DETERMINANTS OF PERFORMANCE OF GROUP OWNED ENTERPRISES IN THE DAIRY INDUSTRY IN TRANS-NZOIA COUNTY

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ABSTRACT

In Kenya, the SME sector is considered as one of the major contributors to the economy by providing income and employment to a significant proportion of the population. Group owned SMEs are a component of social entrepreneurship initiatives and they create economic value for the organization, beneficiaries and partners in the form of earned income, economic attainment, wealth creation and capital accumulation. However these groups face a number of challenges in terms of their performance and sustainability. The purpose of this study is to examine the determinants of performance of group owned enterprises in the dairy industry. The objectives of the study will be to explore the influence of technology and access to markets on the performance of group owned enterprises in the dairy industry. The study focused on dairy group enterprises under the Smallholder Dairy Commercialization Programme (SDCP) in Trans-Nzoia County. The study adopted a quantitative and qualitative descriptive survey research design. The population consisted of 61 dairy groups benefiting from SDCP interventions in Trans-Nzoia County. Stratified and systematic sampling techniques were used to select the sample of 11 dairy groups that participated in this study. Data was collected through desk research and by administering questionnaires to the dairy groups in the targeted group. The data was analyzed by using both descriptive statistics such as the mean, frequencies and standard deviation; and inferential statistical techniques such as multiple regression analysis. The STATA analytical software was used in the analysis process. The study established that the group owned enterprises had adopted new technologies that they had learnt. Technological innovation influenced positively the performance of group-owned enterprises in the dairy industry in Trans-Nzoia County. The study also found out that the group owned SMEs marketed their business thus improving their performance. The study concluded that the adoption of technology and market access enhance the performance of group owned SMEs. The study recommends that the County government of Trans-Nzoia should invest more in technology and provide linkages with export markets.

Key Words: *Performance, Group Owned Enterprises, Dairy Industry*

INTRODUCTION

SMEs have been recognized to be a major contributor to the economy of many countries. The OECD (2005b) reports that more than 95% of enterprises in the OECD area are SMEs. These enterprises account for almost 60% of private sector employment, make a large contribution to innovation, and support regional development and social cohesion. Also in low-income countries, the SME sector makes a critical contribution to GDP and employment. SMEs in low income countries contribute to 16% of GDP and 78% of total employment. SMEs contribute to 51% of GDP and 66% of total employment in high income countries. Regardless of the degree of development and standard of living of the population of a state, SMEs are the biggest contributors to the gross domestic product. In countries like Japan or China, 60% of GDP comes from SMEs, in the USA that percentage goes up to 65%, and in the EU SMEs generate 52% of GDP.

In Kenya, the SME sector is considered as one of the major contributors to the economy by providing income and employment to a significant proportion of the population (Ngugi & Bwisa, 2013). The Kenya Economic Survey report (RoK, 2009) shows that the SME sector contributed 79.8% of new jobs created in the year. In 2012 the SME segment contributed over 80% of the country's employment with majority of new jobs being created in that sector (430,000 out of 503,000 new jobs created in 2011) and about 70% to the country's GDP (RoK, 2012). According to Kenya Economic Survey (RoK, 2014), out of the total 742,800 new jobs created in Kenya in the year 2013, SMEs created 625,900 of them. This was 84.3% of the total new jobs created in Kenya that year.

Agriculture is an important sector of the Kenyan economy, constituting about 25.3% of GDP. Livestock contributes 4.9% of total and 19.3% of agricultural GDP (RoK, 2014). The Dairy industry in Kenya contributes to the livelihoods of the many people engaged throughout the value chain and to the nutritional well-being of many rural communities. According to UNDP (2006) report, 70% of population is rural and 50% is classified as agricultural self-employment. Within agriculture, dairy plays an important role as a contributor to GDP and an important source of livelihood for a huge portion of Kenyan rural population. Calculated at international prices, cow milk is the most significant agricultural commodity for Kenya (FAO, 2007). According to government statistics cow milk volumes rose from 2.2 billion liters in 2000 to 3.7 billion liters in 2012 (KDB, 2014). Current estimates indicate that 55% of milk produced in the country is marketed through formal and informal channels, but only 20-30% of that marketed milk goes through the formal channels. 10.5% is consumed by calves and 34.5% is consumed on farm (Technoserve, 2008). According to SDP (2005), the number of smallholder dairy farms is estimated to be about 1.8 million. Most of them combine dairy production with maize, or other cash crops. ILRI estimates that about 40% of their income comes from dairy. In addition to being an important source of recurrent revenue, cattle are also an important asset investment providing non-recurrent income (from selling cattle or meat). Income from dairy is also the only year-long recurrent revenue from agriculture, though revenue flows do fluctuate with seasons. Most of the dairy production is concentrated in Rift Valley and Central Province. 53% of dairy cattle are found in Rift Valley and 25% in Central Province (Land O' Lakes, 2008). From here milk moves either to milk deficient areas or to Nairobi and other urban areas. Almost all Kenyan production goes to satisfy local demand.

