs have been considered to be very vital in any society as early as the beginning of the 20<sup>th</sup> century, they provide one of the most prolific sources of employment and wealth creation and are the breeding ground for industries in various sectors that include the Agriculture industry (Chibwe, 2008).

The SME agro-dealers are the intermediaries between farmers and suppliers, and they play very critical roles in the agriculture value chain. In other ways they are a bridge between the farmers and the primary suppliers that are involved in product development and research. However, the management skills and performance of these SMEs are not to the expectation; SMEs face a lot of constraints in financial and business management which include; planning skills, record keeping skills and little knowledge on financial management, and according to Kwame (2010), careless financial management practices are the cause of failure for SME businesses in Ghana. In Ethiopia most businesses have not appointed financial managers to be in charge of financial management of the firms. Usually the owners control the financial affairs of the company and have no financial backgrounds (Kieu, 2004). This could be the case in most of the agro-dealer SMEs in Zambia, hence posing a lot of challenges to the growth and meeting the expectations of farmers and suppliers (Chibwe, 2008). Suppliers expect agro-dealers to be consistently ordering products from them and to be paying back the money owed within the agreed time. On the other hand, farmers expect agro-dealers to be consistently stocking the products, which are readily available and affordable at the same time. But it appears this has not been the case with the SME agro-dealers in Zambia because of inconsistent stocking of products and poor payment systems to the suppliers. Previous researchers have concentrated on examining, investigating and describing the behavior of business enterprise in practicing financial management bringing results mainly that are around describing the behavior of business enterprises towards financial management practices and characteristics. It is this reason that the study assessed on how business management skills and financial performance of SME agro-dealers impact on farmers and Suppliers in Zambia.

#### *E. Research Questions*

- 1) What management skills affect SME agro-dealers not to meet farmers and suppliers expectations?
- 2) Do financial management systems and financial performance of SME agro-dealers have impact on farmers and suppliers businesses?
- 3) To what extent does the management skills and financial management systems impact on SME agro dealers on meeting the farmers' and suppliers' expectations?

#### *A. Research Objectives*

- 1) *General Objective:* To assess the business management skills and financial performance of SMEs on farmers and suppliers in the agro industry in Zambia.



## 2) *Specific Objectives*

- a) Determining the management skills which SME agro-dealers should possess in order to meet farmers' and suppliers' expectations
- b) Determining financial management systems which SME agro dealers have towards meeting farmers' and suppliers' expectations
- c) To establish the extent to which the management skills and management systems impact on the agro dealers towards meeting the expectations of farmers' and suppliers'

## B. *Operational Definition of Terms*

- 1) *Small Scale Farmer (SSF)*: These are farmers who grow crops and rearing of livestock on a small scale and mostly for home consumption. Majority of small scale farmers are based in the rural areas of Zambia and are engaged in agriculture production for their living and have an average of about 5 hectares of arable land.
- 2) *SMEs*: These are intermediary business firms that both make business with the suppliers of products and services and sell the products and services to their customers the farmers in the case of the agro industry. There are several types of SMEs dealing in different types of products and services with different core business, and agro-dealers fall under the SMEs.
- 3) *Agro-Dealers*: Are traders in agricultural inputs that include improved seeds, fertilisers, pesticides, animal feeds, veterinary drugs and simple farm tools. The agro-dealers are agricultural SMEs who act as intermediaries between farmers and suppliers of products and services.
- 4) *Average Margin*: Is the total percentage of margins on all the products been sold divided by the number of products?
- 5) *Suppliers*: These are primary suppliers of products and service that sell goods and services to the SMEs at wholesale terms. They sell their products and services to SME agro-dealers who later resell to farmers at a higher price for profit.
- 6) *Efficiency Performance*: The term performance is defined as the achievement of a specified task measured against identified principles of accuracy, completeness, cost and speed. This then provides some benchmarks to help describe the term efficiency and performance. What financial systems are in place in the firm, does the firm have the right numbers of staff as compared to the business, does it utilize its systems or books that they have, and does the firm have core competences to run the business.
- 7) *Profitability*: What margins are the firms making from the product and or service sales it is offering. Margins are critical for the firm to remain profitable.
- 8) *Payback Period*: This is the time taken by a customer to pay the supplier money for the goods and services gotten.
- 9) *Financial Management*: This will include looking at business financial systems that are in place in the firm, financial reports, accounting, financial analysis, record or book keeping, working capital management, how investment decisions are decided, receivable and payable turn around periods.
- 10) *Personnel Skills and Competencies*: To understand the level of competences in the firm, This is will be looked at in terms of number of business staff that have skill and are competent in financial management and running of the business. Set of skill and core competences that would include planning, marketing, costing
- 11) *Supplier Expectation*: These are targets that the supplier expects the SMEs needs to meet to be satisfied with their business relations and deal. These include meeting the payment periods, stock management and product sales, and constant demand for the products, transparency and honesty in payments.
- 12) *Farmer Expectation*: these are targets that farmers expect to meet as a result of engagement with the SMEs. These include timely access to quality products and services, product information, commercial relationships, reduced costs on products and services. All year round stocks of goods in the SMEs' shops.

## C. *Scope of the Study*

The study focused on the SME agro-dealers in three (3) provinces in the targeted districts. The study targeted 120 randomly selected agro-dealers, 120 farmers and 13 supplier firms from Lusaka (Chongwe), Central (Kabwe, Mumbwa, Mkushi) and Southern province (Choma, Kalomo, Monze) each with one respondent coming from top management resulting in 253 respondents. The Population included the total based SME agro-dealers in the districts as recorded by ministry of commerce, ministry of agriculture, the Zambia environmental management agency (ZEMA), private sector industry (Crop life) and PACRA, as those approved to participate in the government input supply program.



#### *D. Significance of the Study*

Agricultural development is also dependent on the private sector involvement for inputs, knowledge, access to products, technology transfer and sustainable establishment of commercial relationships between farmers and the SME agro-dealers, and also between the SME agro-dealers and the suppliers. Unfortunately, many of them have poor business and financial management systems. The study will therefore highlight areas of improvement for the agro-dealers to help them improve performance. Once agro-dealers have improved in their business performance, they will be able to stock products consistently for the farmers at affordable prices. This will also mean consistent ordering of products from suppliers and paying them within the agreed time period. The study will also highlight to suppliers of products on how best they can assist and work with the agro-dealers to get the most benefit out of the business transaction between the two. The study will also highlight areas of improvement in business transactions between the suppliers and the farmers to improve performance for both parties. The study will therefore help improve food security and reduce poverty levels among rural households and contribute to economic development of the country.

The study will benefit the stakeholders that include the Agriculture industry players, Ministry of Agriculture (MAL), Non-governmental organizations (NGOs) involved in market systems approaches in the sense that it will add to the board of knowledge for further studies in the agriculture sector for economic development. It will highlight areas of intervention needed in the agro-dealership business and help stakeholders to work out modalities or business models that are low risk.

#### *E. Organization of the Research*

Chapter 1 contains the introduction, statements of the problem, research questions, significance of the study, definition of terms and limitation of the study. Chapter 2 contains the literature review of literature and research related to the problem being investigated. Chapter 3 will bring out the theoretical and conceptual frameworks that will include exploring and reviewing the various relevant theories related to the topic bringing out clearly the logical supported evidence of the causative effects of the variables and the ultimate or final purposed outcome of the study. Chapter 4 will outline the methodology that was used in the study, including methods of data collection. Chapter 5 will comprise the presentation, discussion and analysis of findings. This chapter will include presentations of the actual researched works and results from the field and include explanations, discussions and in-depth analysis of the findings and results from the study. Chapter 6 will bring out conclusions and recommendations of the study. This will include drawing of key findings, lessons, observations from the study and ways in which some lessons can be applied in the firms and future studies.

## **II. LITERATURE REVIEW**

Small and medium enterprises (SME) contribute to the economies of most countries, regardless of their level of development. With respect to developing countries and according to the ILO /JASPA (1998), the sector made a significant contribution to the gross domestic product of Uganda (20%), Kenya (19.5%) and Nigeria (24.5%). Cant and Lightelm (2003: 2) indicate that surveys of small business failure maintain that entrepreneurs often have good ideas and are competent, but “they do not have a clue on how to run a business and have no underlying appreciation of business fundamentals. Most of the researchers have found strong link between business experience, education and business success (Thapa, 2007). Chrisma et al, (2005) reported that the knowledge gained from previous experience is essential for small firm success. Ensley et al, (2007) found that to achieve high growth, a technology based start-up firm must possess technical and business knowledge.

#### *A. Challenges Facing Agro-dealership (SMEs) and Practical Examples*

Agro-dealers face several challenges in the course of doing their trade, and this limits their effectiveness in delivering inputs and information to the farmers. The first is a seed industry-wide challenge occasioned by weaknesses in the regulatory framework. For instance, the Seed and Plant Varieties Act (Cap 326) has not been reviewed since the industry was liberalised. It has, in the Draft Seed Policy, been faulted for insufficiently addressing seed certification and testing; regional harmonisation of seed laws, regulations and policies; and review of legal framework. This affects seed trade in general and consequently agro-dealership. Industry players (mostly seed companies and plant breeders) have been pressurising the government to review seed laws, and this has placed the Seed and Plant Varieties Act (Cap 326) under review to address the aforementioned and other challenges.

The second challenge with agro-dealers' is lack of working capital to adequately stock or expand their businesses. As a result, many agro-dealers are unable to meet farmers' demand at peak of planting season. This supports observations and study findings by Nambiro et al. (2001) that lack of capital was the most important barrier to entering hybrid maize seed retailing in high maize producing districts in Kenya.

Ayieko and Tcshirley (2006) posit that due to lack of capital, agro-dealers order less stock, which increases their operational costs and consequently input prices. This limitation was cited by agro-dealers and extension officers as the major challenge. The third challenge is high and erratic input prices, especially in Machakos. Muhammad et al. (2003) and Chianu et al. (2008) attribute this to high supply prices and transport costs due to long distances to input suppliers and poor infrastructure, especially roads. Due to the price behaviour, agro-dealers at the grassroots find it hard to convince farmers to buy seed from them. Many farmers opt to buy the small quantities of seed they can afford and use non-certified seed to top up their seed demand. Consequently, movement of seed stock is slow and sales are low, limiting business profitability and growth. This, according to Chianu et al. (2008) constrains the development of an efficient agro-dealership. The fourth challenge is the low and erratic nature of agricultural input demand occasioned by unpredictable weather patterns. This, according to agro-dealers, causes them to lose business opportunities when there is sudden upsurge of demand, and incur losses when input stocks reach their 'sell by' date (particularly agro-chemicals, which form an important component of agro-dealers' stock) due to slow movement occasioned by unexpected decline in demand Ayyagari et al, (2003).

The fifth challenge is inadequate supply of inputs at the peak of planting season. When rains set in, there is very high demand for seed by farmers and many traders suddenly start to stock seed. This causes the larger suppliers to run out of stock, yet it takes some time before they can adjust their stocks to match the now high demand (Ayieko and Tcshirley, 2006). Other challenges include government interference with market by providing subsidized inputs (especially fertiliser) at the National Cereals and Produce Board (NCPB), which sold at about US\$5 less than agro-dealer prices. Also bad debts due to failure by some farmers to repay for inputs sold to them on credit and lack of technical information about the seed varieties stocked. In summary, the mainstream GR narrative for Kenya sees agro-dealers at the centre of the action, and portrays them as the ideal small-scale private sector solution to delivering new technologies for Kenya's farmers (Ayyagari et al, 2003).

Other problems include: the uneven geographical coverage with relatively fewer 'legal' and well capitalised agro-dealers in the poorer, lower potential areas; the focus of delivery on a limited number of seeds and varieties (mostly hybrid maize, adapted to medium and high rainfall areas); the dominance of a few large companies in the supply chain, with knock on consequences for price competitiveness and technology diversity; the limited technical knowledge by those serving in agro-dealerships; the restrictive nature of regulations which limits wider competition in the local market; and underdeveloped infrastructural support, which increases operating costs and consequently input prices, especially in the low rainfall areas (AGRA, 2001).

In the Programme for Africa's Seeds Systems (PASS), aiming at increasing small-scale farmers' income and reduce poverty through increasing the farmers' yields is the Agro-dealer Development Program (ADP), which provides training, capital and credit to establish certified agro-dealers who are primary conduit for seeds, fertilisers, and knowledge to smallholder farmers to increase their productivity and incomes (AGRA, 2009a). The program aims to build and develop networks of certified agro-dealers, to enhance quality, volume and range of seeds sold. The ADP is hoped to result in well-functioning agro-dealers in order to support a significant increase in adoption of improved crop varieties.

The ADP programme's activities is training of rural stockists on knowledge of fertilisers and seeds, book keeping, costing and pricing, managing business relations, sales and marketing, stock management, and managing working capital (AGRA, 2009). Once completed, these stockists became certified as 'agro-dealers'. This was aimed at enabling the stockists to provide farmers with credible information on agricultural input use. The certified agro-dealers would then be linked to major agricultural input supply firms for credit arrangements; pack and sale seeds and fertilisers in small packages; form 'purchasing groups' and 'agro-dealer associations' which allow them to better negotiate for lower prices and better credit financing arrangements with the agricultural input supply companies, and influence government policies on imports, pricing, distribution, and marketing of agricultural inputs (AGRA, 2009).

The distribution network between the agricultural input supplier and the smallholder farmer is inadequate. Consequently, less than 20 percent of agricultural inputs sold in Zimbabwe reach smallholder farmers though they constitute 70 percent of the population. In order to have a more systemic impact on input distribution to small-scale farming, a network of wholesalers and retailers that can introduce new efficiencies into input distribution must develop. Narayan and Bumb (1994) provide further background for the marketing of inputs by pointing out that efficient marketing and distribution systems are necessary in order to improve the performance and growth of the agricultural input industry. It is through marketing channels that inputs reach the farmer on time, in the right quantity and quality and at the right price. Untimely and inadequate supplies have hampered the development of the input supply industry in many countries. Furthermore, empirical evidence suggests that public sector agencies or State-owned enterprises/parastatals are less suited to efficient marketing because they operate under soft budget constraints, enjoy less autonomy and are subject to political interference (Groberty, 2000).

Dunn et al, (1998) emphasize that the environments in which they function shape rural financial markets. Agricultural credit has traditionally been seen as a catalyst for augmenting food production, spurring the adoption of new technology, improving income distribution, and general economic growth and development in rural areas. They identify three points to consider when providing rural agricultural credit: the retailer must actually want the agricultural inputs; the retailer must be willing to face the additional exposure to market risk created by credit; and the inputs and credit must be available at the appropriate time. Dunn et al, (1998) conclude that partnerships between agricultural input manufacturers, distributors and rural retailers have the potential to be mutually beneficial, resulting in higher income for the retailers and increased sales for the manufacturers/suppliers.

### *B. What is Financial Management*

The study by Nguyen (2001) stressed that financial management is made of fixed asset management, capital structure management, financial planning, working capital management, financing reporting and accounting information system. However, according to Meredith (2003), financial management is concerned with all areas of management, which involve finance not only the sources and uses of finance in the enterprise but also the financial implications of investment, production, marketing or personal decisions and the total performance of the enterprise.

According to Peel et al. (1996), financial management practice most particular working capital management has a strong effect on the firms' profitability. It appears from all the other scholars that, financial management is conceptualized as working capital management practices, financial reporting practices and accounting information practices. A study done in Malaysia on financial management looked at six components; financial planning and control, financial accounting, financial analysis, capital budgeting, and working capital management. Financial management is one of the several functional areas of management and it is central to the success of any small business (Meredith, 1986).

McMahon et al. (1993) defines financial management based on mobilizing and using sources of fund. It is concerned with raising funds needed to finance the enterprise's asserts and activities, the allocation of these scarce funds between competing uses, and with ensuring that the funds are used effectively and efficiently in achieving the enterprise's goal.

In the pilot project, rural agro-dealers played an important role in the chain by selling the inputs of their choice to smallholder farmers and by buying their produce as agricultural commodity traders (output marketing). The importance of agro-dealers was recognised by other actors in the development community as well, and aid organisations shifted to implement open voucher systems in order to provide farmer beneficiaries with the inputs of their choice. In the pilot, a total of 71 rural agro-dealer shops (selling seeds, fertilisers, chemicals, and farming implements) participated and 700 metric tonnes of seed and fertilisers had total value of over US\$545,000 were sold (Sithembile, 2012). In the case of Zambia, the Ministry of Agriculture and Livestock targeted to pilot the use of Electronic Voucher System in the Farmer Input Support Program (FISP) for the 2015/2016 farming season to provide farming inputs subsidies to targeted 241,000 smallholder farmers using the agro dealers and input suppliers to provide the agricultural inputs. This indicates how important the government recognised the agro dealers and the suppliers in the agricultural value chain (MAL, 2015).

Need for a business model that is based on the need to mitigate risks for wholesalers and other chain actors through developing various innovations that isolate and address specific risk. In this way, a mechanism is provided through which key risks to smallholder farmers are addressed, in order to allow them to obtain sustainable returns to their agricultural enterprises (Sithembile, 2012). The main strategies include assisting several actors. Wholesalers can be assisted to develop viable business models and train their staff on dealing with small business actors and training and mentoring of agro-dealers on proper retail business management systems and on putting up insurance arrangements. The strategy is thus based on the provision of a package anchored in the private sector, involving risk mitigation (through insurance and training for all actors) and value chain financing.

