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Debunking the Sorghum- Based Stock feed Final Markets in Lusitu, Zambia: A Critical Success Factor Analysis Approach

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ABSTRACT

Sorghum is an integral small grain in the economy of Zambia. The government has in recent years partnered with the private sector to strengthen value addition for the crop. This study was conducted from July to December 2013. The objective of this study is to present a Critical Success Factor (CSF) analysis of the sorghum- based stock feed final markets in Lusitu farming communities of Chirundu District, Zambia. This was achieved by using questionnaires, semi-structured interviews and focus group discussions. The radar charts were generated based on CSF analysis to explain dynamics of the final markets. A currency conversion rate of 1USD = 5 Zambian Kwacha was used. Study findings show that small consumers are mainly concerned with the prices while the large consumers aspire for price, delivery reliability and provision of financial support. On the other hand, suppliers place emphasis on conformance to buyer specifications as a sign of competence whereas buyers are more concerned with credit facilities and flexibility. It was recommended to provide marketing information to final consumers through establishing marketing linkage platforms within their localities.

Keywords:

CSF, sorghum, stock feed, final, markets

INTRODUCTION

Sorghum is one of the main staples for the world's food-insecure communities. The crop is genetically suited to hot and dry regions where it is almost impossible to embark on other food grains enterprises. Sorghum is a dual-purpose crop used for both grain and other highly valued outputs such as animal feed. In large parts of the developing world, stover represents up to 50 percent of the total value of the crop, especially in drought years (USAID, 2009). Developing countries account for approximately 90 percent of the world's sorghum area and about 70 percent of total output. Asia and Africa each account for about 25-30 percent of global production. Much of the crop is grown by small-scale farming households for subsistence. Production in Africa remains characterized by low productivity whereas in Asia it is relatively more intensive. In the latter, fertilizer and improved seed are predominantly used. In the developed countries, almost all sorghum production is used as animal feed (World Bank, 2008).

Agriculture is predominantly a priority sector since it forms a strong potential base for Zambia's economic growth prospects (Hamukwala et al., 2010). Zambia dominates the production of cereal crops in Southern Africa (Chimai, 2011). The country is principally a net exporter of maize and pearl millet to countries such as Zimbabwe, Namibia and Botswana. As at 2011, agriculture contributed 21.5 % of Gross Domestic Product (GDP) as compared to about 78 % for industrial production and manufacturing combined. The sector also accounted for 85 % of employment in the country (FARA, 2012). More specifically, most of Zambia's rural population depends on farming as a major economic and livelihood activity. There is therefore need for the collaboration of state and non-state actors in developing the sector so as to achieve

Millennium Development Goals (MDGs) by eradicating poverty and hunger in semi-arid rural farming communities.

In most of the developing countries, there still remains a knowledge gap in understanding the functioning of agricultural markets especially in the advent of a paradigm shift in marketing processes and actors' demands. This is specifically true for the once untapped and sidelined marketing channels such as those for small grain crops including sorghum and pearl millet. The challenge has been coupled with ever emerging value chains that actors need to explore for enhanced incomes. An understanding of the expectations of both the supplier and consumer need to be unpacked to grease the wheels of marketing in the sorghum-stock feed value chain.

The present study aims at presenting empirical explanation of final markets' analysis for the sorghum-stock feed VC. The study will analyse the CSFs in the final markets of the sorghum-stock feed VC. The study will answer the research questions of what the specific CSFs in the sorghum-stock feed chain final markets are.

Critical Success Factors In Agricultural Marketing

In addition to understanding how farmers and agri-firms relate, it is pivotal to consider the final consumers of the product. It will not be efficient to produce without understanding the expectations of the intended market especially when it is new or volatile. UNIDO (2009) proposed use of the CSFs analysis framework as a tool in understanding consumer-supplier relationships. Chagwiza et al. (2012) reported on the CSFs in tomato up-market and down-market in Harare, Zimbabwe (Figure 1). Tomatoes were specifically used since they have emerged strongly in most rural communities despite lack of government support.