Statement of the Problem

Social entrepreneurship initiatives (SEIs) create both economic and social value. Social value manifests itself as benefits to society in the form of work, employment, community, self-respect, and personal development (Southern, 2000). Similar to the outcomes of a commercial enterprise, social entrepreneurship initiatives create economic value for the organization, beneficiaries and partners in the form of earned income, economic attainment, wealth creation and capital accumulation. Earned income represents financial benefits that are generated for services, programs, or products provided by a SEI. At the same

time, through the services, programs or products offered by a SEI, often the beneficiaries are able to enhance their own wealth.

In the poor rural communities, the bases for entrepreneurship are challenging. There is lack of support services which prevent entrepreneurs to grow their business skills and expand their social and institutional capabilities (Torri, 2009). Even more, only few communities have all the resources needed to initiate and maintain sustained development. Therefore, due to the constraints it is necessary to consider how it is possible to gain access to external resources while retaining and building on local resources and advantages. This calls for collaboration between the local community and development partners. The government of Kenya in the recent past has been advocating for private public partnerships in order to promote entrepreneurship. One such initiative is the SDCP, a joint development programme between the Government of Kenya and IFAD with an emphasis on commercialization of dairy and dairy products through the MODE approach. International development partners have been involved for long in many projects in Kenya especially in those related to poverty alleviation. However, these projects have been known to fail once the development partners pull out of the project. In spite of the introduction of group owned SMEs as a means of social and economic development, very few of them transcend into the economic domain. Most of them are still embedded in traditional functions and have not taken off on an entrepreneurial path (Wanjala et al 2014). The dairy groups in Trans-Nzoia have not been performing well as compared to those of other counties. This study therefore sought to determine the causes of the poor performance by analyzing the performance of group owned enterprises in the dairy industry in Trans-Nzoia County.

Several studies have been carried out in Kenya focusing on the performance of group owned SMEs. Some of the studies show that some group owned SMEs perform well while others perform poorly. Okungu (2012) conducted a study on the factors influencing performance of youth group SMEs in Kisumu West district, Kisumu County and found out that most of them performed well in the first three years. Makanda (2012) carried out a study on the factors that influence small enterprise development among youth groups in Kenya and found out that they performed poorly. This study therefore sought to identify the reasons why some group owned SMEs performed well while others performed poorly by examining the determinants of performance of group owned enterprises in the dairy industry in Trans-Nzoia County. This study sought to answer the following questions: What is the influence of technological innovation on the performance of group owned enterprises in the dairy industry in Trans-Nzoia County? To what extent does the accessibility of markets influence the performance of group owned enterprises in the dairy industry in Trans-Nzoia County?

Objectives of the Study

The general objective of the study was to examine the determinants of performance of group owned enterprises in the dairy industry in Trans-Nzoia County. The study sought to achieve the following specific objectives: To determine the influence of technological innovation and accessibility on the performance of group owned enterprises in the dairy industry in Trans-Nzoia County.

Research Questions

1. What is the influence of technological innovation on the performance of group owned enterprises in the dairy industry in Trans-Nzoia County?
2. What extent does the accessibility of markets influence the performance of group owned enterprises in the dairy industry in Trans-Nzoia County?

Scope of the Study

The scope of the study was on group owned enterprises in the dairy industry and the factors that influence their performance. The study limited itself to dairy group enterprises under the Smallholder Dairy Commercialization Programme (SDCP). A sample of the

groups was drawn from the study population of the dairy group enterprises in Trans-Nzoia County. This study took one month.

LITERATURE REVIEW
Theoretical Framework
Sociological Entrepreneurship Theory

Sociological entrepreneurship focuses on the social context. In other words, in the sociological theories the level of analysis is traditionally the society (Landstrom, 1998). Reynolds (1991) has identified four social contexts that relates to entrepreneurial opportunity. The first one is social networks. Here, the focus is on building social relationships and bonds that promote trust and not opportunism. In other words, the entrepreneur should not take undue advantage of people to be successful; rather success comes as a result of keeping faith with the people. The second he called the life course stage context which involves analyzing the life situations and characteristic of individuals who have decided to become entrepreneurs. The experiences of people could influence their thought and action so they want to do something meaningful with their lives. The third context is ethnic identification. One's sociological background is one of the decisive "push" factors to become an entrepreneur. For example, the social background of a person determines how far he/she can go. Marginalized groups may violate all obstacles and strive for success, spurred on by their disadvantaged background to make life better. The fourth social context is called population ecology. The idea is that environmental factors play an important role in the survival of businesses. The political system, government legislation, customers, employees and competition are some of the environmental factors that may have an impact on survival of new venture or the success of the entrepreneur.