Agri-business Support: In the rural areas, farmers require a number of products and services to fully participate in value chains. The Small and Medium Enterprises (SMEs) who provide these services require capacity building for them to provide sustainable services. Identifying of SMEs and providing them with training. These would include other input providers like nurseries for horticulture, traders, transporters, processors, etc.

According to Sithembile (2012), insurance played a crucial role in catalysing the inclusive business relationships. Due to this risk sharing mechanism (with donors who provided insurance and facilitated capacity building especially for the rural shop owners), wholesalers were encouraged to place consignment stock with the rural shops. The low claims on the insurance provided confirmed that the rural shop owners could indeed be reliable business partners. The business training that was facilitated by SNV lowered risk associated with rural shop owners. Wholesalers are now more comfortable doing business with them as they feel that they now understand the business.

SNV established a framework that ensured that agro-dealers are monitored and mentored throughout the programme. Local Capacity Builders were appointed in each of the eight provinces to visit agro-dealers at least once every six weeks to mentor them on their store-specific needs. Also, agro-dealers lack knowledge and technical skills in business management, safe product handling, crop husbandry practices and the formation of agro-dealer business associations; these skills can be acquired via attending training programs (Odame and Muange, 2010).

In general, the adoption of an agro-dealer input delivery model to improve smallholders' access to modern inputs is based on several studies that signal the problem of low agricultural productivity due to low or lack of farm input use in rural areas. There are few programs that build the capacity of agro-dealers in the provision of affordable services to poor farmers in rural areas through assisting them to acquire training in business skills, recordkeeping, sales and marketing, stock management, managing business working capital, input market search, customer service and knowledge on the proper use of modern technology (AGRA 2007; Chianu et al. 2008; Chinsinga 2011). Furthermore, these capacity development programs also link agro-dealers

The effect of financial management practices on profitability was found to be positive. Paramasivan, et al (2009) argued that financial management helps to improve the profitability position of business organization with the help of strong financial control devices such as budgetary control, ratio analysis and CVP analysis. McMahon et al, (1991) pointed out that financial managers are crucial to the profitability, survival and well being of small business enterprises. In this study on small business in Vietnam, Kieu (2004) found out that efficiency in financial management practices such as accounting information system, financial reporting and analysis, working capital management, fixed asset management and financial planning and good performance in financial characteristics such as liquidity and business activity has a positive impact on profitability.

#### *C. Effect Of Efficiency In Accounting, Reporting And Analysis Practice*

According to the study by Tourna and Germanos (2000), use of accounting information systems help owners or managers to design and implement strategic plans that enable their businesses to be profitable in the long run. Kieu (2004) also found out that efficiency in accounting information system and financial reporting and analysis enhanced profitability. The efficiency of business organization in this case was approximated by the on time and accurate recording and summarizing of business transactions, the frequency of preparing financial report and financial analysis, the degree of conceptualization of the accounting information system (Kieu, 2004). In addition different accounting and financial management books also confirm that good accounting, reporting and financial analysis practice enhance performance by helping decision makers' design and implement wise and strategic decisions.

#### *D. Effect of Working Capital Management on Profitability*

In the study conducted in Belgium, Deloof (2003) found out that the way working capital is managed would have a significant impact on profitability of a firm. Padachi (2006) investigated the relationship between profitability measured by return on assets and working capital management by taking 58 firms in Mauritius using panel data analysis for the period 1998-2003. The regression result showed that high investment in investment and receivables is associated with low profitability. Gill, et al (2010) also studied 88 American firms and found out statistical significant relationship between cash conversion and profitability.

#### *E. Effect of Capital Budgeting (Fixed Asset Management) on Profitability*

Capital budgeting decisions are critical to the success of any firm. Brigham and Ehrhardt (2008) argued that capital budgeting is vital to a firm's well being and are among the most important decisions that owners or managers of a firm must make. In study conducted in South Africa, Olawale, et al (2010) found out that the use of sophisticated investment appraisal techniques such as NPV and IRR methods have positive impact on the profitability of firms.

1) *Effect of Financial Planning on Profitability:* Companies have a need to prepare a wide array of plans and budgets. Some of which include sales plan, production plan, cost plan and expense budget and budgeted income statement and balance sheet. The budgets are very important to anticipate the future in advance. Therefore, preparing detailed financial plan or budgets will have a positive impact on the profitability of firms (Horn et al, 2006).

#### *F. Skills and Competences in Financial Management*

The limited entrepreneurship research that analyzed financial management beyond financing finds that financial management in small firms is generally not professional. Small business leaders frequently lack oversight and have limited competence in managing the financial aspects of their business (Chaney et al, 2005). Gockel and Akoena (2002) relate the prevalence of these barriers to the fact that the lack of managerial competencies hampers most executives of the SMEs. The management of firm cash flow is generally not efficient (Cooley and Pullen, 1979).



Yet initial findings also show that effective financial management increases firm performance (McMahon et al, 1994). The financial management activities not only go beyond acquiring external financial resources but also include analyzing the effective and efficient use of resources (e.g. financial planning, controlling, and risk management). For activities to be carried out, a respective competence is required. Competence is defined as the degree of fit between the demands of a task and the abilities of the person or group that fulfills the task (Boyatzis, 1982; Chandler and Hanks, 1994). As such, competence needs to translate into effective actions or activities in order to impact firms' outcomes. In the financial management domain, financial competence enables effective financial management activities, which in consequence, impact of the development and of the firm. This comprises four bundles of related skill areas: strategic financial management competence, competence in external financing, competence in financing through operations' and competence in financial controlling.

Following the competence based approach; strategic financial management competence facilitates strategic financial management. With regard to strategic planning in the entrepreneurship scholars currently debate the value of strategic planning in entrepreneurial contexts (e.g. Gruber, 2007). One group of scholars highlights the importance of strategic planning for new venture success (Delmar&Shane, 2003; Shane&Delmar, 2004), while other group challenges this view (Bhide, 2000). Studies synthesizing empirical research on the planning performance relationship find that planning improves a new firm's development (e.g., Scwenk&Shrader, 1993). According to the planning school, planning implies the specification of goals and fosters the identification of effective steps to achieve these goals (Delmar & Shane). Planning allows more rapid decision making, assumptions can be tested without expending the resources, resource flows can be optimized, and bottlenecks can be avoided. Planning enables firms to control goal achievement. If deviations from the plan occur, causes for these deviations can be identified. Planning scholars' argue that the benefits of strategic planning increase especially in dynamic and unstable environments (Dean & Sharfman, 1996; Goll&Rasheed, 1997; Miller& Friesen, 1977, Priem et al., 1995). Because managerial attention is directed toward the financial domain, goals are determined, and financial plans are developed, the resources of the new firm are used more effectively and efficiently. The improved resource utilization, in consequence, augments firm growth. Thus, following competence -based literature, strategic financial management competences increase the quality of financial planning, which, in consequence, augments firm performance and profitability (McMahon, 2001; McMahon&Davis, 1994). Therefore, the abilities of a founding team can be understood as a limiting factor to the growth of a new business. They determine the extent to which resources can be employed in a value-creating manner (Penrose, 1995). Competence based research suggests that specific competencies translate into effective activities in the respective domains (Boyatzis, 1982).

#### *G. Empirical studies on Financial Management in SMEs*

There exists a vast literature on financial management practices of firms in developed economies. Among these is financial management of SMEs (for example Cooley, 1979; Filbaeck, 2000; Khoury, 1999). All these indicated more failure in the small businesses than larger firms (Watson and Hogarth-scott, 1996). While in the developed world financial management studies have been extensively carried out, the same cannot be said of the developing economies.

In the case of Malaysia, many small and medium enterprises are still plagued with management problems, these management problems include human resource management, marketing management, operations management, financial and strategic management this is according to the study done by Harizal Osman entitled Financial management practices: an in-depth study among the CEOs of small and medium enterprises (SMEs). For this study there was clear evidence of three important core financial management, which included financial planning and control, financial accounting, and working capital management.

Cash management practices in SMEs was found to be inadequate in the study by Grablowsky (1978) and Grablowsky and Lowell (1980) conducted a questionnaire survey concerned with the cash management practices of 66 small enterprise from a number of industries located in and around Norfolk, Virginia. The results showed that 66 percent of respondent replied they did not do forecasting of cash flows, less than 10 percent reported using any of the quantitative techniques. Regarding accounts receivables management practices, Grablowsky (1976) and Rablowsky and Lowell (1980) found generally low standards. Approximately 95 percent of businesses that sold on credit tended to sell to anyone who wished to buy. Most had no credit checking procedures and guidelines, and only 52 percent enforced a late-payment charge?

Blocks (1997) survey of 232 small businesses in the USA indicated payback method remains the dominant method of investment selection for small businesses where as large corporations widely incorporate discounted cash flow models in financial analysis of capital investment proposals (Proctor and Canada, 1992).

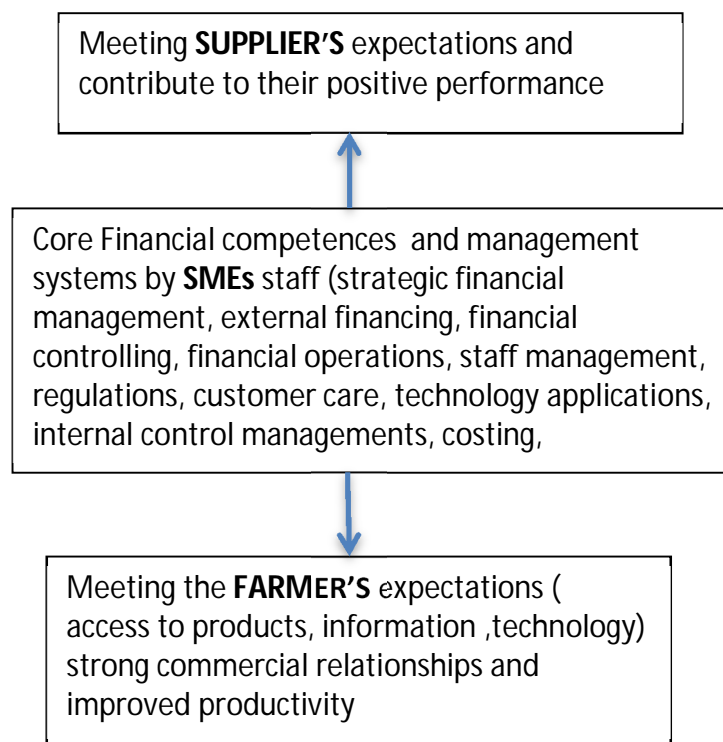
### III. THEORETICAL AND CONCEPTUAL FRAMEWORK

This chapter will look at the theoretical and conceptual frameworks of the study. This will include understanding different theories that supports the study, establishing and analyzing the study variables and their elements to clearly understand the concept and logic of the study. Further the chapter will establish the hypothesis of the study based of the theory and the logical conceptual frameworks coming with various assumptions that the study will finally test to assume the results of the study.

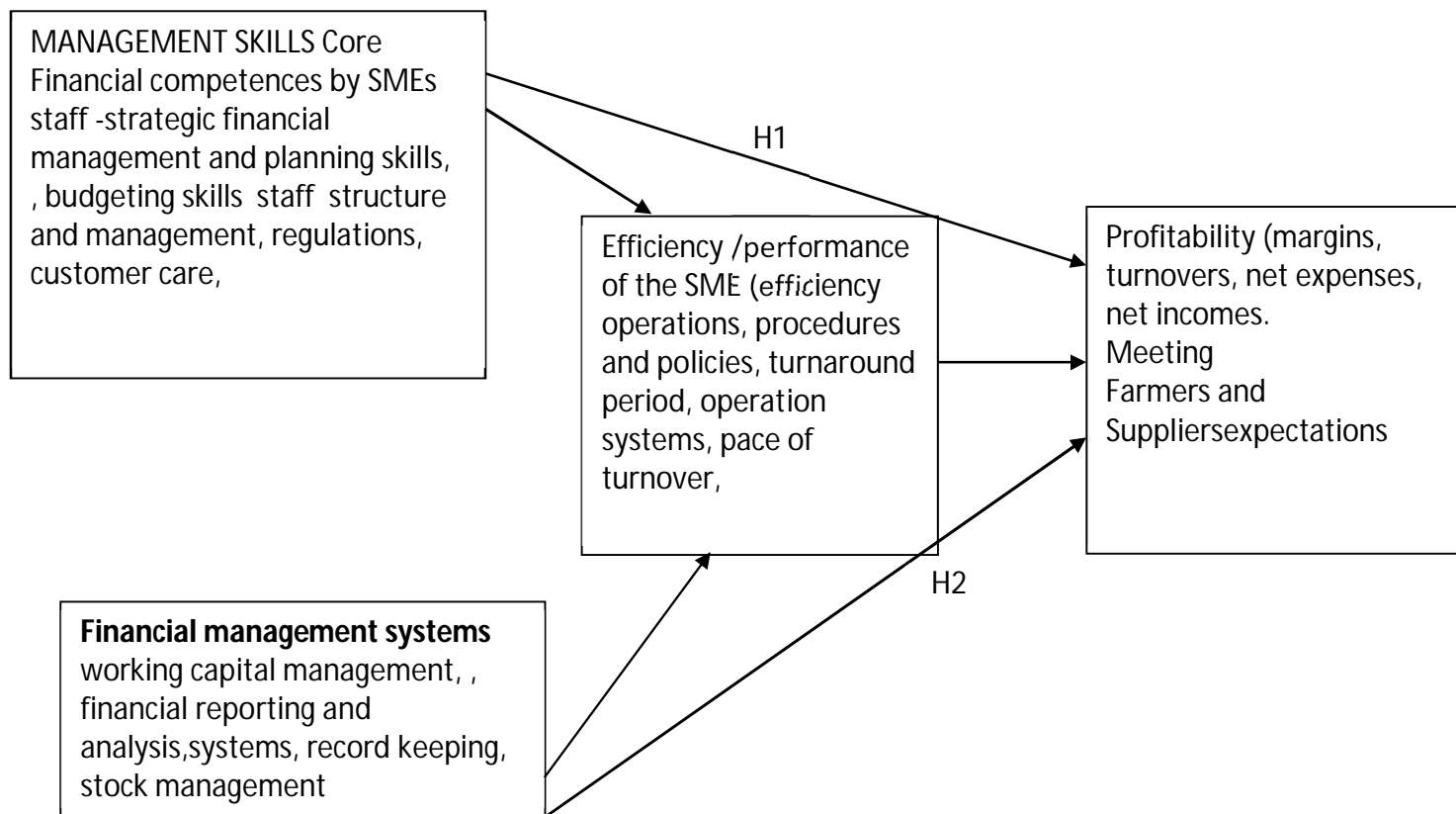
#### A. Theoretical Framework

1) *Business Theories:* There are a number of business theories that look at financial management and the SME. The study will focus on those with relevance. The agency theory postulates that the day to day running of a business enterprise is carried out by managers as agents who have been engaged by the owners of the business as principals who are also known as shareholders. This stresses the importance of having qualified managers to do business analysis and planning. Further theories explain the importance of financial management skills; the signaling theory also rests on the transfer and interpretation of information at hand about a business enterprise to the capital market (Emery et.al 1991). The pecking order theory also support the reason for proper financial management in SME, it suggests that management of SME prefers to finance first from retained earnings, then with debt, followed by hybrid forms of finance. A study done in Norton (1991b) found out that 75% of the small enterprises used seemed to make financial structure decisions within a hierarchical or pecking order framework. Study carried out in Ghana and according to empirical evidence, SMEs funding is made up of about 86% of own equity as well as loans from family and friends. Losing this money is like losing one's own reputation. There is a school of thought that believes "a well –run business enterprise should be as unconscious of its finances as healthy a fit person is of his breathing". Austrain economic theory – focuses on financial reporting of the SME businesses .Gibson(1992 2b,pp 228-229) describes the role of financial information in terms of the following- decision makers do need financial information to help them determine if their capacity to generate future profits has been impaired. Managers review the financial statements to ensure that their expectations of the company's performance based on knowledge of the business are confirmed by formally presented results. It emphasizes the role of the entrepreneurs in economic activity and holds that actions undertaken by entrepreneurs are mainly the outcomes of the alertness to opportunities. Financial information is useful mainly in evaluating the success of past decisions and in determining present position.

#### B. Business Relationship Among the Players



### C. Conceptual framework



In today's time, financial management should be the responsibility of specialists-money manager. In this approach financial managers actively manage the financial affairs of any type of business. They perform varied financial tasks such as planning, extending credit to customers, evaluating proposed large expenditure and raising money to fund the firm's expectations and the firm's operations. This helps to improve business performance and benefits the firm, as well as the business partners. The question of who does financial management is therefore very critical to improving the performance of SME agro-dealers.

According to Kwame (2010), careless financial management practices are the cause of failure for SME businesses in Ghana. In Ethiopia most businesses have not appointed financial managers to be in charge of financial management of the firms. Usually the owners control the financial affairs of the company and have no financial backgrounds (Kieu, 2004). This could be the case in most of the SMEs in Zambia. A study conducted by the Government of Zambia in the revised Sixth National Development Plan of 2014 (GRZ Revised SNDP: 2014) indicated that low levels of technical and business skill limit agricultural production, growth, commercialization and creation of sustainable SMEs in the value chain. The proportion of people and enterprises without business management skills range from: 56% in the goat value chain, 86% in the poultry value chain, 87% in cattle value chain, 91% in agriculture services and 95% in Mixed -agricultural (GRZ Post- Harvest survey datasets 2011/12).