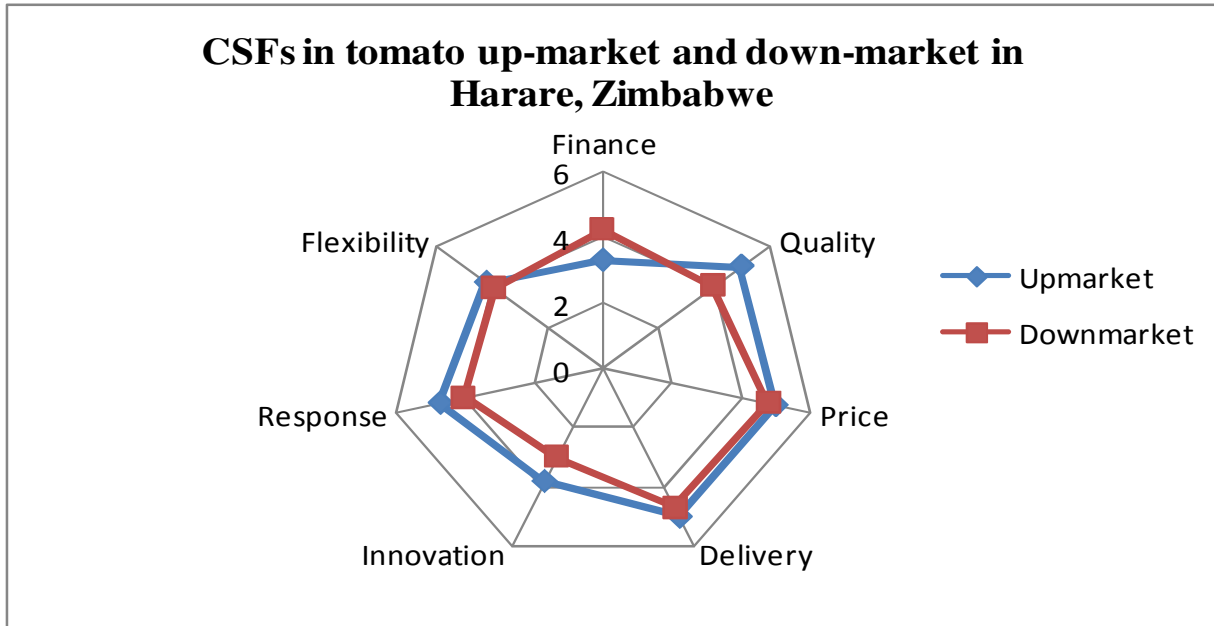


Figure 1: Critical Success Factors in Tomato Up-Market and Down-Market in Harare, Zimbabwe. Chagwiza et al., (2012)

Price and delivery dominate in these markets. They are ranked highly in both the up-market and down-market. Decision makers need to make a trade-off between the two factors. Reports by Kaplinsky et al., (2002), states that 'consumers may not be willing to pay more for a high quality product but, require both factors'.

Researchers have asked the same questions to consumers and suppliers in efforts to synchronise both groups' demands and expectations. As outlined in Figure 1, the study indicates suppliers underestimating the CSFs of the customers.