Entrepreneurs require information, capital, skills, and labor to start business activities. While they hold some of these resources themselves, they often complement their resources by accessing their contacts (Hansen, 1995). The contacts that lead to successful outcomes are their social capital and they are a key component of entrepreneurial networks (Burt, 1992). Social capital is the set of tangible or virtual resources that accrue to actors through the social structure, facilitating the attainment of the actors' goals (Lin, 1999). By this they include contacts that help them getting things done. These are people the actor knows, or who are known by others that the actor knows. When the entrepreneurs' contacts contribute to their entrepreneurial goals, these social contacts are their social capital (Burt, 1992). The contacts are often informal work and non-work connections. These relations may extend across professional networks, reaching friends, and colleagues from earlier jobs. Entrepreneurial networks span relations to organizations, clusters of firms, as well as to other people that help them set up the firm (Hansen, 1995). Networks have several useful properties for entrepreneurs. The first is size. Entrepreneurs can enlarge their networks to get crucial information and other resources from knowledgeable others. The next is positioning. Entrepreneurs position themselves within a social network to shorten the path to knowledgeable others to get what they need (Blau, 1977). Finally is relationship structure. Social contacts may be related to the entrepreneur or to each other through several types of relations or interactions. In single stranded relations, each person performs only one activity with the entrepreneur and is related to that person through only one type of relation. Multiplex ties, in contrast, have several layers of different content or types of relationships (Scott, 1991). They may play numerous roles in the entrepreneur's support group. Researchers pay special attention to the contribution of multiplex ties to entrepreneurship. They especially note that social network members can contact and organize themselves, expanding the opportunities they make available to the entrepreneur. Over time, entrepreneurs accumulate social capital, which is crucial for starting a new business (Hansen, 2001).

The sociological entrepreneurship theory can apply to the formation and growth of group owned enterprises. Group owned enterprises can form networks in their

locality and partner with other development partners and the government to create enterprises. Most people in the rural areas of Kenya are poor and this can drive them to form groups that enhance entrepreneurship to alleviate poverty. The Kenyan government has provided a good environment to do business in Kenya through policies and laws. Recently it introduced a 30% consideration of youths and women in the government tenders. Most of the youths and women in Kenya are members of self-help groups and can harness this opportunity to promote entrepreneurship.

Resource-Based Entrepreneurship Theories

The Resource-based theory of entrepreneurship argues that access to resources by founders is an important predictor of opportunity based entrepreneurship and new venture growth (Alvarez & Busenitz, 2001). This theory stresses the importance of financial, social and human resources (Aldrich, 1999). Thus, access to resources enhances the individual's ability to detect and act upon discovered opportunities (Davidson & Honing, 2003). Financial, social and human capital represents three classes of theories under the resource-based entrepreneurship theories.
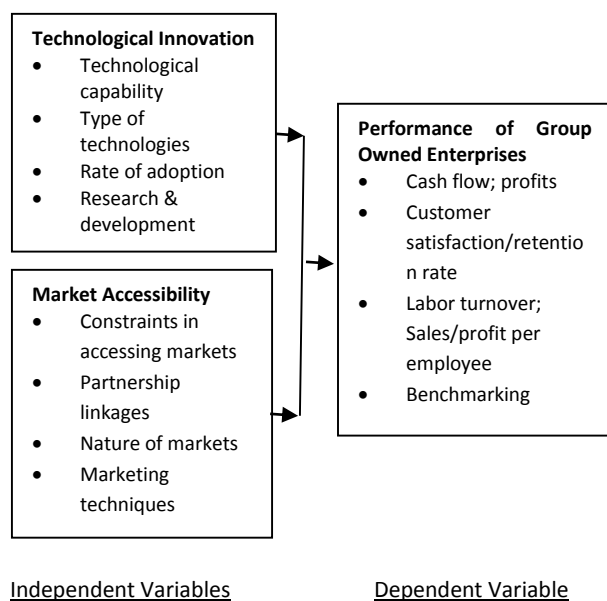
Conceptual Framework

Independent Variables   Dependent Variable

Figure 1: Conceptual Framework

a) Technological Innovation

Technological innovation pertains to products, services and production process technology; it is related to basic activities and can concern either product or process (Lin & Wang, 2009). We can, therefore, assume that technological innovations (outcomes) are the result of product/process development activities and market development/service improvement activities. An introduction of a new or significantly improved good or service is defined as product innovation (OECD, 2005). Product innovation can be achieved through utilizing the new or existing knowledge or technologies. However, various factors such as advance technologies, customer needs change, short product life cycles and global competition increase may cause the product innovation to be a difficult process. Communication within the firm, between the firm and its customers and suppliers is an essential step to be successful in product innovation (OECD, 2005a).

SMEs tend to have low productivity which is the result of using in advanced technology, not maximizing machinery utility and not improving in technology due to limitation of funding (OSMEP, 2007). SMEs do not know where to look for information regarding technology, how to choose the right option and many look at what their competitors buy and copy them. In addition, SMEs have limited resources and do not afford to invest in new technology.

According to the study conducted by Oke (2007), the success of product/service innovations can be achieved through the improvement of processes. In addition, marketing and product innovation are positively related. Both have effect on each other. For example, when the level of the marketing innovation is high, the level of the product/service innovation is also high. Firms will attempt to develop products in a shorter time or respond quickly to the new product introduced by their competitors in order to overcome the competitive threat. This leads to competitive advantage increase. Firm financial performance can be improved through innovation such as the ability to respond quickly to

market forces, develop and launch new products with a lower lead time (OECD, 2005).