### D. Hypothesis

- 1)  $H_0$  management skills and performance of SMEs agro dealers do not have impact on meeting the farmers and suppliers expectations  
 $H_a$  Management skills and performance of SMEs agro dealers do have a positive effect in meeting the farmers' and suppliers' expectations
- 2)  $H_0$  Financial management systems and performance of SME agro dealers do have a negative effect in meeting farmers' and suppliers expectations  
 $H_a$  Financial management systems and performance of SME agro dealers have a positive effect in meeting the farmers and suppliers' expectations

### E. Variable operationalization

There are both dependent and independent variables for the study which include the following;

#### 1) Independent Variables

- a) *Management Skills*: This will be looked at in terms of the following elements; number of business staff that have skills and are competent in financial management and running of the business. Availability of necessary set of skill and core competences that would include planning, marketing and customer care, staff management and structures
- Staff management and capacity – this will look at the number of staff that have skills and competences in financial management
  - Customer care and feedback – this will look the constant feedback SME agro dealers engage in with the customers which is critical in meeting the demand and expectations of farmers.
  - Skill set to budget and do strategic planning - this will look at the necessary skills that the SMEs have for them to run the business
- b) *Financial Management Systems*: This will include looking at business financial systems that are in place in the firm, which will include the following elements; financial reports, accounting, financial analysis, record or book keeping, working capital management, how investment decisions are decided, margins, receivable and payable turn around periods, stock management and budgeting
- Working capital management –this will narrow down to analysis that will look at the time the SME agro dealers take to pay the suppliers and also the time they take to receive money from the farmers and the implications these could have on capital.
  - Books of accounts - this will include the books of accounts that the SME agro dealers have in place and how they help with cash management systems
  - Stock management systems - this will include looking at the systems that the SMEs agro dealers have in place to monitor the stock movement
  - Financial analysis – this will include looking at the financial monitoring and analysis systems that the SME agro dealers have put in place that are helping monitor in flow and out flow the money in the business. This will further look at the analysis around the margins and turnovers the SME agro dealers are making and the implications for product supply.

#### 2) Dependent Variables

- a) *Meeting Farmers' Expectations*: These are targets that farmers expect to meet as a result of engagement with the SMEs. This include the following elements; timely access to quality products and services, product information, availability of stocks in the SME shops.
- Timely access and consistence to agriculture inputs
  - Product information and advise – this includes the SME agro dealers providing technical advice to the farmers on the use of the products
- 3) *Meeting Suppliers' Expectations*: These are targets that the supplier expects the SMEs needs to meet to be satisfied with their business relations and deals. This will include the following elements; meeting the payment periods, stock management and product sales, and constant demand for the products, and honoring the contractual obligations.
- Timely pay periods -this is the time taken by a customer to pay the supplier money for the goods and services gotten
  - Honoring contractual obligations- these are contracts that the SME agro dealers sign with the suppliers that stipulate the trade terms and obligations of the relationships. This forms the basis upon which the suppliers supply the products to the SME.

### Summary

It has been reviewed that Profitability of firms is a resultant of several factors among which include business management systems (working capital management, financing, investing, accounting information systems and financial reporting and analysis), which play roles in the performance and efficiency of the firm. Further, other variables include workplace staff financial literacy trainings programs, implementation plans, governance systems that are supportive. There is a strong relationship between the firms' efficient operations as a result of the above mentioned variables and its profitability (Emery et.al 1991).

However, the literature reviewed showed that most agro dealers have minimal management and financial systems in place, affecting the farmers' and suppliers' performance. Therefore there is need to enhance management skills and financial systems



#### IV. RESEARCH METHODOLOGY

##### A. Introduction

This chapter outlines the research methods and procedures used to achieve the stated objectives. It gives information on the research design, target population, sampling procedures, sample size, methods of data collection and the methods of data analysis.

##### B. Research Design

The study will adopt qualitative and quantitative methods. The qualitative methods will be used to assess the aspects of skills and personal competences of managers. Case studies will be employed too. Similarly the study will use quantitative method to quantify the findings and assess how business management skills and financial performance of small and medium enterprises (SMEs) impact on farmers and suppliers in Zambia.

##### C. Target Population.

The study targeted the 203 agro-dealers (SMEs) approved to by the ministry of agriculture and livestock that are able to meet the basic business requirements to participate in the government support programs. These are dealers that are certified by PACRA, ZEMA AND SCCI and the industry associations, Croplife and ZASTA. The study also targeted the farmers and the suppliers located and operating in the areas where these SME agro-dealers are operating.

##### D. Sampling Procedure and Sample Size

The farmers sample size involved randomly selected 20 farmers in the selected provinces per district of Chongwe, Choma, Kabwe, Monze, Kapiri and Mumbwa bringing the total to 120-sample size. For SMEs agro dealers, the sample included 7%(15) for Chongwe in Lusaka Province, 27%(55) for Kabwe, Chibombo, Mumbwa and Kapiri in Central Province and 25%(51) for Monze, Choma and Kalomo district in Southern Province from which the sample of 120 SMEs agro dealers were randomly selected. Purposive selection of 13 major distributors of a wide range of products and trade through the SME firm that included VET 24, Export trading company, SEEDCO, ZAMSEED, MRISyngenta, BASF, OMNIA, ATS agro services, Pioneer DuPont, Bimeda, Agrieserve, Monsanto and Zambia Fertilizers.



Figure: Map showing provinces of Zambia

Source: Google maps

##### E. Sampling Technique

The process of selecting the representative group of population is called sampling (Lathanm2007). The findings or characteristics of the subset or representative population could be applied to the whole population. Purposive non-probability selection of SMEs will be done to target the relevant SMEs and entire major distributors. Random selection of farmers from the agriculture camp office farmer registers from which 120 farmers were randomly selected.

#### F. Methods of Data Collection:

The study involved primary data collection techniques for qualitative variables and observations methods was also used. For quantitative data, the study used secondary reviews with the combination of survey questionnaires.

- 1) *Secondary Data Collection:* Secondary data collection was collected through review of literature on financial management, competencies, skills training and capacity, financial management systems and variables leading to firm's profitability.
- 2) *Primary Data Collection Methods:* Primary data collection was used in structured questionnaires that were administered to accountants and executive managers of the 120 SME firms in the 3 provinces Lusaka, southern and central. A mixed approach of qualitative and quantitative was used to bridge the gaps that exist between qualitative and quantitative data. Other questionnaires were administered to the farmers and also the suppliers of products to the SME agro-dealers.

#### G. Method of Data Analysis

Data analysis is the process of managing and arranging the collected data to levels that allow the researcher to test the developed hypothesis to identify pattern/behaviors and develop justifications. Data collected was coded using excel spread sheets. Data was analyzed using statistical package for social sciences (SPSS) software to generate descriptive statistics. Further analysis using multiple regression and correlation analysis was used. However, before using correlation analysis, the data was tested for suitability of using correlation analysis by checking if it met the monotonic and ordinal assumptions to which it was confirmed (refer to appendix xxxxxxxxx).

##### 1) What is Spearman's Rank correlation coefficient?

Spearman's Rank correlation coefficient is used to identify and test the strength of a relationship between two sets of data. It is often used as a statistical method to aid with either proving or disproving a hypothesis (Christopher, 2001).

The formula used to calculate Spearman's Rank is shown below

$$r = 1 - 6 \frac{\sum d^2}{n^3 - n}$$

Where  $d$  is the difference in the ranks given to the two variable values for each item of data.

$$d = x - y$$

Spearman's correlation coefficient is a statistical measure of the strength of a *monotonic* relationship between paired data. In a sample it is denoted by the formulae that follows

$$-1 \leq r_s \leq 1$$

And its interpretation is similar to that of Pearsons, e.g. the closer  $r_s$  is to  $\pm 1$  the stronger the monotonic relationship. Correlation is an effect size and so we can verbally describe the strength of the correlation using the following guide for the absolute value of 0.00-0.19 very weak, 0.20-0.39 weak, 0.40-0.59 moderate, 0.60-0.79 strong, and 0.8-1.0 very strong relationship (Franklin, 1986).

##### 2) Conditions Underlying the Spearman Test

The Spearman test uses ranks to test for association. However, association is a wide term covering many different types of relationship and not all of these will be picked up by the Spearman test. For the Spearman test to work, the underlying relationship must be monotonic: that is, either the variables increase in value together, or one decreases when the other increases.

A function is monotonically increasing as the  $x$  variable increases the  $y$  variable never decreases; monotonically decreasing as the  $x$  variable increases the  $y$  variable never increases; Non monotonic as the  $x$  variable increases the  $y$  variable sometimes decreases and sometimes increases (Franklin, 1986).

The study met the conditions for using spearman correlation, the variables met both the monotonic assumptions and ordinal assumptions required to use spearman correlation analysis. For both ordinal and monotonic testing, the study indicated monotonic relationships for average margins and payback period and quantity of products supplied to SME agro dealers. Scatter plots were also done that further demonstrated

### 3) What is the Regression Model?

The model says that Y is a linear function of the predictors, plus statistical noise.

Simple regression:  $Y_i = \beta_0 + \beta_1 x_i + \epsilon_i$

Multiple regression:  $Y_i = \beta_0 + \beta_1 (x_1)_i + \beta_2 (x_2)_i + \beta_3 (x_3)_i + \dots + \beta_K (x_K)_i + \epsilon_i$

The coefficients (the  $\beta$ 's) are non random but unknown quantities. The noise terms  $\epsilon_1, \epsilon_2, \epsilon_3, \epsilon_n$  are random and unobserved. Moreover, we assume that these  $\epsilon$ 's are statistically independent, each with mean 0 and standard deviation  $\sigma$ . A careful user of regression will make a number of checks to determine if the regression model is believable. If the model is not believable, remedial action must be taken (Christopher, 2001).

The purpose of multiple regression is to analyze the relationship between metric or dichotomous independent variables and a metric dependent variable. If there is a relationship, using the information in the independent variables will improve our accuracy in predicting values for the dependent variable. There are three types of multiple regression, each of which is designed to answer a different question: Standard multiple regression is used to evaluate the relationships between a set of independent variables and a dependent variable. Hierarchical, or sequential, regression is used to examine the relationships between a set of independent variables and a dependent variable, after controlling for the effects of some other independent variables on the dependent variable. Stepwise, or statistical, regression is used to identify the subset of independent variables that has the strongest relationship to a dependent variable. This study used the standard multiple regression, in standard multiple regression, all of the independent variables are entered into the regression equation at the same time. Multiple R and  $R^2$  measure the strength of the relationship between the set of independent variables and the dependent variable. An F test is used to determine if the relationship can be generalized to the population represented by the sample. A t-test is used to evaluate the individual relationship between each independent variable and the dependent variable (Christopher, 2001).

For this study ,regression model was used to investigate the relationships between variables and ascertain the casual effects of one variable upon another . this was to estimate the quantitative effects of the casual variables upon the variable that they influence and further testing the “statistical significance” of the estimated relationships .

### H. Validity and Reliability

The research among other approaches was subjected to expert views to critique the study at every stage, feedback from key informants and triangulation of information among different sources of data.

## V. PRESENTATION OF FINDINGS, ANALYSIS AND DISCUSSIONS

### A. Introduction

Chapter 5 will bring out the presentation, discussion and analysis of findings. This chapter will include presentations of the researched works and results from the field and include explanations, discussions and in-depth analysis of the findings and results from the study. The discussions are being done based on the literature reviewed more especially based on similar studies done before. The discussions are being done in accordance of the set objectives and as a way of answering the research questions bearing in mind the hypothesis of the study.

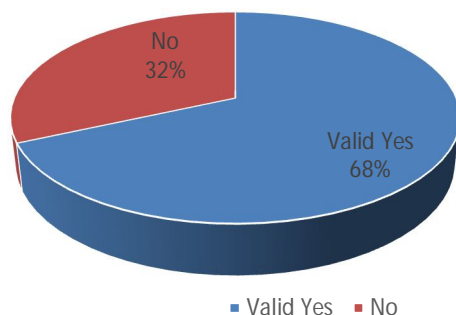
### B. Data Presentation and Analysis

Business skills and management systems affecting Agro-dealers not to meet Farmers and Suppliers Expectations

Table 2:skills to do Strategic plan that is reviewed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	82	68.3	68.3	68.3
	No	38	31.7	31.7	100.0
	Total	120	100.0	100.0	

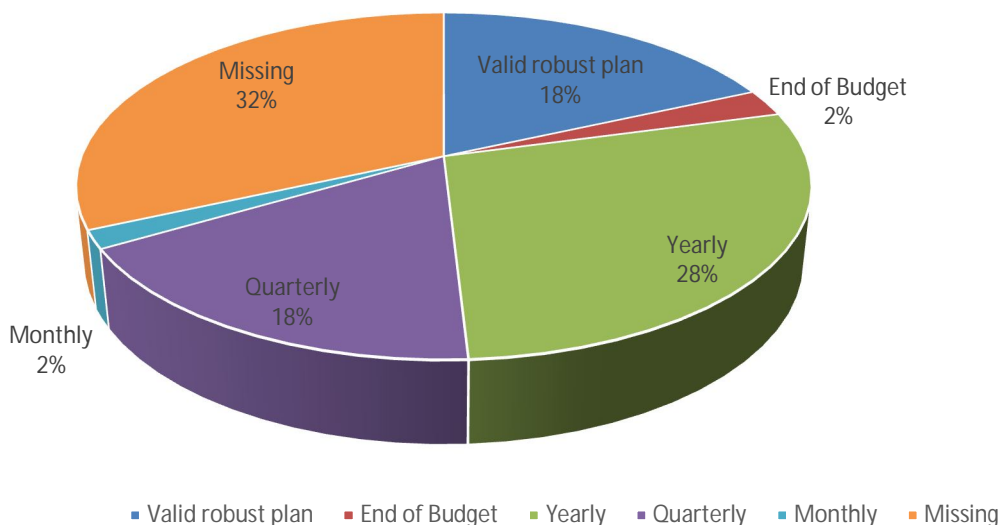
**Fig. 2: Strategic plan that is reviewed**



**Table 3: how often (months) do you review the strategic plan**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Robust plan	22	18.3	26.8	26.8
	End of budget	3	2.5	3.7	30.5
	Yearly	34	28.3	41.5	72.0
	Quarterly	21	17.5	25.6	97.6
	Monthly	2	1.7	2.4	100.0
	Total	82	68.3	100.0	
Missing	99	38	31.7		
Total		120	100.0		

**Fig. 3: how often (months) do you review the strategic plan**

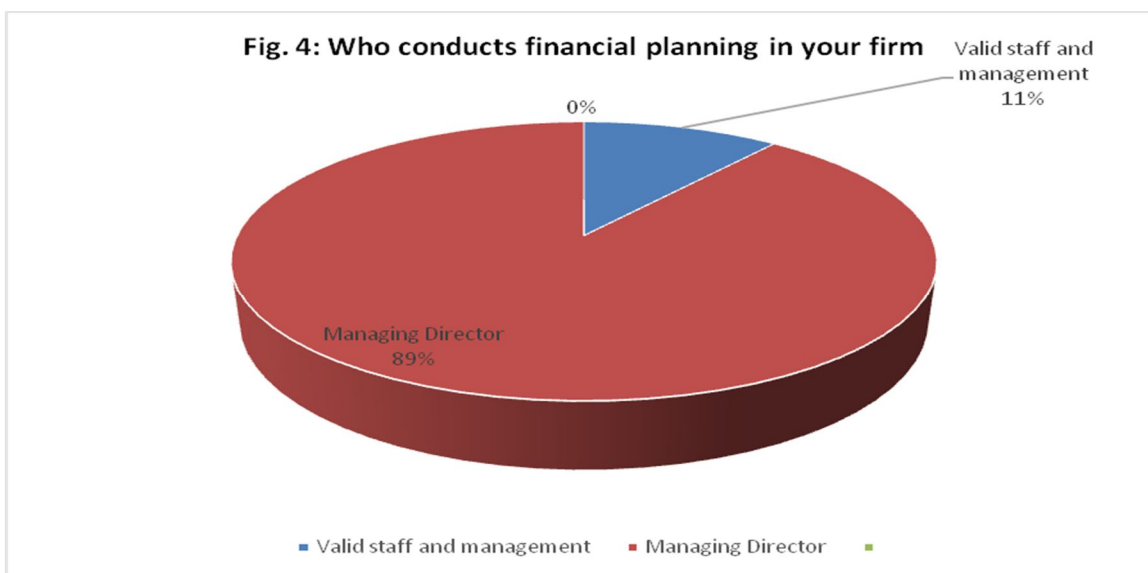




From Table 2 and 3 above;68.3% (82) of the SME agro-dealers reported having a strategic plan that is reviewed. 31.7% (38) of the SMEs reported not having a strategic plan that they are supposed to be reviewing. Out of 82 SMEs, 18.3% (22) have a robust plan of reviewing a strategic plan, 2.5% (3) review at the end of the budget, 28.3% (34) review the strategic plan yearly, 17.5% (21) review the strategic plan quarterly, and only 1.7% (2) review the plan monthly. This provides a poor picture on how a strategic plan should be reviewed, as only 19.2% (monthly and quarterly) presents a good picture of reviewing the strategic plan. This affects the performance of SME agro-dealers and consequently affects the suppliers as well as the farmers in terms stocking the products consistently and paying back the Suppliers. The results are in line with the literature on poor business management practices of SMEs in the country.