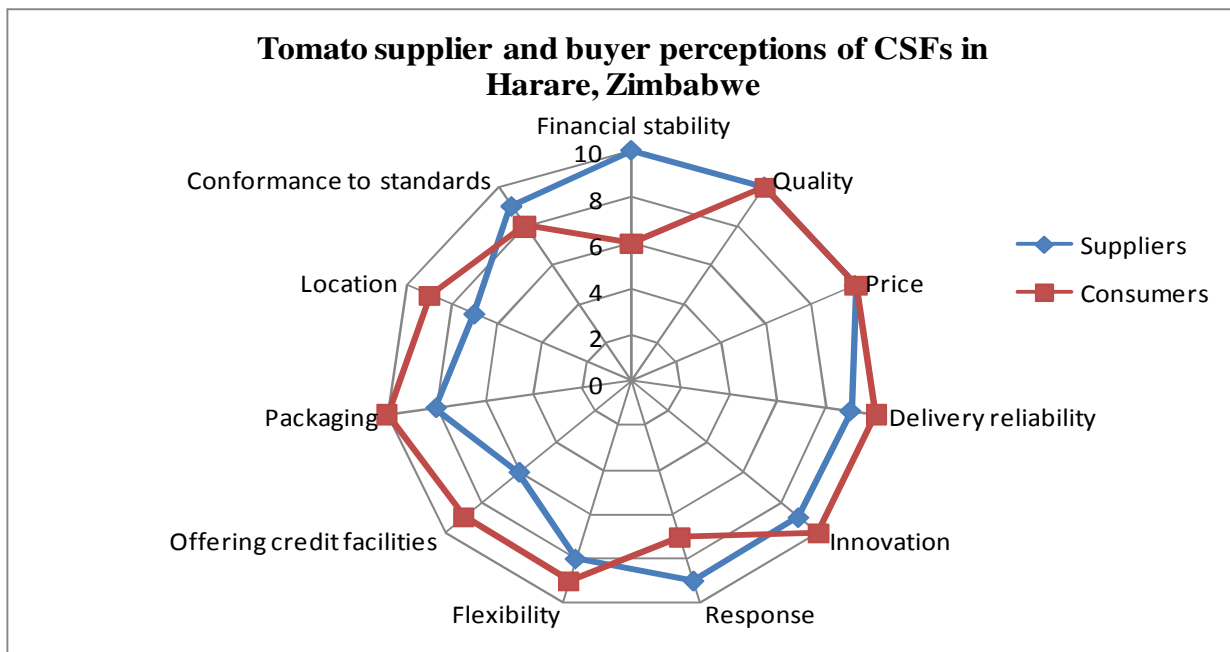


Figure 2: Tomato Supplier and Buyer Perceptions of Critical Success Factors in Harare, Zimbabwe Chagwiza et al., (2012)

Suppliers narrowed their focus to CSFs such as price, quality, delivery reliability and conformance to standards. This meant they did not produce and supply with the universe of the expectations of their markets. Interestingly Barnes (2000) also carried out a study for the South African auto components sector and presented similar findings. The comparison was made based on the “nature” of these products given the observed similarity in responsiveness trends of consumers and suppliers to the market variables especially in Less Developed Countries. So since these market variables including price and quality have in recent years tended to be universal and cross cutting among different products regardless of their perceived

differences, the “product” aspect of the marketing mix has proved otherwise in most cases hence this “interesting” analogue.

Value Chain Dynamics in Agricultural Systems

“The father” of the Value Chain system Porter, in 1990 envisaged the intricate relationships of the firm, upstream suppliers and the downstream consumers as the foundation of the Value Chain concept. This approach to VC is used to evaluate the competitive advantages of the firm in terms of product differentiation and cost reduction. Figure 3 represents a simplified VC system.

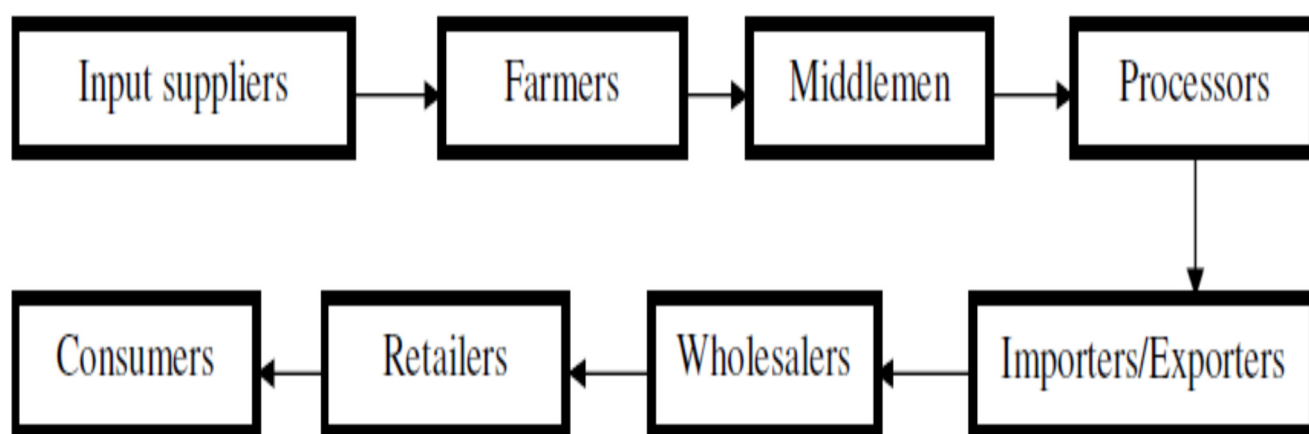


Figure 3: A simplified VC
Sanogo, (2010)

Food production VCs include farm production, trade and support to get food commodities to the end consumer (e.g. processing). This approach extends traditional supply chain analysis by identifying values at each stage of the chain (Trienekens, 2011). The name emanates from the fact that value is added to the product at each stage of the supply chain. Sanogo (2010) argues that the analysis of these activities is therefore anchored on a market system detailing a set of structural and dynamic factors affecting the contributions of each actor in the chain.