López-Mielgo et al. (2009) reported that process innovations exert a positive influence on the total quality management efforts of the organizations. Beside the speed and quality aspects, innovative performance is also related to the two other elements of production performance; namely, flexibility and cost efficiency. Success in the renewal efforts especially in administrative mechanisms, production processes, and new products can contribute extensively to the dissemination of knowledge and effectiveness of coordination within the organization, which are necessary for operational flexibility and decreased related costs (Koufteros & Marcoulides, 2006). In this regard, Liu et al. (2009) confirm in an empirical study the positive relationship between operational flexibility and new product success. As for the production cost reduction effects, Peters (2008) purports that not all the process innovations lead to cost savings, but some do and allows the organization to market products at competitive prices. Therefore, we can argue that the production performance, which is the combination of the achievements in such performance indicators as speed, quality, flexibility, and cost efficiency, is positively affected by the innovative performance.

TC contributes to the export performance of SMEs at the firm level. This is supported by the study of Karadeniz and Göçer (2007) in Turkey and that of Kongmanila and Takahashi (2009) in Lao Republic. Chantanaphant et al (2013) indicate that SMEs require certain levels of TC in order to engage themselves into international market. The more they adopt technological knowledge that they have acquired and absorbed into their processes and product development, the more likely they are able to penetrate into existing foreign market. However, this does not guarantee their international success if they are lack of competitive advantages (López-Rodríguez and García-Rodríguez, 2005). Only when they have started to export and accumulated experience, the export process as a result of technological spillovers

within the industry allow it to improve its TC at the firm level and hence its competitiveness. This positively affects its export intensity.

b) Market Accessibility

SMEs face challenges to gain access to both the domestic and export markets, but the challenges involve different sets of issues. SMEs seem ill equipped to embrace opportunities presented while confronting challenges of globalization. Globalization offers SMEs Opportunities to participate in the regional and international markets while internationalization presents opportunity for growth and development beyond the local market. Access to global markets can also offer a host of business opportunities, such as new niche markets; possibilities to exploit economies of scale, scope, volume and technological advantages; the upgrading of technological capability; ways of spreading risks; lowering and sharing costs, including R&D costs; and in many cases, affording improved access to finance. However globalized production by multinationals presents new threats in form of increased competition (Kaushalesh & Peedoly, 2006). Limited access to global markets denies SMEs significant opportunities confining them to saturated local markets whereas internationalization is necessary for their survival and expansion. Barriers that limit SME internationalization include limited information on foreign markets and technology, lack of managerial skills, limited knowledge, limited resources to finance exports, inefficient transactions and limited product and service quality to meet customer requirements (OECD, 2010).

Different strategies exist for improving market access of which the use of ICT is one. Potential benefits of ICT to SMEs include enhancing efficiency, reducing costs and broadening the market both locally and globally, empowering SMEs to participate in the knowledge economy by facilitating connectivity; helping to create and deliver products and services on a global scale and providing access to new markets (Chyau, 2005). ICT offers SMEs flexibility in trading by enabling 24 hours of trading, borderless market space and leverage SMEs to compete against larger enterprises on the same

platform. In addition, ICT facilitates remote access to knowledge, suppliers and a borderless environment, offering SMEs the ability to deliver products and services on a different platform that is easily accessible. ICT can be used to reduce barriers of entry into different market segments exposing SMEs to a wider customer base (Lloyd & Kroeze, 2008). Mutula & Van Brakel (2006) noted that ICTs, especially the internet, have a significant impact on the operations of SMEs by facilitating their access to global markets, enabling them to sell to international customers, and to compete favorably with large corporations. ICT can enable SMEs to participate in the regional and international markets which are strategic for competitiveness, growth and further development (Ramsey et. al., 2003). Internet based technologies provide small firms the Opportunity to effectively overcome the limitations of size and compete and/or in larger markets with bigger sized establishments. There is some evidence to suggest that the Internet has increased international opportunities for SMEs (Hanna, 2010).

Empirical Review

Ngugi and Bwisa (2013) studied 25 group owned enterprises to empirically determine factors influencing the growth of group owned SMEs under the one village one product enterprises. The study adopted quantitative and qualitative exploratory research design. Data was collected through desk research, interview and by observation. The research found out that the adoption of technology, good quality of products, accessibility of finance and availability of markets influenced the growth of group owned SMEs.

Njuki et al (2013) did a study to investigate the factors that affect performance of youth group income generating projects in Kenya. The study used an exploratory research design and a total of 35 youth groups were sampled for the study. The data was collected from primary and secondary sources. The findings indicated that well focused training programmes, adequacy of operational funds, availability of external funding support and the nature

of projects or activities performed by the youth group enterprises greatly affected the overall performance of the groups in their key operational scope.

Critique of the Existing Literature

Most of the literature reviewed on market access emphasized the importance of internationalization. Inadequate information on foreign markets is one of the barriers that limit SME internationalization (OECD, 2010). However, an understanding of the specific knowledge SMEs need to internationalize to developing economies and how this knowledge acquisition can take place is necessary. SMEs should know what knowledge is required in different situations and different settings connected with internationalization, and where to seek this knowledge. An example of this type of knowledge is the knowledge possessed by the exporter about how to market the firm's products and services abroad. This knowledge of exporting procedures could be considered an important part of the internationalization knowledge as it enables the firm to deal with exporting procedures such as financing, shipping and forwarding or processing paperwork.