Table 4: Who conducts financial planning in your firm

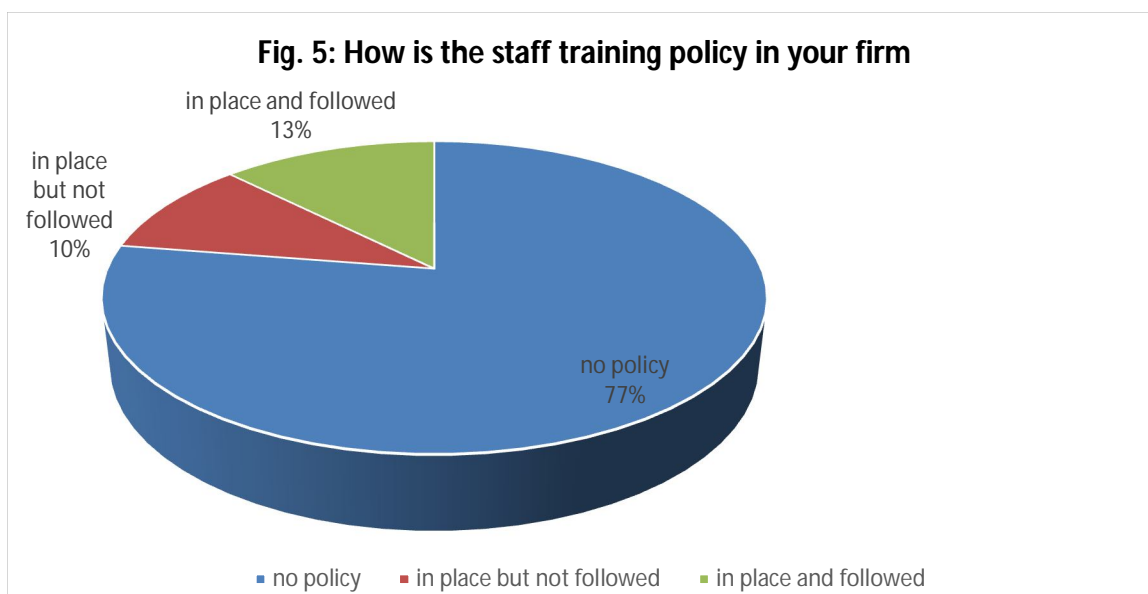
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Staff and management	13	10.8	10.8	10.8
	Managing director	107	89.2	89.2	100.0
	Total	120	100.0	100.0	



From Table 4 above, financial managing directors mostly do planning in SMEs as represented by 89.2% (107), and only 10.8% (13) is done by staff and management. Doing a financial plan is a very big task that needs skill and not everyone can do. Poor financial planning leads to poor performance in SME agro-dealers and results in failure to meet suppliers and farmers expectations. This also brings out the skill challenges in many agro-dealers as observed from many literatures.

Table 5: How is the staff training policy in your firm

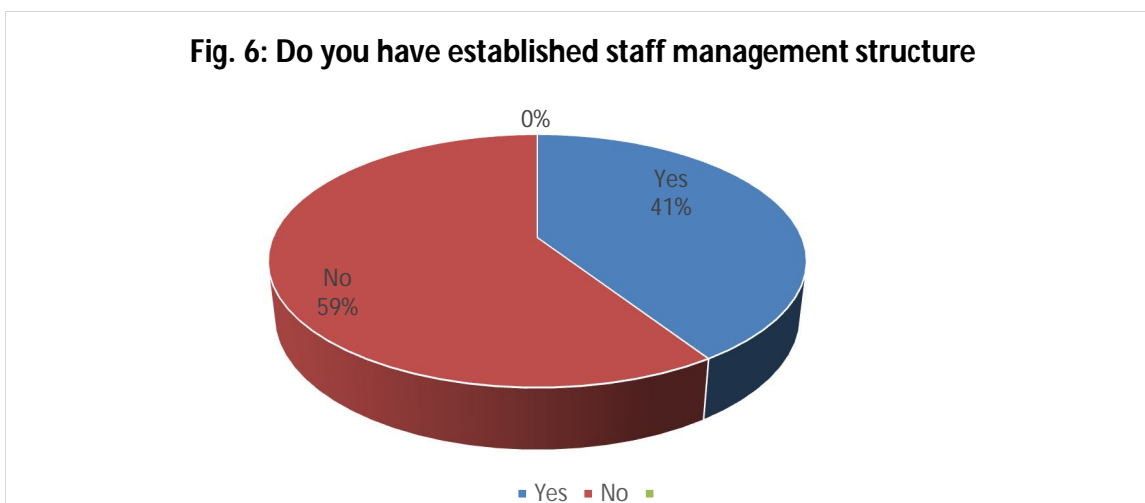
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No policy	93	77.5	77.5	77.5
	In place but not followed	12	10.0	10.0	87.5
	In place and followed	15	12.5	12.5	100.0
	Total	120	100.0	100.0	



From table 5, 77.5% (93) of SME agro-dealers have no policy to train the staff in how they can manage the business better. 10.0% (12) have a policy but it's not followed, 12.5% (15) of SMEs have a staff training policy in place and they follow it. There is a big gap concerning training the staff in agro-dealers, a problem that requires capacity building in business management. This leads to poor performance affecting agro-dealers not to meet farmers and supplier's expectations of consistent stocking, affordable products and paying back suppliers within agreed time. These results are in line with the literature on existing gaps in the agro-dealership.

Table 6: Do you have established staff management structure

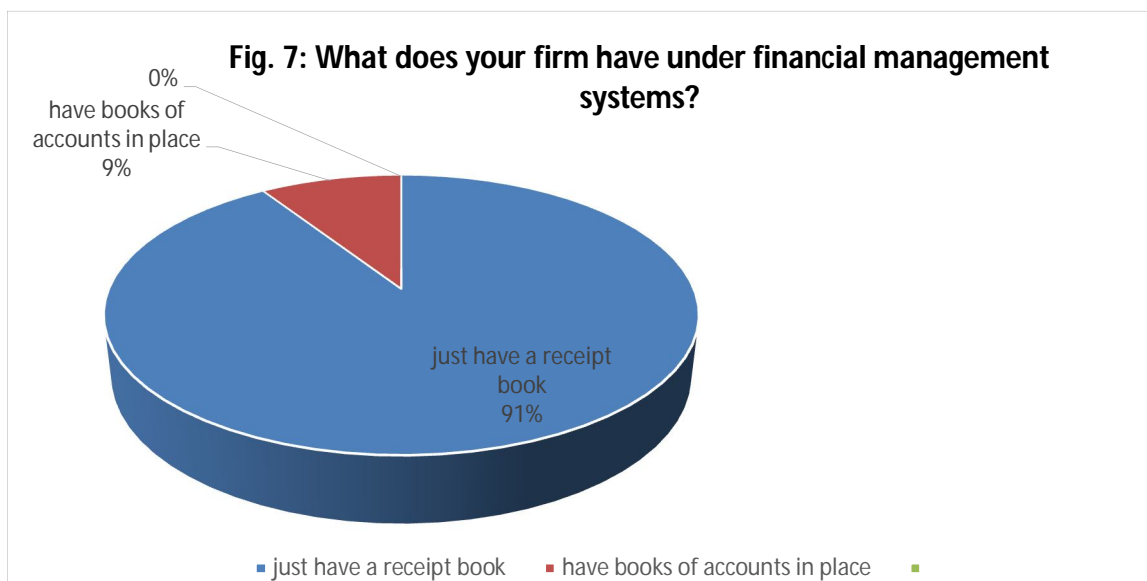
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	49	40.8	40.8	40.8
	No	71	59.2	59.2	100.0
	Total	120	100.0	100.0	



From the above table, 59.2% (71) of the SMEs have no established staff management structure. 40.8% (49) have established staff management structures. These results could be attributed to few numbers of workers in SMEs, as it is difficult to form a structure with two or three personnel. But this is also a business gap that affects the performance of agro-dealers not to meet farmers and suppliers expectations.

Table 7: What does your firm have under financial management systems?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	just have a receipt book	109	90.8	90.8	90.8
	have books of accounts in place	11	9.2	9.2	100.0
	Total	120	100.0	100.0	



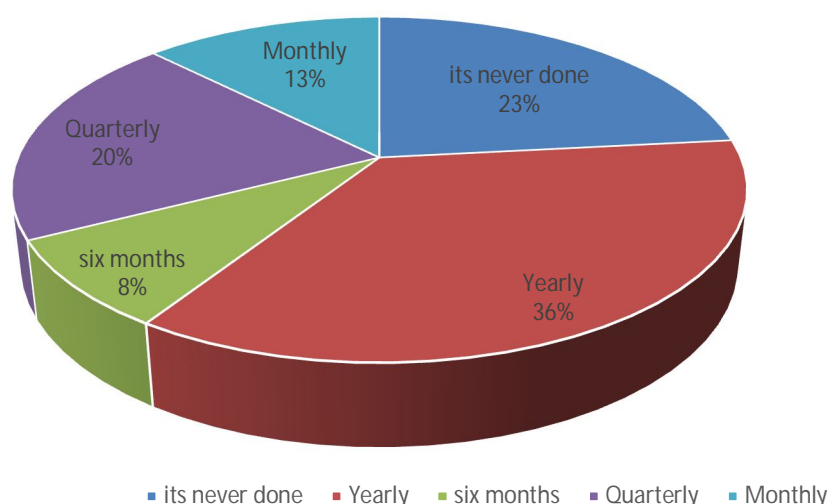
From the above table, 90.8% (109) of SME agro-dealers only have receipt books under financial management systems. 9.2% (11) have all the books of accounts in place. The result shows a poor performance on how agro-dealers are supposed to manage the business finances, as having a receipt book only is not enough to manage the business finances and lead to poor performance of the whole business. This affects agro-dealers not to meet farmers and suppliers expectations. The results are in line with the existing literature of poor financial management for many agro-dealers.

Table 8: How often does your firm monitor the budget against the actual?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	its never done	28	23.3	23.3	23.3
	Yearly	43	35.8	35.8	59.2
	Six months	10	8.3	8.3	67.5
	Quarterly	24	20.0	20.0	87.5
	Monthly	15	12.5	12.5	100.0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	its never done	28	23.3	23.3	23.3
	Yearly	43	35.8	35.8	59.2
	Six months	10	8.3	8.3	67.5
	Quarterly	24	20.0	20.0	87.5
	Monthly	15	12.5	12.5	100.0
	Total	120	100.0	100.0	

**Fig. 8: How often does your firm monitor the budget against the actual?**



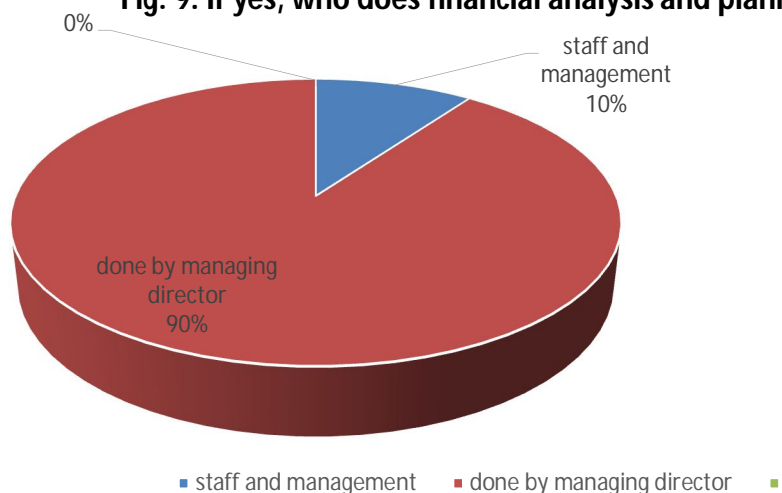
From the table above, 23.3% (28) do not monitor the budget against the actual, 35.8% (43) review the budget and compare it to the actual yearly, 8.3% (10) monitor the budget against the actual every after six months. 20.0% (24) monitor the budget against the actual every six months. Only 12.5% (15) monitors the budget against the actual every month. The results in the table also presents poor way of monitoring the budget against the actual, as the prices of goods is never static. This leads to budget deficits, reduced profit margin and consequently poor performance of the whole business and failure to meet farmers and suppliers expectations.

**Table 9: If yes, who does financial analysis and planning in your firm?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Staff and management	12	10.0	10.0	10.0
	Done by managing director	108	90.0	90.0	100.0
	Total	120	100.0	100.0	



**Fig. 9: If yes, who does financial analysis and planning in your firm?**

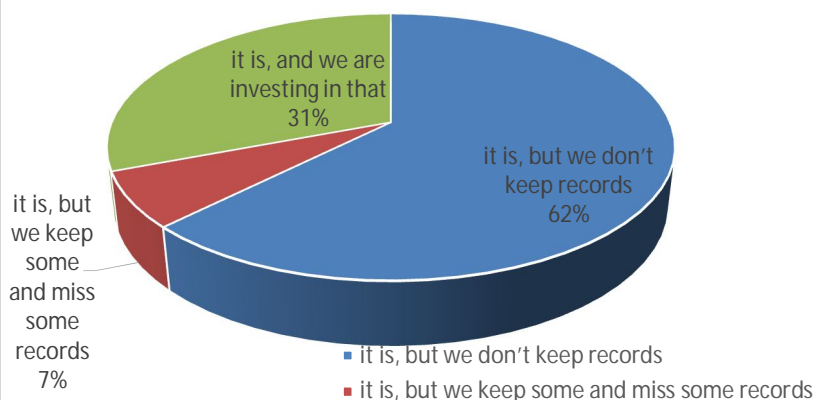


From the above table, financial analysis and planning is mostly done by managing directors as represented by 90.0% (108), only 10.0% (12) is done by staff and management. Majority of the managing directors are owners, as a family business or self proprietorship (annex table). This therefore, implies that most of the SME agro dealers financial analysis is done by the managing director only leaving out the other supporting workers that are involved in the running of the day to day accounts and the general business. All shop managers in today's approach are suppose to be money managers and not only the top management. This results in inconsistent stocking of products, long payback period and high priced products for the farmer.

**Table10: Is book keeping and record keeping necessary for your firm?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	It is, but we don't keep records	75	62.5	62.5	62.5
	It is, but we keep some and miss some records	8	6.7	6.7	69.2
	It is, and we are investing in that	37	30.8	30.8	100.0
	Total	120	100.0	100.0	

**Fig. 10: Is book keeping and record keeping necessary for your firm?**

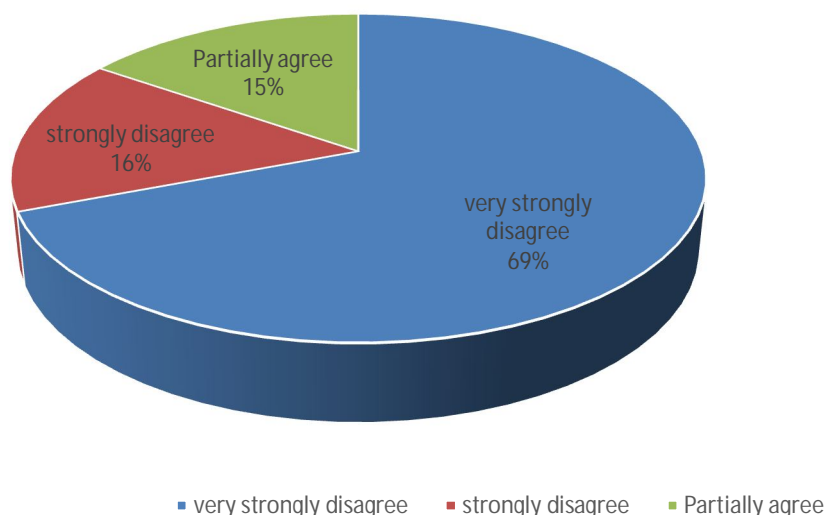


From the above table, 62.5% (75) confirmed that book and record keeping is necessary, but they don't keep records, 6.7% (8) of the SMEs confirmed keeping some records and also missing some records. 30.8% (37) confirmed keeping records and they are investing in that. This result is not impressive as only 30.8% keep records, as it affects the performance of the business as well as farmers and suppliers.

Table 11: Do SMEs honor and stick to the agreed trade terms

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Very strongly disagree	9	69.2	69.2	69.2
Strongly disagree	2	15.4	15.4	84.6
Partially agree	2	15.4	15.4	100.0
Total	13	100.0	100.0	

Fig. 11: Do SMEs honor and stick to the agreed trade terms



From table 11, 69.2% (9) of suppliers very strongly disagree that SME agro-dealers honor and stick to the agreed trade terms. 15.4% (2) strongly disagree that SME agro-dealers honor and stick to the agreed trade terms. 15.4% (2) of distributors partially agree that SME agro-dealers honor and stick to the agreed trade terms. This means Suppliers get affected by the performance of SME agro-dealers, as can be confirmed from correlation analysis in tables 13, 14, 15 and 16.