Critical Success Factors Analysis

Most methodologies (Hamukwala et al., 2010; Sanogo, 2010; UNIDO, 2009; World Bank, 2008; Kaplinsky et al., 2002) are premised on an understanding of the product market since most chains are anchored on these markets as their driving force. The study borrowed from the guiding philosophy of these methodologies so as to understand the CSFs. This is because modern production systems have in recent decades evolved from being more of “supply-pushed” to being “demand-

pulled”. This places the final market as an integral component of analysis in trying to understand market dynamics in this perspective (Webber et al., 2010; Kaplinsky et al., 2002).

Literature shows that the analysis of CSFs characteristics can be done by using the scored responses on a 1-10 or 1-7 scale. Research has shown that a 1-5 scale limits the scope of the responses. It is natural that most ordinary people have a tendency to think easily and quickly in percentages (1-10 scale) but studies have mainly used an odd-numbered scale (1-7) and as such this study adopted the 1-7 scale. The entry point was to generate a universe of CSFs through the use of a pilot study in a market segment. The key informants were then interviewed on the importance of each CSF in the market segments using a scale of 1 (not important) to 7 (extremely important). Kaplinsky et al., (2002) argued that it is important to clearly define the scaling points otherwise the respondents will rarely use the bottom of the range. To allow for comparison across segments, the researcher employed the same CSFs for all the segments. The responses generated were then plotted on a radar chart using Microsoft Excel. This

schematic provides a picture of respondents' preferences and highlights the multiple characteristic natures of modern markets.

The challenge of present day value chain analysis is that markets have become more heterogeneous, competitive and in most cases, the potential to supply has outweighed the effective demand. The fundamental market aspects looked at in the study included appreciation and observations that:

- ❖ The markets are highly segmented with unique characteristics.
- ❖ These characteristics of the market are termed CSFs. In most markets, the factors include price, quality, branding and flexibility. The study was guided by some of these factors.
- ❖ Markets are also increasingly changing rapidly in response to global developments.
- ❖ The CSFs in each market can be grouped into "order qualifying" (basic requirements for a particular market) and "order winning" (these lead certain firms to succeed by for example by premium pricing) clusters.

MATERIALS AND METHODOLOGY

Study Area

The present study was conducted in Lusitu located approximately 152.4 km south of Lusaka, in Southern Zambia. The study area has a mountainous landscape, lying about 950 meters above sea level. It experiences adverse Savanna climate with average annual rainfall less than 450mm and characterised by a climate averaging temperatures of 29 Degrees Celcius. This limits agricultural activities making farmers concentrate on small grain crop production and keep a substantial number of goats with some notable patches of cattle. The area is dominant in sorghum and pearl millet production.

RESEARCH DESIGN

Sampling

The present study focused on the sorghum-based stockfeed VC final markets in Lusitu. Lusitu was conveniently selected from the Chirundu District since it is a DONATA/IPTA project area where the farmers have practiced sorghum production and marketing for a long time. Units considered were sorghum- stockfeed retailers and consumers. These were sampled using a multistage approach Fifteen (15) retailers and twenty five (25) consumers were selected using the snowball technique (Babie, 1998). Questionnaires and Focus Group Discussions were used in getting primary data from the research units.

Data Management

In this study, both primary and secondary data sources were obtained. Data were entered in The Statistical Package for Social Science (SPSS) and Microsoft Excel computer programs for processing.

RESULTS AND DISCUSSION

Findings of the CSF analysis revealed the factors considered important in determining the success of the businesses in the sorghum-stock feed value chain. The analysis was done for both consumers and end market retailers.

Critical Success Factors in Small and Large Sorghum-Based Stock Feed Markets in Zambia

Results from the study of final markets reveal that small and large consumers have different expectations from the suppliers (Figure 4). In the present study the small consumers include those individuals who consume less than 5 bags per week. Large consumers are those who consume beyond 5 bags of stock feed per week. These were identified to be usually involved in larger projects such as piggery and large scale broiler production. Livestock contracting companies constituted the greater of this category in the study area.