Research Gaps

Some of the studies reviewed focused on the importance of innovation on the financial performance of an enterprise (OECD, 2005). This reveals a research gap in the overall performance of the organization which includes other indicators. The current literature puts much emphasis on the global markets and forgets the local markets (OECD, 2010). This study will therefore try to focus on access to markets in the local context. SMEs still face obstacles in accessing finance and this inhibits their performance (Cassar and Holmes, 2003; Berger and Udell, 2006). However, these studies did not seek to examine the influence of finance on the performance of group owned SMEs, hence the need for this study. The importance of training in the SME sector was also emphasized in the literature (Botha, 2006; Solomon, 2004; Garavan, 2008; Kuene, 2008). These studies were mainly conducted on determinants and demands of training in the sector and they revealed

research gaps relating to the entrepreneurial training and SME performance. This study attempts to combine both entrepreneurial training and the performance of the SME sector and their outcomes.

RESEARCH METHODOLOGY
esearch Design
This study adopted a descriptive survey research design. Descriptive statistics was used to analyse the variables of the study in order to gather insights on the performance of group owned SMEs in the dairy sector.

Target Population
The target population for this study was the 61 dairy groups benefiting from SDCP interventions in Trans-Nzoia County. SDCP is a joint development programme between the Government of Kenya and International Fund for Agricultural Development (IFAD) with an emphasis on commercialization of dairy and dairy products through the Market Oriented Dairy Enterprises (MODE) approach.

Sampling Frame and Sampling Techniques
The sample was drawn from the population which in this case they were the 61 dairy groups benefiting from SDCP interventions in Trans-Nzoia County. The sampling frame was therefore the list of all dairy groups in Trans-Nzoia County that are under the SDCP initiative.

The sample size for this study was 11 groups who were selected from the 61 SDCP dairy groups in Trans- Nzoia County.

Sampling Techniques
Stratified random sampling was used to select the number of dairy groups to be studied. The systematic random sampling procedure was preferred because this concept allows unbiased sampling and accords the research work more scientific feature thereby making the validity of the research findings more concrete. A list of the names of the groups were obtained and numbered. A random start was identified and every 6th group on the list was selected until the desired 11 groups were reached.

Data Collection Instruments
This study used both quantitative and qualitative data from primary and secondary sources. Primary data was collected by use of questionnaires which included both structured and semi-structured questions that were administered to the members of the dairy groups. The questionnaire comprised of open-ended, closed-ended and likert-type scale questions. The selection of these tools was guided by the nature of the study, the time available as well as the objectives of the study. The study collected data on views, attitudes, opinions and perceptions of respondents.

Data Analysis and Presentation
The data collected was analyzed by using both descriptive and inferential statistical techniques. Descriptive statistics, according to McClave and Sincich (2003), utilizes numerical and graphical methods to look for patterns in a data set, to summarize the information revealed in a data set and to present the information in a convenient form. The main descriptive statistical analysis techniques that were used are arithmetic mean, the frequencies and standard deviation. The Likert type scale was used. In addition, a multiple regression analysis was conducted in order to examine the determinants of performance of group owned enterprises in the dairy industry in Trans-Nzoia County. The STATA analytical software was used for this purpose. Regression analysis was used to predict the value of the dependent variable on the basis of the independent variables. The multivariate regression equation was:

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Whereby y=Performance of Group Owned Enterprises

X_1 =Technological Innovation

X_2 =Market Accessibility

ε = Error term/Erroneous variables

For the qualitative data processing and analysis, the content analysis technique was undertaken as an activity simultaneous with data collection.

Presentation of data from descriptive statistics was done in the form of percentages and frequency tables. Data from qualitative analysis was presented in the narrative form in relation to the variables of the study. These included the summary of findings, direct quotations and implications of the results

FINDINGS AND DISCUSSION
Response Rate
The study targeted the 11 SDCP dairy groups as the sample size for the study. However, only 9 groups completed and returned the questionnaires giving a response rate of 82% which is excellent in research.

Demographic Information of the Respondents
This section provides the background of the study findings and hence looks at the physical location of the group, age of the group enterprise, number of group members, gender of the members, age of the members and finally the level of education of the members.

To determine the physical location of the group owned enterprises, the researcher asked the respondents to state where their enterprises were located in regard to the dairy commercialization area. They were also asked to state the number of members in their SDCP dairy groups. According to the findings most of the SDCP groups are in Kiminini (44.44%) followed by Waitaluk (33.33%) and finally Endebess (22%). On the membership, Kiminini has the highest number (42.73%), Endebess has 34.45% while Waitaluk has 22.82%. This implies that it is not a must for the groups to be many but the groups can be few but with a high membership and still perform well.