Table 12: Does poor management and performance of SMEs affect the performance of your company

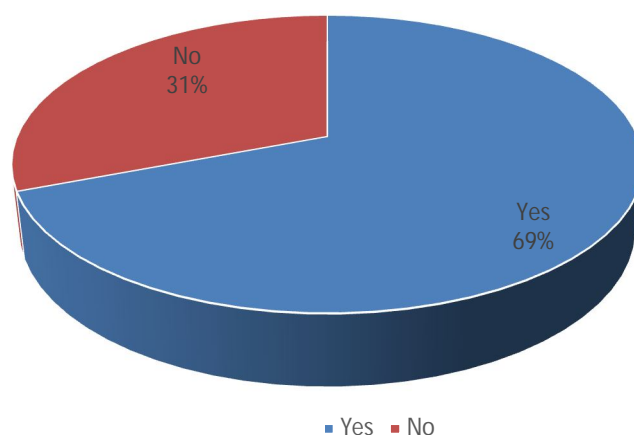
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	13	100.0	100.0	100.0

From table 12, 100% (13) of suppliers agreed that the poor management and performance of SME agro-dealers affect them. This also shows how important SME agro-dealers are in the distribution of agricultural input products to the farmers.

Table 13: Is poor financial monitoring a major gap existing in the SME businesses

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	9	69.2	69.2	69.2
	No	4	30.8	30.8	100.0
	Total	13	100.0	100.0	

**Fig. 13: Is poor financial monitoring a major gap existing in the SME businesses**



From table 13, 69.2% (9) of distributors indicated that poor financial monitoring is a major gap existing in the SME business. While 30.8% (4) indicated that financial monitoring is not a major gap existing in SME businesses.

Table 14: Is poor stock management system a major gap existing in the SME businesses

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	13	100.0	100.0	100.0

From table 14, 100% (13) of SMEs indicated that poor stock management system is a major gap existing in SME businesses. This calls for capacity building in stock management to help improve the situation.

Table 15: Is working capital management a major gap existing in the SME businesses

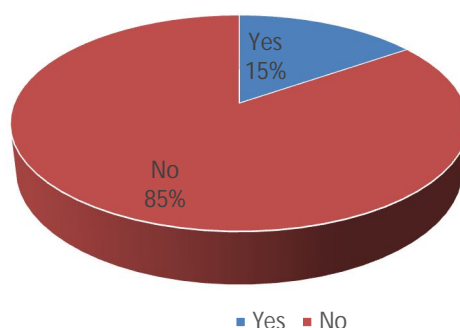
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	13	100.0	100.0	100.0

From table 15: 100.0% (13) of distributors pointed out that working capital management is a major gap existing in SME businesses. This also calls for capacity building in financial and business management.

Table 16: Do you run any financial capacity building programs for your SMEs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	2	15.4	15.4	15.4
	No	11	84.6	84.6	100.0
	Total	13	100.0	100.0	

Fig. 16: Do you run any financial capacity building programs for your SMEs

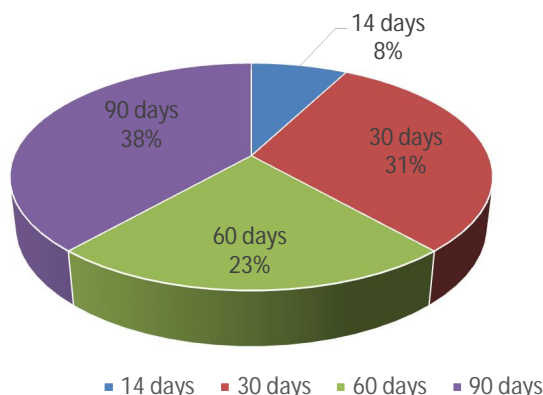


From the table above, 84.6% (11) confirmed that they do not run any financial capacity building programs for their SME agro-dealers. While 15.4% (2) of distributors confirmed that they do run some financial capacity building programs for their SME agro-dealers. This calls for more emphasis in capacity building in terms of managing finances.

Table 17: How many days do SME agro-dealers take to pay you

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	14	1	7.7	7.7	7.7
	30	4	30.8	30.8	38.5
	60	3	23.1	23.1	61.5
	90	5	38.5	38.5	100.0
	Total	13	100.0	100.0	

Fig. 17: How many days do SME agro-dealers take to pay you



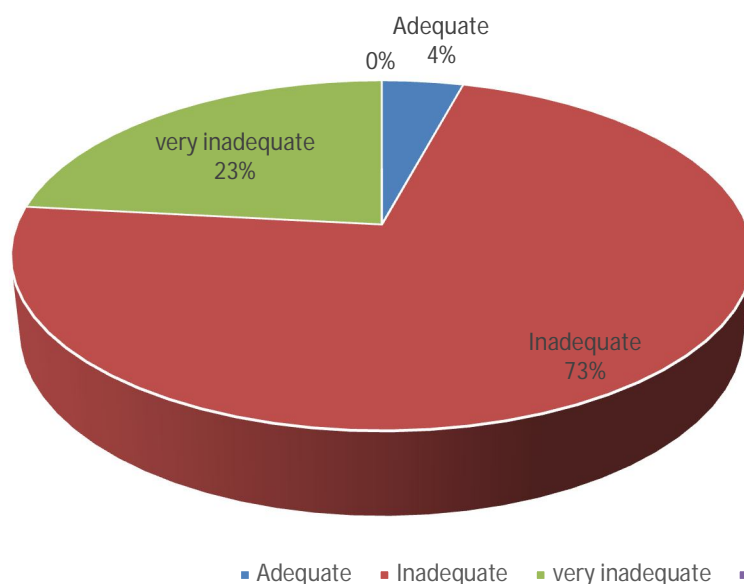


From table 17, 38.5% (5) of SME agro-dealers pay back the money in over 90 days, 23.1% (3) of SME agro-dealers pay back the money in over 60 days. 30.8% (4) pay back the money in over 30 days. Only 7.7% (1) pay back the money in 14 days. The payback period is very bad for SME agro-dealers, 92.3% (12) of SME agro-dealers pay back the money in over 30 days and 90 days, which is very long, disturbing the cash flow of company distributors.

Table 18: Farmer Level Analysis: supply of products and services from SME agro-dealers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Adequate	5	4.2	4.2	4.2
	Inadequate	87	72.5	72.5	76.7
	Very inadequate	28	23.3	23.3	100.0
	Total	120	100.0	100.0	

Fig. 18: Farmer Level Analysis: supply of products and services from SME agro-dealers

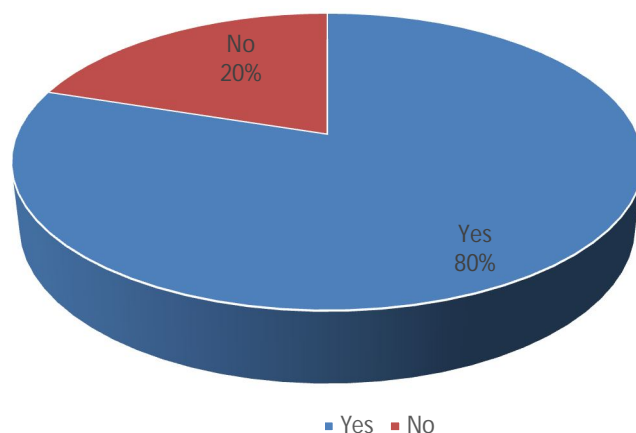


From table 18, 72.5% (87) of farmers confirmed that the products and services provided by SME agro-dealers is inadequate, 23.3% (28) of farmers confirmed the supply of products and services by SME agro-dealers to be very inadequate. Only 4.2% (5) said that the products and services provided by SME agro-dealers is adequate. The inadequacy can be attributed to long payback period, poor stock management and financial management as seen in earlier results.

Table 19: Is little product information a problem you face with SMEs agro-dealers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	96	80.0	80.0	80.0
	No	24	20.0	20.0	100.0
	Total	120	100.0	100.0	

**Fig. 19: Is little product information a problem you face with SMEs agro-dealers**



From table 19, 80.0% (96) Of farmers confirmed that little product information is a problem which they face by working with SME agro-dealers, while 20.0% (24) indicated that little product information is not a problem with SME agro-dealers. Training agro-dealers on the products is therefore important for the benefit of farmers.

Some elements of management systems and how they affect management practices and performance of agro-dealers affects and their implications of the commercial relationships and meeting the farmers and suppliers expectations

### C. Spearman Correlation Analysis (SME Analysis)

Table 20: summary of correlation analysis

Variable x	Variable y	Correlation rho	P-Value	Sample size (N)
how payback period affect quantity supplied to Agro-dealers	how many days do SME agro-dealers take to pay you	-.789**	0.001	13
Percentage increment in stock for next season	average percentage on margins	.685**	0.000	120
how visiting affect the strength of relationship with farmers	how often does your company staff go to get feedback from farmers	1.000**	0.000	120
Effect of turnover change on quantity of stock	turnover change compared to the past two years	0.996**	0.000	120
impact of pay back period on stocking of products	Payback period to suppliers	-.821**	0.000	120
impact of the period of receiving money on supply of products to the farmers	Days taken to receive money from customers	-.879**	0.000	120
Consistency supply of products	Stock management	.959**	0.000	120

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

From table 20, all the correlation analysis results were statistically significant at 0.01 confidence level (2-tailed). A spearman's rho of -0.789 means there is a strong negative relationship between payback period and quantity supplied to SME agro-dealers. When the payback period increases, suppliers tend to reduce the quantity of products supplied to SME agro-dealers. With the rho value of 0.685 it means; when the average percentage margin increases, SME agro-dealers are likely to increase the quantity of stock by a certain percent. Spearman's rho of 1.000 was obtained, which means there is a perfect positive correlation between the two variables which is very strong, when the times of visiting farmers increase, the strength of their relationship also increases. A spearman's rho of 0.996 means there is a strong positive correlation between turnover change and the quantity of products purchased from distributors, when turnover increases, the quantity of products purchased from distributors also increases. The spearman rho of -0.821 means there is a strong negative relationship between payback period and the stocking of products from suppliers, when the number of days for paying back increases, the stocking of products from suppliers reduces. The spearman rho of -0.879 means there is a strong negative relationship between payback period and the supply of products to farmers, when the number of days for receiving money from customers (farmers) increases, supply of products to farmers reduces. Spearman's rho of 0.959 obtained means there is a strong positive correlation between the two variables, when the times of counting the stock increases, consistent stocking and supply of products to farmers also increases. All the variables were tested for the ordinal assumption and also the monotonic assumption required for running spearman analysis (see annex figures: 1-7).

#### D. Multiple Regression Analysis

Effect of performance on farmers and suppliers

Table 27: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.935 <sup>a</sup>	.873	.870	1.7983	2.424

a. Predictors: (Constant), what is the average percentage of margins on your products, how many days do you take to pay your suppliers, how many days do you take to receive money from your customers you sell to?

b. Dependent Variable: By what percentage are you likely to increase your stock in the coming farming season.

From table 27: above, the quality of prediction of the dependent variable is very high 93.5%, making multiple regressions a good test in this case. Our independent variables explain 87.3% of the variability in the dependent variable. The durbin-watson test, d is:  $0.1 < d < 2.5$ , which means there is no auto correlation in our variables.

Table 29: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	16.977	1.010		16.807	.000
	How many days do you take to pay your suppliers	-.032	.012	-.191	-2.731	.007
	How many days do you take to receive money from your customers you sale to?	-.263	.030	-.616	-8.790	.000
	What is the average percentage of margins on your products	.316	.059	.219	5.355	.000

a. Dependent Variable: By what percentage are you likely to increase your stock in the coming farming season

From table 29, all the independent variables were statistically significant at 0.05 confidence level, and all the variables are adding to the model.

We can therefore estimate our equation to be:  $Y = 16.977 - 0.032X_1 - 0.263X_2 + 0.316X_3 + \epsilon$

This means that, the average margin, payback period to suppliers and period of receiving money from farmers ultimately affect the stock by SME agro-dealers and give an impact on suppliers and farmers businesses. A percentage increase in average margin is likely to increase stock quantity by 0.316; for every unit increase in time to pay back suppliers, stock quantity reduces by 0.032 (-0.032); and for every unit increase in time taken to receive money from customers (farmers) the stock quantity for agro-dealers reduce by 0.263 (-0.263).

### E. Discussion

The study was successfully conducted and assessed how business management skills and financial performance of SME agro-dealers impact on farmers and suppliers in Zambia. The discussions are being done in accordance with the study objectives as a way of answering the research questions which were; What business management skills affect SME agro dealers not to meet farmers and suppliers expectations?, Do financial business management systems and performance of SME agro-dealers have effects in meeting farmers/suppliers expectations? and to what extent do management and financial business systems impact on the SME agro dealers in meeting the expectations of the farmers' and supplier'. The objectives were to determine the management skills that the SME agro dealers should possess in order to meet the farmers and suppliers expectations, to determine the financial management systems that SME agro dealers have towards meeting the farmers' and suppliers expectations and finally to establish the extent and implications the management skills and systems have on meeting the farmers' and supplier' expectations.

#### 1) What management skills affect SME agro dealers not to meet farmers' and suppliers' expectations?

From the study, the results indicated most of the SME agro dealers not having necessary management skills. The Study looked at some of the key but basic skills a business needs to have in order to operate properly which included; strategic planning and analytical skills, budgeting skills, staff management and structure, customer care and financial analysis skills. In many cases the study showed that skills to do with planning, analyzing, budgeting were a preview of the managing directors leaving the operation staff without these skills. In fact, in the firms where the skills existed, the managing director or the owners of the businesses possessed the skills with the rest of the staff having no or little skills. From table (4) it indicated that financial analysis is done by managing directors which was about 89.2% (N=107) and only 10.8% (N=13) is done by the staff.

Table 4: Who conducts financial planning in your firm

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Staff and management	13	10.8	10.8	10.8
Managing director	107	89.2	89.2	100.0
Total	120	100.0	100.0	

This portrayal has negative implications on the level of competences the other managers have in the firms. On the budgeting and financial monitoring, 23% (N=28) indicated they never monitor their budgets, 36% (N=43) monitor annually. These are serious implications for the enterprise in terms of smooth operations that would satisfy the farmers and suppliers expectations. Business managers today are supposed to be money managers as well. Coupled with this is the lack of well structured staff management plans and capacity building strategies, most SME agro dealers indicated 59.0% (N=71) did not have management structures in place and 49% (N=40.8) indicated some level of structures where staff welfare issues are handled. In terms of staff skills and capacity building 77.5% (N=77.5) indicated they don't have any policy to do with staff capacity building issues specifically in financial management. 10.0% (N=12) and 12.5% (N=15) indicated having policy in place but that are not followed and 12.5% indicated they have and follow their policies on staff capacity building. This showed that staff in the firms are not up to date with the necessary skills which can be said contributes to under performance of most of the businesses and hence failing to meet the expectations of the farmers' and the suppliers'. Whether the managing directors had skills, they are not passed on to the other staff leaving the firms with poor managers that lack core skills. This has serious implications of affecting the business dealings of SME agro dealers with the farmers and the suppliers.



The resultant of this gap in the skill of SME agro dealers are erratic supply of the inputs to the farmers and poor farmer interactions. From the study this was confirmed by farmers. From table 18, 72.5% (N=87) of farmers confirmed that the products and services provided by SME agro-dealers is inadequate, 23.3% (N=28) of farmers confirmed the supply of products and services by SME agro-dealers to be very inadequate. Only 4.2% (N=5) said that the products and services provided by SME agro-dealers are adequate.

Table 18: Farmer Level Analysis: supply of products and services from SME agro-dealers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Adequate	5	4.2	4.2	4.2
	Inadequate	87	72.5	72.5	76.7
	Very inadequate	28	23.3	23.3	100.0
	Total	120	100.0	100.0	

This clearly indicates that agro-dealers are not meeting the expectations of farmers and suppliers with inadequacy of products and also inconsistency in stock. From table 19, 80.0% (N=96) of farmers confirmed that little product information is a problem which they face by working with SME agro-dealers, which makes agro-dealers not to meet farmers' expectations.

Lack of management skills of SME agro dealers has further implications of failing to meet the demands of the suppliers. This is because the business dealings are supposed to be based on well informed decisions supported with proper business analysis in both cash and stock management that the firms are not doing because of lack of such management skills as mentioned above. The suppliers agreed 100% (N=13) that as a result of poor financial analysis, stock management, the SME agro dealers fail to meet their expectations. The discussions above agree with the  $H_a$  hypothesis that management skills of SME agro dealers do have a negative effect in meeting the farmers and suppliers expectations. Financial managers need to keep a careful eye on operating trends, cash flow management with emphasis on the timely billing and collection of fees accompanied by a summary to help in decision making. Strategic management ideas are significant in enterprises' financial management since they must make effort to analyze and grasp general environment and development tendency of an enterprise and therefore to improve the adaptability and applicability of financial management to uncertain environment. Almost in all firms there is a good association between company's competitive advantage and its performance and finally lead the company towards high profits. For example competences join knowledge and skills, they signify both knowledge and skills required to perform actions. Competences discriminate the firm and generate unique advantage. The most essential strategic possession is the knowledge and skilled expertise that the firms gather over time (Schwernk and Srader, 1993). Further literature indicated this gap; The proportion of people and enterprises without business management skills range from: 56% in the goat value chain, 86% in the poultry value chain, 87% in cattle value chain, 91% in agriculture services and 95% in Mixed -agricultural (GRZ Post- Harvest survey datasets 2011/12).