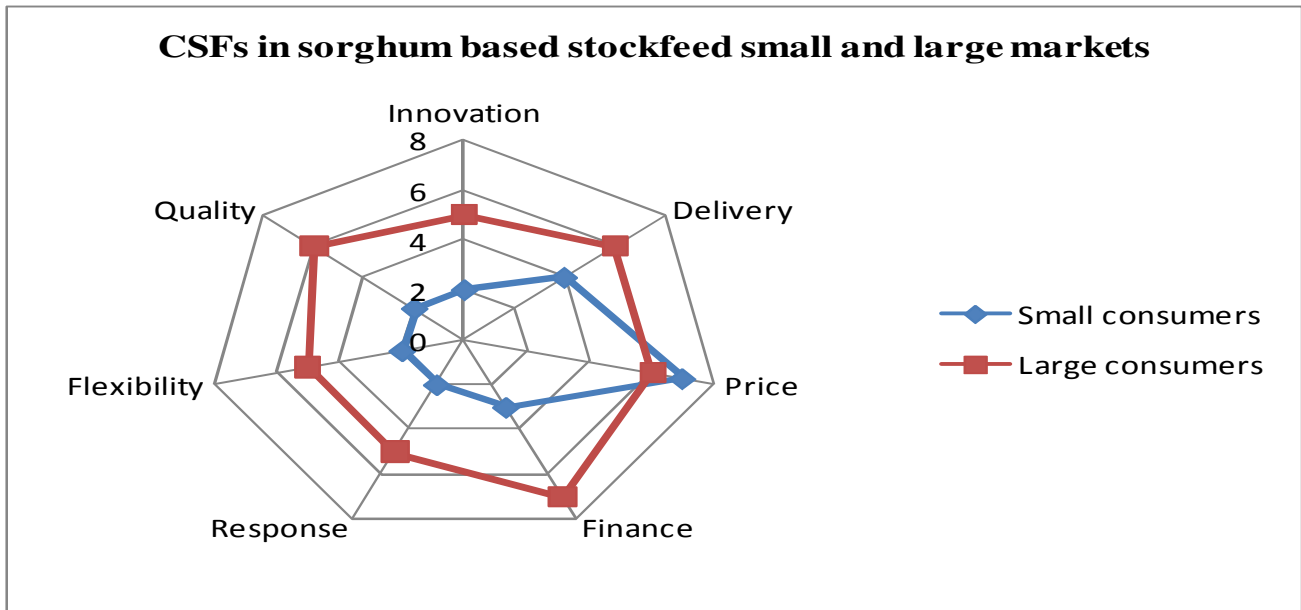


Figure 4: Critical Success Factors in Small and Large Sorghum Based Stock Feed Consumption Markets

Small consumers are mainly concerned with the prices while the large consumers aspire for quality (6) price (6), delivery reliability (6) and provision of financial support (7). The demand exerted by large consumers arises from the nature of their projects in which for example erratic delivery of inadequacy of financing arrangements will compromise their profits due to unforeseen losses. This was also evidenced in a report by World Bank (2008) in Malawi where the marketing of sorghum in different markets was influenced by different factors depending on scale and proximity to the supplier. Since small consumption usually entails a smaller fraction of the budget allocation towards a number of products in an evoked set, the main determinant is the price (Erickson

et al., 2002). SMEPS and KIT. (2009) however, noted slight variations in the success factors across different Value Chains such as fish and honey as well as wheat and oat in Yemen.

Supplier and Buyer Perceptions Critical Success Factors in Sorghum-Based Stock Feed Sector of Zambia

As shown in Figure 5, suppliers place much emphasis on conformance to buyer specifications as a sign of competence whereas buyers are more concerned with credit facilities and flexibility.