The study sought to establish the number of years the respondents have being in business. From the research findings 11.11% had being in operation for less than 2 years, 22.22% for 3-5 years, majority (33.33%) for between 6-8 years, 22.22% for 9-11 years, and 11.11% for more than 11 years. These findings show that the respondents had operated in the market for different period ranging from less than 2 years to more than 11 years. These findings show that the respondents had

operated their business within the market for a long period hence are more informed on the factors affecting SMEs performance.

Data was sought on whether respondents were males or females. This was done to ascertain that respondents were normally distributed between the two genders because in this study, none of the gender was given preferential consideration in the selection of respondents. Respondents were therefore asked to indicate their gender. The findings showed that majority of the respondents were females (51.45%) while males were 48.55%. Waitaluk and Kiminini had almost an equal distribution of males and females. Endebess had a high number of males (21.7%) as compared to the females (12.75%). This could be attributed to the fact that Endebess is a rural area and most of the resources including cattle are owned and controlled by males. Kiminini and Waitaluk can be considered as peri-urban areas and that is why they have incorporated more women in their group enterprise.

In the questionnaire, the researcher asked the respondents to indicate the age bracket in which they fall. The study showed that the majority of the respondents were between the ages of 45-55 (36.9%) and 25.9% were above 55 years. 13.9% of the respondents were between 26-34 years, 19% were in the age bracket of 35-44 years while 4.25% of the respondents were in the ages of 18-25. The age of the respondents was important as different age groups have different challenges in operating their businesses. Young entrepreneurs may not be having enough experience and capital to grow their businesses as opposed to the aged ones.

The respondents were asked to indicate their level of education. Respondent's level of education was considered important in this study since firms run by the highly educated have higher growth probabilities than those run by less educated ones. From the findings, majority of the respondents (50.8%) indicated that they had secondary level of education, 19.7% had

college education, 14.1% had primary level, 9.6% had no level of education and 5.8% had university education. These findings show that the respondents had attained different levels of education. These findings imply that first, running a small firm is argued to be a less attractive choice to wage work particularly for the highly educated due to lower earnings prospects, less stable stream of earnings and the cultural tradition of working in large corporations. Second, the highly educated face a higher outside demand for their labour than the less educated during economic upturn.

Study Variables

a) Technological Innovation

This study investigated the influence of technological innovation on the performance of group owned enterprises in Trans-Nzoia County. This was done by analyzing the type of new technologies that they had learnt and adopted as a result of SDCP. The respondents were also asked to state the extent to which technology and innovation factors had influenced the performance of their enterprise.

Type of New Technologies Learned and Adopted

The respondents were asked to state the type of new technologies that they had learned and adopted as a result of SDCP. From the study findings, 88.9% of the groups had adopted animal husbandry, 55.6% adopted silage/hay making, 44.4% adopted milk preservation while 11.1% adopted value addition. This implies that the groups adopted the technologies that were relatively cheap. Only 4 groups had cooling plants which they had received as a grant from the ministry of livestock. The costs of acquiring a cooling plant are very high and thus the other groups could not afford.

Influence of Technology and Innovation on the Performance of the Enterprise

The respondents were asked to state the extent to which technology and innovation factors influenced the performance of their enterprise. This was done by use of a five point likert scale where 1= Very great extent,

2= Great extent, 3= Moderate extent, 4= little extent and 5= not at all. The results are shown in table 1.

Table 1: Means and Standard Deviations of influence of technology and innovation on the performance of the enterprise

No	Item	Mean	Std Dev.
9a	Low productivity due to using inefficient technology	3.50731	0.4595077
9b	Not maximizing machinery utility	2.482456	0.4820163
9c	Not improving in technology due to the limitation of funding	4.868421	0.3395249
9d	SMEs are mainly users of technology, not adaptors of technology	3.859649	0.9395649
9e	New investments in new technology	4.701754	0.9395649
9f	Building up existing capacity and to improve the quality and productivity of production	4.742105	0.573446
9g	Development of higher value-added products that will improve the competitiveness for firms	4.359649	0.6115003
9h	Quick responses to customer demands	3.938596	1.184599
9i	Bringing together different types of research	4.036842	0.8015762
9j	Utilizing knowledge to design new products	2.289474	0.9931062.
9k	New research and development investments	2.289474	.9931062

Composite Mean = 3.57863
Composite Standard Deviation = 0.42134

Item 9a sought to establish to what extent low productivity due to use of inefficient technology influences business performance. The mean score was 3.50731 while the standard deviation was 0.4595077. This result indicates that the majority of the respondents agreed that low productivity due to using inefficient technology influences the performance of a business to a great extent. Item 9b sought to establish to what extent lack of maximizing machinery utility influences the performance of business. The mean

score was 2.482456 while the standard deviation was 0.4820163. This result indicates that majority of the respondents agreed that lack of maximizing machinery utility influence the performance of the business to a great extent. Additionally, item 9c sought to establish to what extent lack of improvement in technology due to the limitation of funding influence the performance of business. The mean score was 4.868421 while the standard deviation was 0.3395249. This result indicates that the majority of the respondents agreed that failure to improve in technology influences business performance to a very great extent. Item 9d sought to establish to what extent SMEs are users of technology, and not adaptors of technology. The mean score was 3.859649 while the standard deviation was 0.9395649. This result indicates that, to a great extent, SMEs are users of technology, and not adaptors of technology. Item 9e sought to establish to what extent new investments in new technology influence the performance of a business. The mean score was 4.701754 while the standard deviation was 0.9395649. This result indicates that new investments in new technology influence the performance of a business to a very great extent. Item 9f sought to establish the extent to which building up existing capacity and improving the quality and productivity of production influences business performance. The mean score was 4.742105 while the standard deviation was 0.573446. Majority of the respondents agreed that building up existing capacity and improving the quality and productivity of production influence business performance to a very great extent.