## 2) Do financial management systems and performance of SME agro dealers have impact on meeting farmers' and suppliers expectations?

Financial Management systems are the lifeline of running any business without which the business run on assumptions. From the study, the results indicated most of the SME agro dealers not having financial management systems in place. From the study 91% (N=109) of the SME agro dealers indicated not having books of accounts but only a receipt book as a tool of managing cash flows and only 9.2% (N=11) indicated having some level of books of accounts.

Table 7: What does your firm have under financial management systems?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	just have a receipt book	109	90.8	90.8	90.8
	have books of accounts in place	11	9.2	9.2	100.0
	Total	120	100.0	100.0	

Tracking of business transactions does not only mean entering into a receipt book but requires a process that ensures all transactions are tracked in and out of the business using a range of books of accounts or statements. Cash is lifeline of any business and hence the need for management systems that ensure accountability and tracking the exact financial position of the enterprise. This has the single most serious implications in running the enterprises and meeting the expectations and needs of the farmers and suppliers.

Without proper cash accountability systems, it is not easy for managers to make well informed decisions on different investment options necessary to keep the enterprise running.. Many of the suppliers complained that the SMEs agro dealers fail to make timely payments of their products even when the products are finished in their shops and mostly money is diverted to other operations knowingly and in some cases as a result of poor systems of cash accountability systems in this case working capital management. In case of record/book keeping systems, 62.5% (N=75) of SME agro dealers indicated the importance of keeping records though they did not have any other records or books of accounts apart from a receipt book and no investments were being done in improving the status core. The position of appreciating importance of record keeping/ books of accounts is relative looking at the results . On budgeting and financial monitoring systems , 23%(N=23) indicated they never monitor their budgets, 36%(N=43) monitor only annually and mainly this was as result of the gaps in the analytical skills of the managers. These are serious implications for an enterprise in terms of smooth operations that would satisfy the famers and suppliers. Having budgets in the business is just one thing but putting up budgetary tracking and monitoring systems that are able to show the planned budgets against the actual spent budget line indicates the exact position of the cash situation in the business. Cash management systems are as important as stock management systems but the study results indicated that the SME agro dealers lack the stock management systems. All the 13 suppliers interviewed confirmed there is 100%(N=13) lack of stock management systems in the SME agro dealers, this has implication of SME agro dealers not knowing the correct timing of stocking or re-stocking of products from the suppliers and hence having no stock to supply the farmers. This was confirmed with the farmers as indicated From table 18, 72.5% (N=87) of farmers confirmed that the products and services provided by SME agro-dealers is inadequate, 23.3% (N=28) of farmers confirmed the supply of products and services by SME agro-dealers to be very inadequate. Only 4.2% (N=5) said that the products and services provided by SME agro-dealers are adequate. This is a resultant of poor stock management systems with the SME agro dealers. Stock management is critical as its oftenly said it is the queen of the business and cash is the king. Accountability of both cash and stock remains critical and this requires management systems that are able to track the transaction and indicate updated status of transaction positions that forms the basis of managers making decisions. In most of the businesses visited the SME agro dealers could not give the updated status of either stock or cash which was a huge concern but rather believed they had stock and money in their warehouses and accounts respectively. 100%(N=13) of suppliers agreed that the SME agro dealers don't have robust financial monitoring and analysis systems that so often makes them to mis manage the finances and fail to meet the expectations of the suppliers by taking long periods to pay back for the stocks supplied to them. Managers review the financial statements to ensure that their expectations of the company's performance based on knowledge of the business are confirmed by formally presented results. It empasises the role of the enterprenuer in economic activity and holds that actions undertaken by entrepreneurs are mainly the outcomes of the alertness to opportunities .Financial information is useful mainly in avaluating the success of past decisions and in determining present position.From the study it is clear that this agree with the hypothesis that financial management systems and performance of agro dealers do have negative effects in meeting the farmers' and suppliers expectations. Further to confirm these results , it was supported by carrying out correlation and regression analysis to esterbilsh some relationships, extent and implications between some of the independent variables (elements ) to ascertain the variability of the descriptive statics and below is the summary and further discussions :

Table 20: summary of correlation analysis

Variable x	Variable y	Correlation rho	P-Value	Sample size (N)
how payback period affect quantity supplied to Agro-dealers	how many days do SME agro-dealers take to pay you	-.789**	0.001	13
Percentage increment in stock for next season	average percentage on margins	.685**	0.000	120
how visiting affect the strength of relationship with farmers	how often does your company staff go to get feedback from farmers	1.000**	0.000	120
Effect of turnover change on quantity of stock	turnover change compared to the past two years	0.996**	0.000	120
impact of pay back period on stocking of products	Payback period to suppliers	-.821**	0.000	120
impact of the period of receiving money on supply of products to the farmers	Days taken to receive money from customers	-.879**	0.000	120
Consistency supply of products	Stock management	.959**	0.000	120

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

From table 20, all the correlation analysis results were statistically significant at 0.01 confidence level (2-tailed). A Spearman's rho of -0.789 means there is a strong negative relationship between payback period and quantity supplied to SME agro-dealers. When the payback period increases, suppliers tend to reduce the quantity of products supplied to SME agro-dealers. With the rho value of 0.685 it means; when the average percentage margin increases, SME agro-dealers are likely to increase the quantity of stock by a certain percent. Spearman's rho of 1.000 was obtained, which means there is a perfect positive correlation between the two variables which is very strong, when the times of visiting farmers increase, the strength of their relationship also increases. A Spearman's rho of 0.996 means there is a strong positive correlation between turnover change and the quantity of products purchased from distributors, when turnover increases, the quantity of products purchased from distributors also increases. The Spearman rho of -0.821 means there is a strong negative relationship between payback period and the stocking of products from suppliers, when the number of days for paying back increases, the stocking of products from suppliers reduces. The Spearman rho of -0.879 means there is a strong negative relationship between payback period and the supply of products to farmers, when the number of days for receiving money from customers (farmers) increases, supply of products to farmers reduces. Spearman's rho of 0.959 obtained means there is a strong positive correlation between the two variables, when the times of counting the stock increases, consistent stocking and supply of products to farmers also increases. All the variables were tested for the ordinal assumption and also the monotonic assumption required for running Spearman analysis (see annex figures: 1–7).

These relationships have implications of the SME agro dealers failing to meet the expectations of the farmers' and suppliers'. This is a result of the SME agro dealers not having in place either the right skill set and management systems that are supposed to take care of the huge gaps existing in the management of the enterprises as can be confirmed by this analysis with a lot of negative relationships in their operations and finally affecting the farmers and the suppliers in their business relationships of not meeting their expectations. The suppliers for example confirmed SME agro dealers take long long periods to pay them money for the consignments stocks which has negative implications in consistent supply of products to the SME agro dealers. The trend in most of the SME agro dealers showed lack of skills and systems that would make them make decisions to help determine their capacity to generate future profits and not based on the one off business motives. Regression analysis confirmed the relationship and implications of SME agro dealers taking long payback periods to suppliers and the changes in their margins or turnovers.

Table 29: Coefficients – Regression analysis table

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	16.977	1.010		16.807	.000
How many days do you take to pay your suppliers	-.032	.012	-.191	-2.731	.007
How many days do you take to receive money from your customers you sale to?	-.263	.030	-.616	-8.790	.000
What is the average percentage of margins on your products	.316	.059	.219	5.355	.000

a. Dependent Variable: By what percentage are you likely to increase your stock in the coming farming season

From table 29, all the independent variables were statistically significant at 0.05 confidence level, and all the variables are adding to the model.

From the regression results, average margins on the products, payback period and time taken to receive money from the customers (farmers) were found significant to determining product stock for the agro-dealers which also affect farmers and suppliers at the same time. A percentage increase in average margin is likely to increase stock quantity by 0.316; for every unit increase in time to pay back suppliers, stock quantity reduces by 0.032 (-0.032); and for every unit increase in time taken to receive money from customers (farmers) the stock quantity for agro-dealers reduce by 0.263 (-0.263).

The regression analysis further indicated that constant supply of products to farmers should be a result of the SME agro dealers sticking to agreed payments terms with the suppliers. If the payback periods are too long the suppliers delayed in supplying the products to the SME agro dealers which in turn had no stock for the farmers. SME agro dealers margins were also a crucial determinant for future and constant stock of products. SME agro dealers that indicated good margins also indicated increased stock levels in their shops. This both is important for the farmers as they will get the products timely and also the suppliers will have increased business sales.

From the above discussions we can ascertain that the agro dealers did not meet the expectations of the farmers and suppliers. The required management skill set in most agro dealers were missing contributing to the SME agro dealers failing to meet the expectations of the farmers and suppliers as confirmed by correlation and regression analysis. The management systems in most of the agro dealers were not in place making the SME agro dealers capacity to correctly analyse extremely difficult or impossible. Further the study showed that most of SME agro dealers don't respect their agreed trade terms or contracts with the suppliers. This indicates serious breach in meeting one of the expectations of the suppliers' and consequently affecting the consistence in terms of product supply to farmers. To support this, 69.2% (N=9) of suppliers very strongly agreed that SME agro dealers do not honor the business agreements. Customer care and feedback is very important for the growth of the business relationships and meeting the expectation of the farmers' and suppliers. Correlation analysis clearly indicated that the increase by SME agro dealers to farmer feedback increased their business relationships, understanding of the customer needs but, this was not the case most of SME agro dealers never visit their customers for feedback. The consistence of product supply by SME agro dealers was not met as this can be confirmed by the regression analysis that this is a resultant of factors that the SME agro dealers need to have in place like proper stock management systems that should trigger the order and re-ordering of stock in a business. The discussions above have agreed with both hypothesis that; the SME agro dealers management skills have negative effects on meeting the suppliers and farmers' expectations and the hypothesis that the financial management systems do have a negative effect in meeting the farmers' and suppliers' expectations.

#### *F. Limitation of the Study*

Notable limitation of the study is the difficulties of getting the exact numbers of SMEs involved in the agro industry in the targeted districts. Very little data is available on the total population of the viable agro-dealers that are based in the rural areas outside the rail of line. The study was limited to the data captured in the 3 provinces, out of the 10 provinces of the country.

## **VI. CONCLUSIONS AND RECOMMENDATIONS**

Chapter 6 will bring out the conclusions and recommendations of the study. This will include drawing of key findings, lessons; observations from the study and ways in which some can be applied in the firms and future studies.

#### *A. Conclusions*

The study assessed how business management skills and financial performance of SME agro-dealers impact on farmers and suppliers in Zambia. The objectives were to determine the management skills that the SME agro dealers should possess in order to meet the farmers and suppliers expectations, to determine the financial management systems that SME agro dealers have towards meeting the farmers' and suppliers expectations and finally to establish the extent and implications the management skills and systems have on meeting the farmers' and supplier' expectations.

The study showed the SME agro dealers do not have the right set of skills and core competences to run the enterprises. Most of the SME agro dealers relied on the owners of the businesses to carry on the critical and core activities of running enterprises but with the current and dynamic changes of markets today, it requires that all managers in the enterprises are able and well positioned with management skill sets that helps them to help drive the enterprises from the informed positions and therefore able to help the firms meet the expectation of the farmers and suppliers. Necessary and basic foundation issues of strategic planning, planning and budgeting staff management and capacity build were not present in the firms. As the agency theory says the enterprises are driven by the human resource that then is supposed to have the necessary management skills in place. Financial management decisions require that these managers have the necessary management skills to be able to make sound financial decisions. A more appropriate view is that all business decisions impact on financial performance and therefore, every manager today must be a financial manager. The clear impacts on the players that include the suppliers, SME agro-dealers and the farmers as a result of the management capability of the agro-dealers is the importance of having agro-dealers that have core competencies, skills and financial management systems in running the business.



The reviewed literature highlighted important principles that included, core competencies in financial management, financial systems, staff capacity building programs and trainings. It was from the very literature that there are very serious gaps in terms of the SME businesses with regard to business management skills and competencies. It was clear that poor business management skills with the SMEs have direct impacts on both the input suppliers and the customers (farmers) and consequently the performance of the agro industry.

Further based on the findings of this study indicated that the SME agro dealers do not have the financial management systems in place which has serious implications on running the enterprises. Financial management is premised at having proper management systems that are able to help track the business progress by day and that the managers are able to make decisions based on the results or financial information based on the systems. Prevention control systems and detective control systems are all developed based on the financial analysis systems, stock management systems and financial planning systems. The SME agro dealers from the study indicated lack of these critical systems which contributed to the SME agro dealers failing to meet the farmers and suppliers expectations. From the results, SME agro-dealers are lacking in many skills to manage the businesses and meet the farmers and suppliers expectations. Among the existing gaps in the agro-dealers are poor strategic planning, financial planning, training of personnel, staff management structure, financial management systems, record keeping and many more gaps. All these affect agro-dealers not to meet suppliers' and farmers' expectations.

The study concluded that SME agro dealers do not have the necessary management skills and management systems in running their enterprises and thus did not meet the expectations of the farmers and the suppliers' agreeing with both study hypothesis.  $H_a$  Management skills and performance of agro dealers do have positive impact on meeting the farmers' and suppliers' expectations and  $H_a$  Financial management systems and performance of SME agro dealers do have positive effect in meeting the farmers' and suppliers expectations

#### B. Recommendations

- 1) The agro industry in general should continue to focus on long-term strategies of working with the SMEs. Firms should go beyond just making sales with SMEs but rather build internal financial and business management systems to equip SMEs with technical knowledge and skills.
- 2) The issues of efficiency operations of the SMEs requires capacity building programs that should include mentorship programs that allow or gives chance for the master or practice the skills practically
- 3) The problem of long payback period to suppliers can be resolved by introducing financial institution that can quickly pay for all transactions instantly, and then it start waiting for the money. This will ensure consistent stocking by agro-dealers.
- 4) The agro industry needs to innovate around the use of electronic payment systems by agro dealers tied to consignment business models. This allows for both availability of products at agro dealer shops and real time payments to suppliers. This was used in the Government Fertilizer Support Input Program(FISP) using Electronic payment systems were agro dealers got products on consignment terms tied with electronic payment systems using point of sale machines (POS). This reduced the payback periods to "real time" payments to suppliers.

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## Appendices

### Appendix 1: Table Results from Data Analysis

Appendix table 1: Owners of the Business

	Frequency	Percent	Cumulative Percent
Valid Share holders	5	4.2	4.2
Family	69	57.5	61.7
Self proprietorship	46	38.3	100.0
Total	120	100.0	

Appendix Table 2: Years of operating

N	Valid	120
	Missing	0
Mean		5.77
Median		5.00
Mode		5
Minimum		2
Maximum		17

Appendix Table 3; Kind of products and services provided by SME Agro-dealers

		Frequency	Percent	Cumulative Percent
Valid	Crop input products	32	26.7	26.7
	Crop and vet products			
	Services	88	73.3	100.0
		0	0	
	Total	120	100.0	

Appendix Table 4: What has been your turnover in the past year?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 100 000	2	1.7	1.7	1.7
	Between 100 000 and 500 000	82	68.3	68.3	70.0
	Between 500 000 and 1 000 000	36	30.0	30.0	100.0
	Total	120	100.0	100.0	

Appendix table 5: Do you distribute your products through intermediaries

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	13	100.0	100.0	100.0

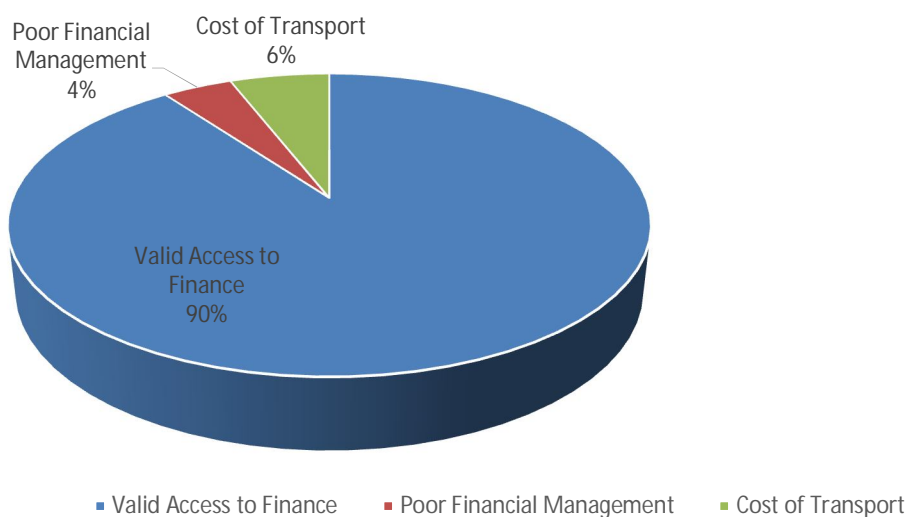
Appendix table 6: Kind of relationship with SMEs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Long term contractual obligations with agreed terms	11	84.6	84.6	84.6
	Short term business arrangements based on one off transaction	2	15.4	15.4	100.0
	Total	13	100.0	100.0	

Appendix 7: Most pressing problems facing the SME Agro-dealers

		Frequency	Percent	Cumulative Percent
Valid	access to finance	109	90.8	90.8
	poor financial management	5	4.2	95.0
	cost of transport	6	5.0	100.0
	Total	120	100.0	

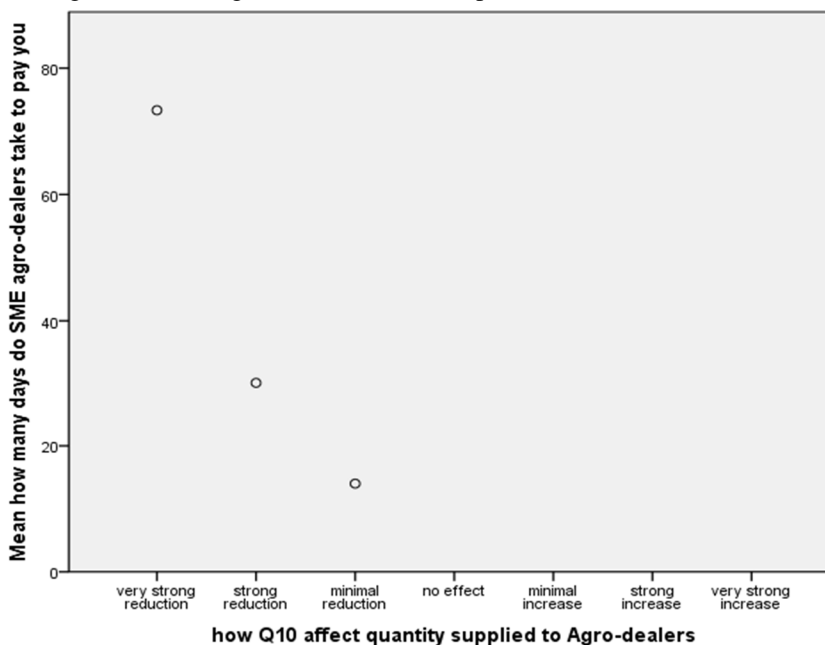
**Fig. 1: Most pressing problems facing the SME Agro-dealers**



From the above table, the most pressing problem facing SME agro-dealers is access to finance representing 90.8% (109), Transportation cost was second with 5% (6), with poor financial management scoring 4,2%. Financial challenge affects agro-dealers not to be stocking the products consistently and paying back the suppliers within the agreed time. This provides an opportunity to broaden the financial market in the agricultural sector and private institutions should therefore take a lead in expanding the financial market. These results are in support with the already existing literature on the problems facing agro-dealers in many countries.