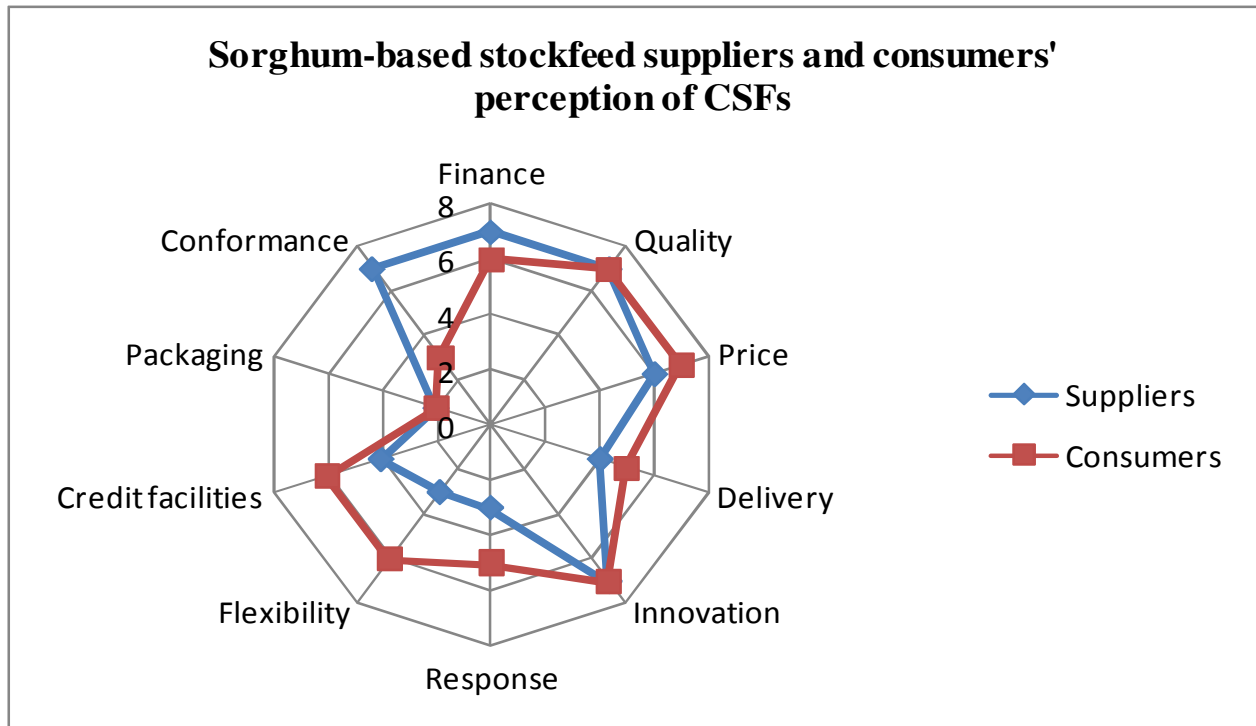


Figure 5: Supplier and Buyer Perceptions Critical Success Factors in Stock Feed Sector of Zambia

In most markets, there has been too much competition on price but there is a renewed need for a trade-off between price and quality as shown above. De Klerk, (2007) reported similar findings for start up farmers in South Africa who were assisted by social networks in the success of their businesses. He also argued that innovation was the driver of business success in globalised economies as it has a direct relationship with quality products in the market. The present study findings concur with Hancock, (undated) who in his study reported that technology transfer was instrumental in improving the quality of grain in the poultry industry. Though Gereffi et al., (2005) argue that the existence of relational Value Chains is based on the non-existence of standardizing procedures, the adherence to standards determine the success of most businesses. The latter view was supported by Schimitz (2005) who reported the need to develop information-intensive linkages between the expectations of the consumer and supplier. USAID (2009) observed similar findings in Malawi.

CONCLUSION AND RECOMMENDATIONS

Results from the study of final markets reveal that small and large consumers have different expectations from the suppliers. Small consumers are concerned with the prices while the large consumers aspire for quality, price, delivery reliability and provision of financial support. Suppliers place emphasis on conformance to buyer specifications as a sign of competence whereas buyers are more concerned with credit facilities and flexibility.

Based on the results obtained, the following policy recommendations are made:

- Since traditionally in most markets, there has been high competition on prices but there is therefore a renewed need for a trade off between price and quality. This calls for investment in efficient systems which reduce the cost of production (and ultimately price) while producing high quality products to meet the expectations of consumers in the final market.
- There is also need to coordinate efforts with financial institutions at all levels so as to provide credit facilities to grease the value chain.
- Further studies to unpack more intricate relationships amongst the noted variables using modelling equations can be useful in achieving this.

COMPETING INTEREST

I declare that amongst all the three authors there are no competing interests.

AUTHORS' CONTRIBUTIONS

1. Mr Joseph P. Musara. He is the primary researcher and author. He did the data collection, analysis and drafting of the manuscript.

2. Dr Lighton Dube. Is the main supervisor and mentor. Assisted in the research design, data analysis, review of manuscript and is also the corresponding author.
3. Dr Joyce Bediako. Is the co-supervisor. Assisted in research design, review of data collection instruments and draft manuscript.

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