Item 9g sought to establish to what extent business performance is influenced by development of higher value-added products that improve the competitiveness for firms. The mean score was 4.359649 while the standard deviation was 0.6115003. This result indicates that business performance is influenced to a very great extent by development of higher value-added products that improve the competitiveness for firms. Item 9h sought to establish to what extent business performance is influenced by quick responses to customer demands. The mean score

was 3.938596 while the standard deviation was 1.184599. This result indicates that the majority of the respondents agreed that business performance is influenced by quick responses to customer demands to a great extent. Item 9i sought to establish to what extent business performance is influenced by bringing together different types of research. The mean score was 4.036842 while the standard deviation was 0.8015762. This result indicates that the majority of the respondents agreed that business performance is influenced to a very great extent by bringing together different types of research. Item 9j sought to establish to what extent business performance is influenced by utilizing knowledge to design new products. The mean score was 2.289474 while the standard deviation was 0.9931062. This result indicates that the majority of the respondents disagreed that business performance is influenced by utilizing knowledge to design new products. Additionally, Item 9k sought to establish to what extent business performance is influenced by new research and development investments. The mean score was 4.289474 while the standard deviation was 0.9931062. This result indicates that the majority of the respondents agreed business performance is influenced to a very great extent by new research and development investments.

The composite mean score for these items was 3.57863 while the composite standard deviation was 0.42134. In respect to the study, the implication of this result meant that the respondents agreed that technological innovation influences positively the performance of group-owned enterprises in the dairy industry in Trans-Nzoia County.

b) Market Accessibility

This study established the extent to which accessibility to markets influence the performance of group owned enterprises in the dairy industry in Trans-Nzoia County. It analysed market accessibility factors like marketing tools, capacities for market research and analysis, product diversity, linkages with export markets, capacity for e-commerce, Information asymmetry, High transaction costs, risks & competition.

Type of Marketing Tools

The respondents were asked to state which marketing tools they used to promote their enterprise. This is important because it enables the buyers to know what products the seller has in the market. From the findings, majority (44.4%) of the respondents indicated that promotion was their preferred tool for marketing. This was followed by advertising and packaging at 22.2%. Branding was the least preferred which stood at 11.1%. This implies that the business chose the marketing tool that was least expensive.

Market Accessibility Factors Influencing Business Performance

This study sought to determine to what extent various market accessibility factors influence the performance of their business. This was done by use of a five point likert scale where1= Very great extent, 2= Great extent, 3= Moderate extent, 4= Little extent and 5= Not at all. The results are shown in table 2.

Table 2: Means and Standard Deviations of various market accessibility factors influencing business performance

No	Item	Mean	Std Dev.
11a	Weak capacities for market research and analysis	4.429825	.9214196
11b	Narrow product diversity	4.201754	.9971626
11c	Poor linkages with export markets	3.657895	.8289982
11d	Weak capacity for e-commerce	3.877193	1.256067
11e	Imperfect markets due to Information asymmetry	3.675432	1.987644
11f	High transaction costs due to inefficiency, distance to markets and poor systems	4.65980	1.908765
11g	Vulnerability to risks & competition	2.798246	1.45845

Composite Mean = 3.792983
Composite Standard Deviation = 0.46723

Item 11a sought to establish to what extent weak capacities for market research and analysis influence business performance. The mean score was 4.429825 while the standard deviation was 0.9214196. This result indicates that the majority of the respondents agreed to a great extent that weak capacities for market research and analysis influence business performance. Item 11b sought to establish to what extent narrow product diversity influence business performance. The mean score was 4.201754 while the standard deviation was 0.9971626. This result indicates that majority of the respondents agreed to a great extent that narrow product diversity influence business performance. Item 11c sought to establish to what extent poor linkages with export markets influence business performance. The mean score was 3.657895 while the standard deviation was 0.8289982. This result indicates that the majority of the respondents agreed that poor linkages with export markets influence business performance to a very great extent. Item 11d sought to establish to what extent weak capacity for e-commerce influence business performance.The mean score was 3.877193 while the standard deviation was 1.256067. The result indicates that respondents agreed that weak capacity for e-commerce influence business performance to a great extent. Item 11e sought to establish to what extent imperfect markets due to information asymmetry influence business performance. The mean score was 2.798246 while the standard deviation was 1.45845. This result indicates that the respondents agreed to a little extent that imperfect markets due to information asymmetry influence business performance. Item 11f sought to establish to what extent high transaction costs due to inefficiency, distance to markets and poor systems influence business performance. The mean score was 3.787246 while the standard deviation was 0.88844. This result indicates that the respondents agreed to a moderate extent that high transaction costs due to inefficiency, distance to markets and poor systems influence business performance. Item 11g sought to establish to what extent vulnerability to risks & competition influence business performance. The mean score was 4.754326 while the standard deviation was 0.97882. This result indicates that the respondents agreed to a great extent that vulnerability to risks & competition influence business performance.