### Spearman Correlation Analysis (SME Analysis)

**Figure 20: Testing for monotonic assumption between the variables**



From figure 20 above, the variables have met the monotonic assumption, when the payback period increases; the quantity of products supplied to SME agro-dealers reduces. The variables have also met the ordinal assumption required to use spearman correlation analysis.



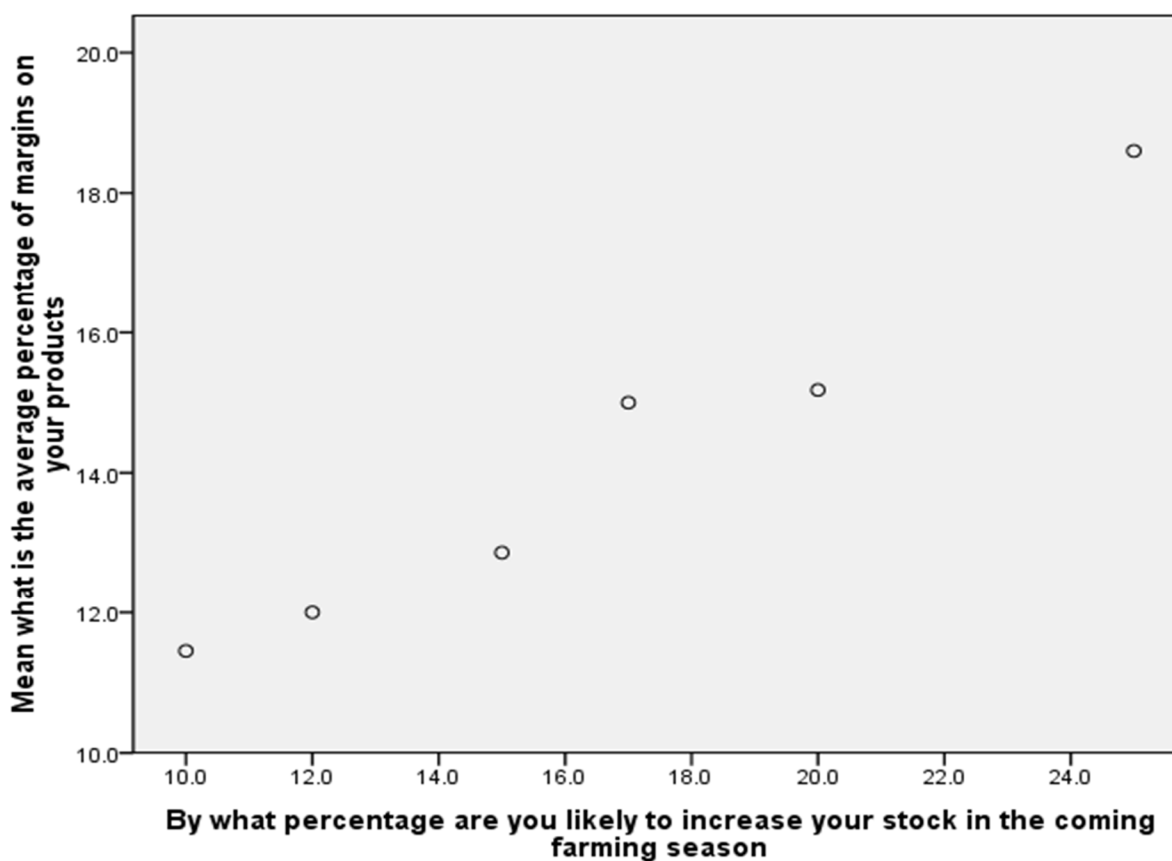
Table 20: Spearman correlation for payback period against quantity supplied to Agro-dealers

		How many days do SME agro-dealers take to pay you	How Q10 affect quantity supplied to Agro-dealers
Spearman's rho	Correlation Coefficient	1.000	-.789**
	Sig. (2-tailed)	.	.001
	N	13	13
	Correlation Coefficient	-.789**	1.000
	Sig. (2-tailed)	.001	.
	N	13	13

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

From the table above; spearman's rho of -0.789 was obtained; which means there is a strong negative relationship between payback period and quantity supplied to SME agro-dealers. When the payback period increases, suppliers tend to reduce the quantity of products supplied to SME agro-dealers. The p-value of 0.000 means the correlation was also significant at 0.01 confidence levels for 13 sample suppliers.

Figure 21: Testing for Monotonic Relationship



From figure 21 above, there is a monotonic relationship between average margin and the percentage of stock to be increased. As can be seen from the graph, when average margin increase, the quantity purchased from distributors increases as well (stock). The variables have also met the ordinal assumption required for running spearman correlation analysis.

Table 21: correlation Results for average margin and percentage increase in quantity

			By what percentage are you likely to increase the stock in the next farming season
Spearman's rho	What is the average percentage of margins on your products	Correlation Coefficient Sig. (2-tailed)	.685** .000
N			120

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

A spearman's rank-order correlation was run to determine the relationship between average percentage of margins and likely percentage increase in stock quantity for 120 SME agro-dealers. Spearman's rho of 0.685 was obtained, which means there is a strong positive correlation between the two variables. With the rho value of 0.685 it means; when the average percentage margin increases, SME agro-dealers are likely to increase the quantity of stock by a certain percent. The P-Value of 0.000 means the correlation is significant at 0.01 confidence level. This means, as average margins increase SME agro-dealers will increase the purchase of products from suppliers, and also sale more to farmers.

Figure 22: Testing for Monotonic assumption of Variables

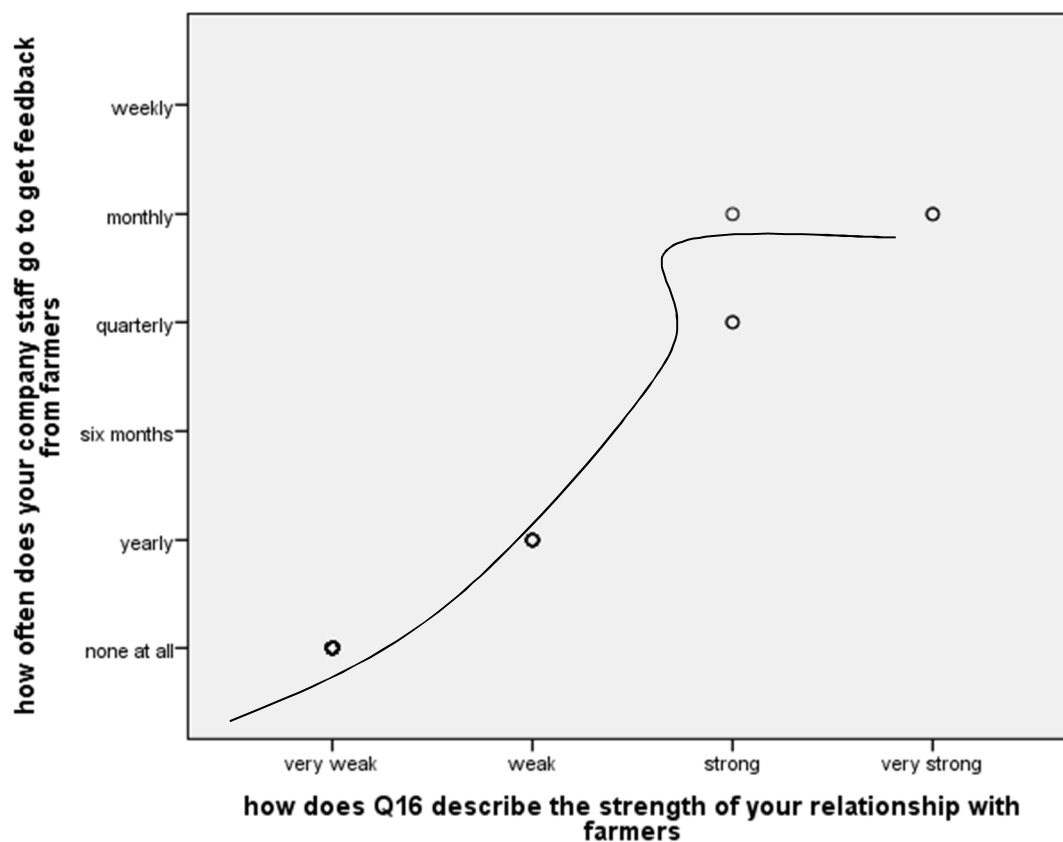


Figure 22 above shows a scatter plot for testing the monotonic assumption. Time of visiting farmers was plotted against strength of the relationship with farmers. When farmers get visited often, there is a strong relationship that builds up between farmers and SME agro-dealers.

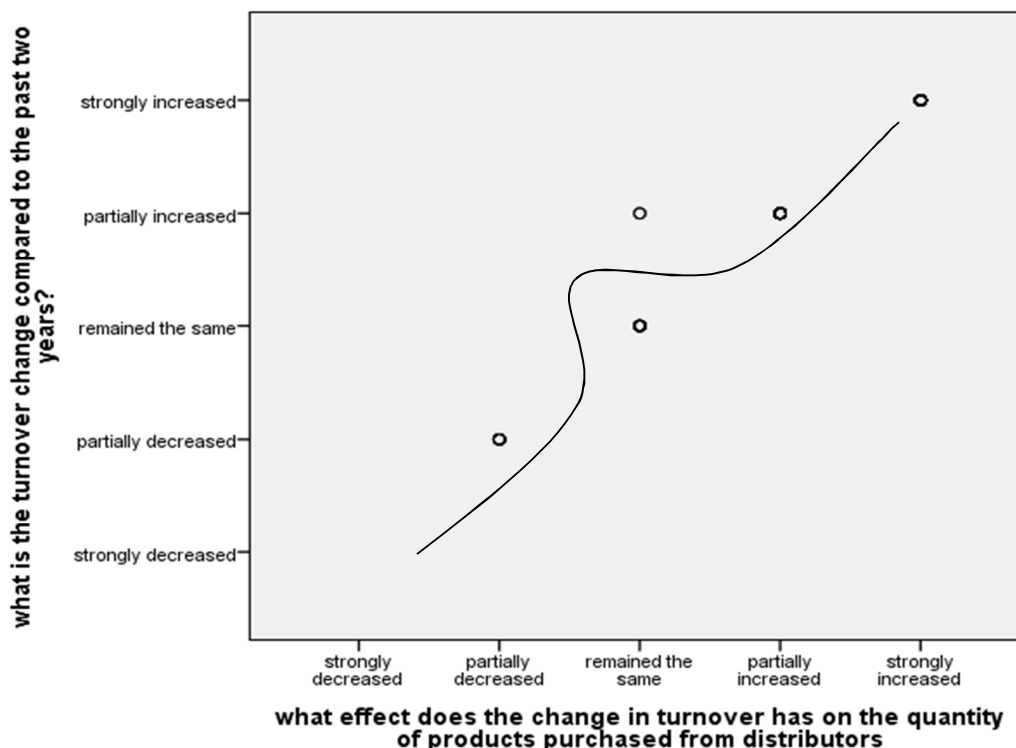
Table 22: spearman correlation for number of visits against strength of the relationship

		How does Q16 describe the strength of your relationship with farmers
Spearman's rho	How often does your company staff go to get feedback from farmers	1.000**
	Correlation Coefficient Sig. (2-tailed)	.000
N		120

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

A spearman's rank-order correlation was run to determine the relationship between number of times of visiting farmers and the strength of their relationship with farmers for 120 SME agro-dealers. Spearman's rho of 1.000 was obtained, which means there is a perfect positive correlation between the two variables which is very strong, when the times of visiting farmers increase, the strength of their relationship also increase. The P-Value of 0.000 means the correlation is significant at 0.01 confidence level. This will help improve the business relationship with farmers as well as with distributors.

Figure 23: Testing for Monotonic assumption of change in turnover against quantity purchased



From figure 23 above, there is a monotonic relationship between turnover change and the quantity purchased from distributors. As can be seen from the graph, when turnover change is an increase, quantity purchased from distributors also increases. The variables also met the ordinal assumption required for running spearman correlation analysis.

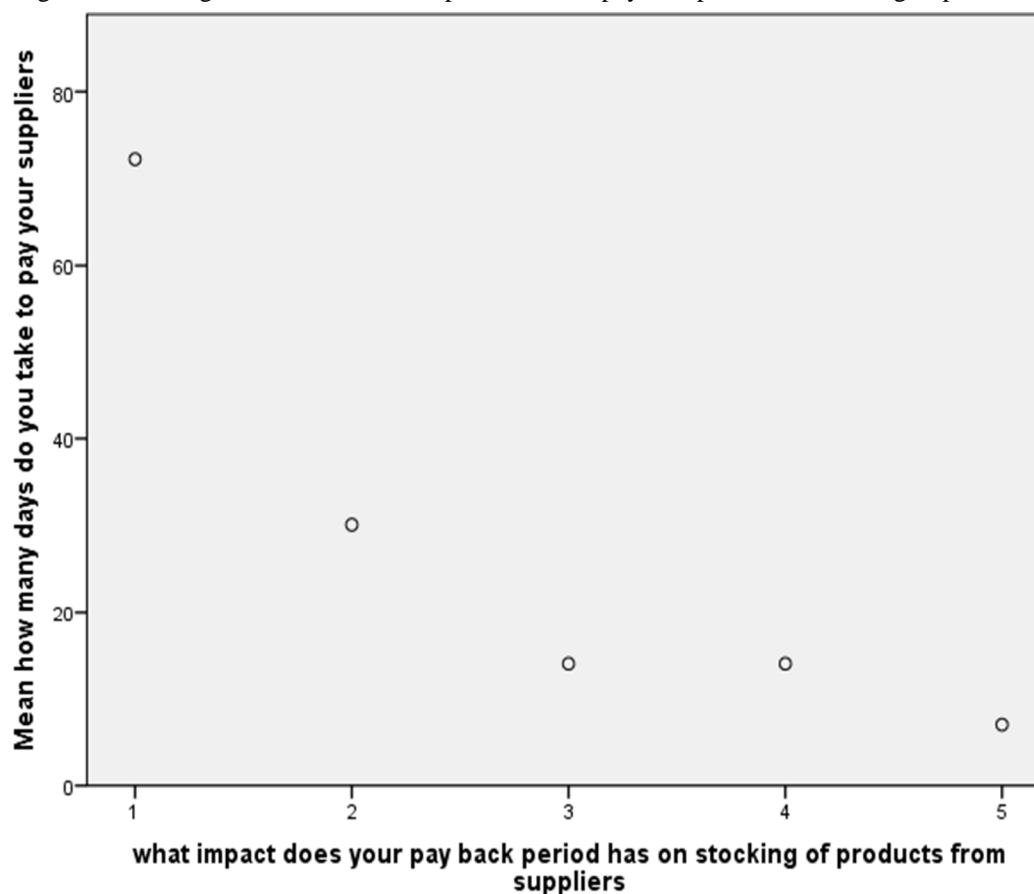
Table 23: spearman correlation for the change in turnover against quantity purchased

		What effect does the change in turnover has on the quantity of products purchased from distributors?
Spearman's rho	What is the turnover change compared to the past two years?	.996** .000
N		120

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

From table 23 above, the spearman's rho is 0.996, which means there is a strong positive correlation between turnover change and the quantity of products purchased from distributors. When turnover increases, the quantity of products purchased from distributors also increases. The P-Value of 0.000 means the correlation is significant at 0.01 confidence level. The results were obtained with the sample size of 120 SME agro-dealers.

Figure 24: Testing for monotonic assumption between payback period and stocking of products



From the figure above, the monotonic assumption has been met; when the payback period reduces, the stocking of products from distributors' increases. The variables also met the ordinal assumption required to use the spearman correlation analysis.

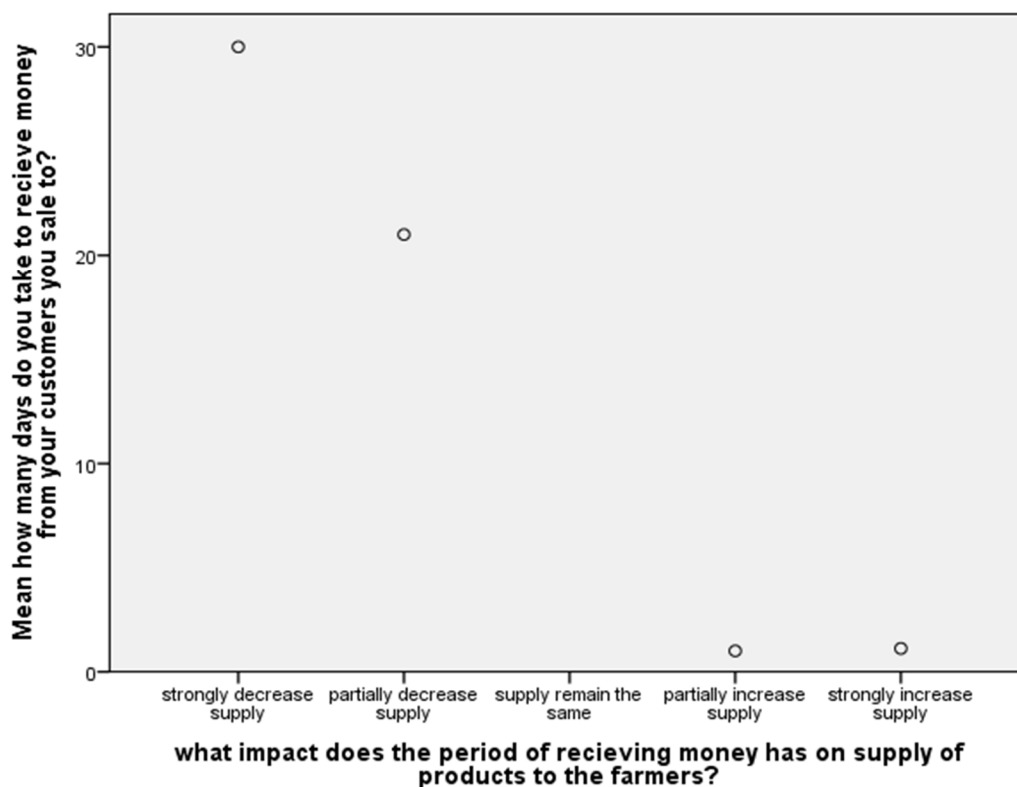
Table 24: Spearman correlation for payback period and stocking of products from distributors

		How many days do you take to pay your suppliers	What impact does your pay back period has on stocking of products from suppliers
Spearman's rho	How many days do you take to pay your suppliers	Correlation Coefficient	1.000
		Sig. (2-tailed)	.000
		N	120
	What impact does your payback period has on stocking of products from suppliers	Correlation Coefficient	-.821**
		Sig. (2-tailed)	.000
		N	120

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

From the table above; the spearman rho of -0.821 means there is a strong negative relationship between payback period and the stocking of products from suppliers, when the number of days for paying back increases, the stocking of products from suppliers reduces. This is because the payback period affects the flow of income for the suppliers who can't continue giving products to agro-dealers on consignment basis. It also negatively affects the accessibility of products to a farmer. P-value 0.000 means the correlation is also significant at 0.01 confidence level, at a sample size of 120 SME agro-dealers.

Figure25: Testing for Monotonic assumption of payback period and supply of products



From figure 25, the monotonic assumption was met; when the numbers of days for receiving money from farmers increase, the quantity supplied to the farmers reduces. The variables also met the ordinal assumption required to use the spearman correlation analysis.



Table 30: Residuals Statistics

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	9.104	22.815	18.300	4.6653	120
Residual	-2.8876	5.3469	.0000	1.7755	120
Std. Predicted Value	-1.971	.968	.000	1.000	120
Std. Residual	-1.606	2.973	.000	.987	120

a. Dependent Variable: By what percentage are you likely to increase your stock in the coming farming season. Table 30 above indicates no tendency in the error terms.

Figure 27: Normal P-P Plot of Regression Standardized Residual

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: By what percentage are you likely to increase your stock in the coming farming season

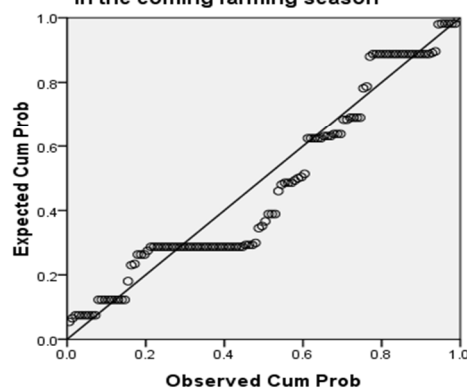


Figure 28: Partial Regression Plot

Partial Regression Plot

Dependent Variable: By what percentage are you likely to increase your stock in the coming farming season

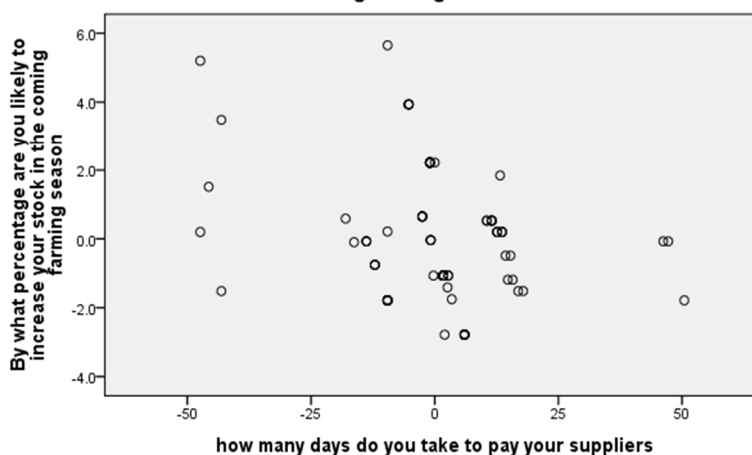


Figure 29: Partial Regression Plot

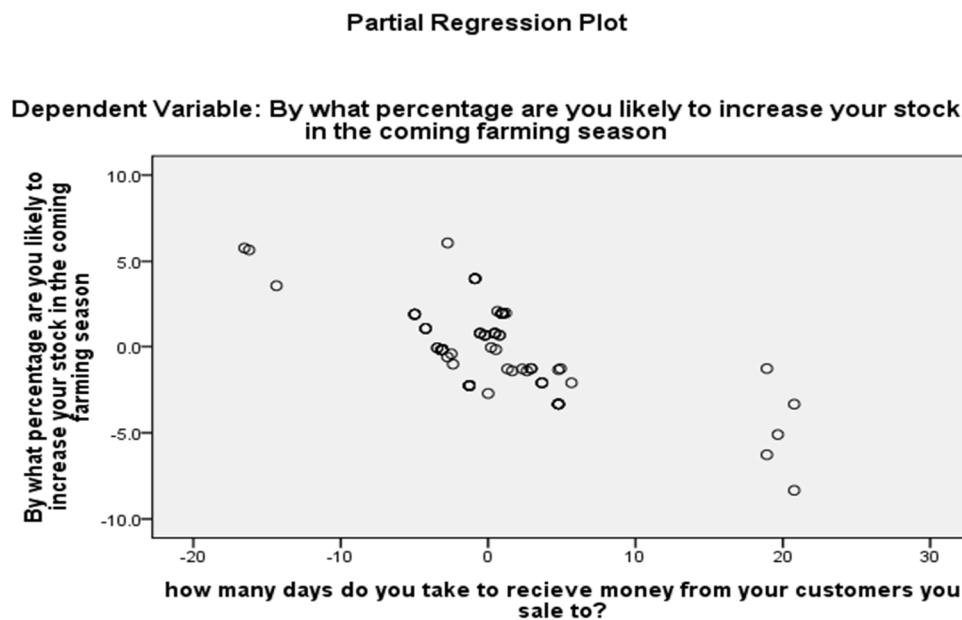
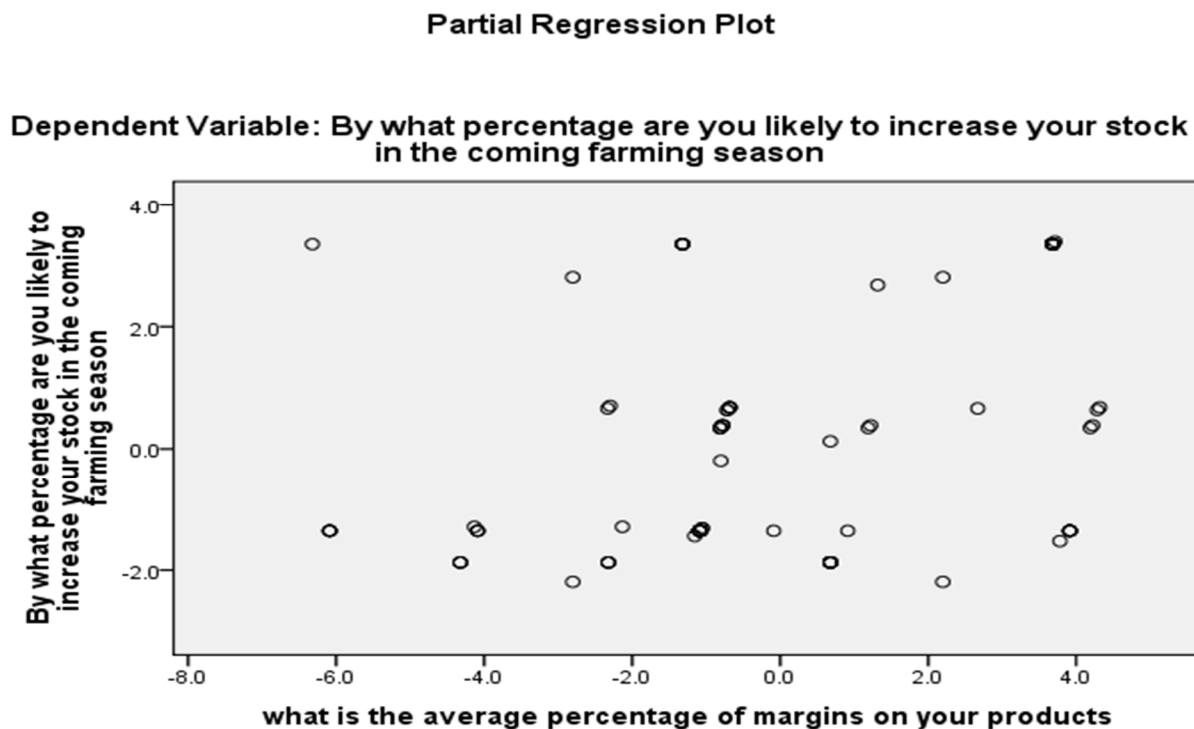


Figure 30: Partial Regression Plot



The graphs above show how best each independent variable associates with the dependent variable making the regression model a best fit for analysis.

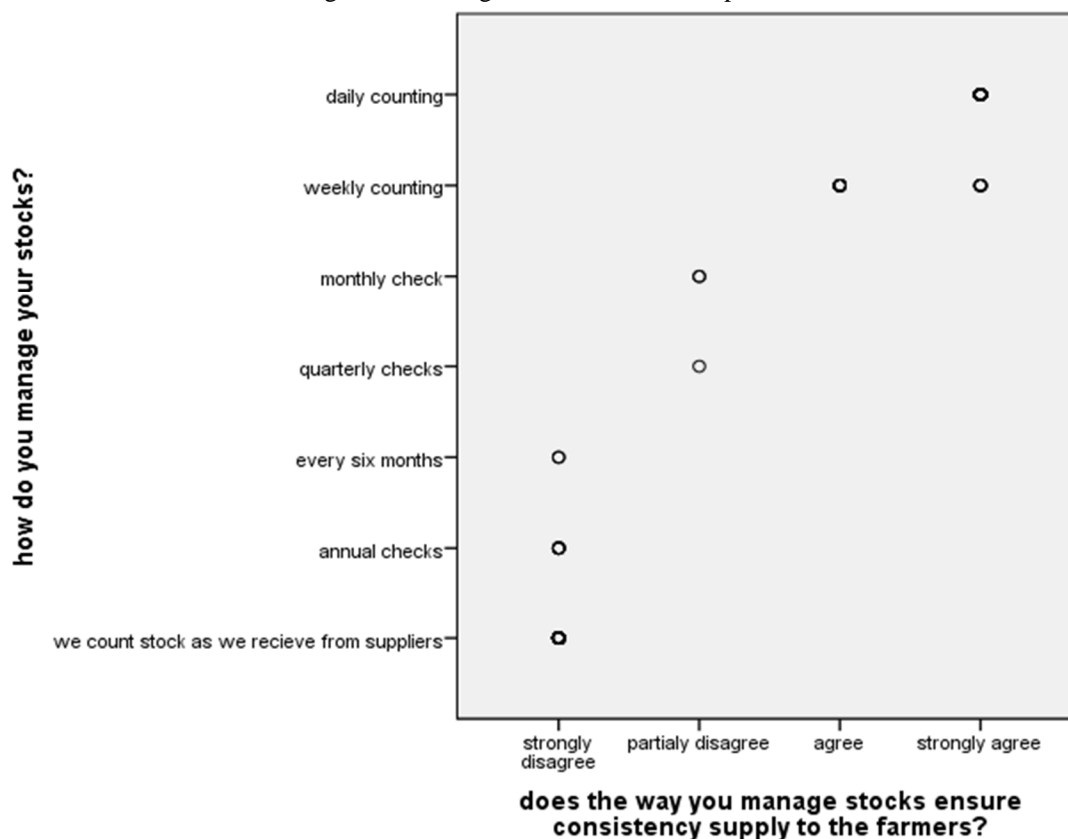
Table 25: Spearman correlation analysis between payback period and supply of products to farmers

			How many days do you take to receive money from your customers you sale to?	What impact does the period of receiving money has on supply of products to the farmers?
Spearman's rho	How many days do you take to receive money from your customers you sale to?	Correlation Coefficient	1.000	-.879**
		Sig. (2-tailed)	.	.000
		N	120	120
	What impact does the period of receiving money has on supply of products to the farmers?	Correlation Coefficient	-.879**	1.000
		Sig. (2-tailed)	.000	.
		N	120	120

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

From the table above; the spearman rho of -0.879 means there is a strong negative relationship between payback period and the supply of products to farmers, when the number of days for receiving money from customers (farmers) increases, supplying of products to farmers reduces. This is because the time period of receiving money affects the flow of income for the SME agro-dealer. It also negatively affects the purchasing of products from. The p-value of 0.000 means that the correlation is significant at 0.01 confidence level.

Figure26: Testing for monotonic assumption



From the figure above, the monotonic assumption has been met; when the number of counting the stock increases, the consistency supply of products to the farmers also increases. The variables also met the ordinal assumption required to use the spearman correlation analysis.

Table 26: spearman correlation between managing stocks and consistency supply to the farmers

		How do you manage your stocks?	Does the way you manage stocks ensure consistency supply to the farmers?
Spearman's rho	How do you manage your stocks?	Correlation Coefficient Sig. (2-tailed) N	1.000 . 120
	Does the way you manage stocks ensure consistency supply to the farmers?	Correlation Coefficient Sig. (2-tailed) N	.959** .000 120

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

A spearman's rank-order correlation was run to determine the relationship between managing stock and consistency supply to the farmers for 120 SME agro-dealers. Spearman's rho of 0.959 was obtained, which means there is a strong positive correlation between the two variables, when the times of counting the stock increases, consistent stocking and supply of products to farmers also increases. The P-Value of 0.000 means the correlation is significant at 0.01 confidence level. This will help improve the business relationship with farmers as well as with distributors.

Table 28:ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2590.079	3	863.360	266.980	.000 <sup>a</sup>
	Residual	375.121	116	3.234		
	Total	2965.200	119			

a. Predictors: (Constant), what is the average percentage of margins on your products, how many days do you take to pay your suppliers, how many days do you take to receive money from your customers you sale to?

b. Dependent Variable: By what percentage are you likely to increase your stock in the coming farming season

From the ANOVA table above, the overall regression model was a good fit for the data. The F-test is highly significant, thus we can assume there is a linear relationship among the variables in our model. The model is statistically significant as it can account for a large amount of variability in the response.



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