The composite mean score for these items was 3.792983 while the composite standard deviation was 0.46723. In respect to the study, the implication of this result meant that the respondents agreed that market accessibility factors influence business performance to a great extent.

Performance

The study sought to establish how the respondents measured performance of their enterprise. The following performance indicators were analysed: cash flow, profits, customer retention rate, customer satisfaction, employee turnover and benchmarking.

The respondents were asked to state their current cash flow of their enterprise. The results were that Majority (44.5%) of the cash flow of the group enterprises fell within the range of Ksh 11,000-20,000. 22.2% of the cash flow of the group enterprises were in the ranges of between Ksh. 0-10,000 and Ksh.21,000-30,000. These results imply that most of the businesses had enough cash flows to meet their daily business transactions.

The respondents were asked to state their average monthly profits of their enterprises. The results were that 66.7% of the profit of the group enterprises fell in the range of Ksh. 0-10,000; 22.2% had profits of between Ksh. 11,000-20,000 and 11.1% had profits between Ksh. 21,000-30,000. These results imply that the businesses are generating low profits despite them having a high cash flow. These businesses are not performing well as expected.

The respondents were asked to state the number of customers that they had. The results were that Majority (44.5%) of the enterprises had 21-30 customers, 22.2 % had 31-40 and above 50customers. Only 11.1% had 11-20 customers. These results imply that the businesses are not performing well because the numbers of customers are very few. A business needs to have many customers so as to increase sales and eventually profits.

The respondents were asked to state how they ensured that the customers were satisfied with their enterprise. The results were that 77.7% of the respondents measured customer satisfaction by looking at repeat customers while 22.2% measured customer satisfaction by getting the feedback from clients. These results imply that the respondents appreciate that the customers are a resource to the business hence the need to offer good customer experience.

The respondents were asked to state the number of employees that had left their business. The results indicate that the group enterprises have a high retention rate of 88.8%. This could be attributed to the fact that the employees are also members of the group. This implies that the employees are satisfied with their employer.

The respondents were asked to state the strategies that they used to compare their performance with their competitors. The results indicate that majority (77.8%) of the respondents did not benchmark with their competitors. 11.1% of the respondents benchmarked by using product/service quality and customer satisfaction. This implies that the respondents do not understand the importance of benchmarking and therefore they do not implement it.

The respondents were asked to indicate how they rated their enterprise based on the performance metrics. This was done by use of a five point likert scale where 1= Poor, 2= Fair 3= Good, 4= Very Good, 5= Excellent. The results are shown in table 3.

Table 3: Performance Indicators

No	Item	Mean	Std Dev.
24a	Financial performance	2.1	0.6
24b	Customer performance	2.5	0.5
24c	Employees performance	2.3	0.7
24d	Benchmarking	1.9	0.7
	Composite Mean = 2.1		
	Composite Standard Deviation = 0.6		

Item 24a sought to establish how the group owned enterprises rated their financial performance.

The mean score was 2.1 while the standard deviation was 0.6. This result indicates that the majority of the respondents rated the financial performance of their enterprises as fair.

Item 24b sought to establish how the group owned enterprises rated their customer performance.
The mean score was 2.5 while the standard deviation was 0.5. This result indicates that the majority of the respondents rated the customer performance of their enterprises as fair.

Item 24c sought to establish how the group owned enterprises rated the performance of their employees. The mean score was 2.3 while the standard deviation was 0.7. This result indicates that the majority of the respondents rated the performance of their employees as fair.
Item 24d sought to establish how the group owned enterprises compared their performance with those of their competitors. The mean score was 1.9 while the standard deviation was 0.7. This result indicates that the majority of the group owned enterprises did not benchmark with their competitors and therefore rated it as poor.

The composite mean score for these metrics was 2.1 while the composite standard deviation was 0.6. In respect to the study, the implication of this result meant that the group owned enterprises rated their performance as fair and this means that they are not performing well.

Influence of Technological Innovation and Market Accessibility on the Performance of Group Owned Enterprises
A moderated regression analysis was conducted to explain the determinants of performance of group owned enterprises in the dairy industry in Trans-Nzoia County. Regression analysis was conducted using STATA analytical software. The regression model used in this study is as shown below:
Performance of Group Owned Enterprises= f (Technological Innovation, Market Accessibility)

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Where:

y **=** Performance of Group Owned Enterprises

X_1 **=** Technological Innovation

X_2 **=** Market Accessibility
ε = Error term

The results arising from running an ordered PROBIT on STATA analysis software are presented in table 4.22.

Table 4: Ordered Probit Results for Technological Innovation and Market Accessibility

Performance of Group Owned Enterprises	Coefficient	Std. Error.	P value
Technological Innovation	-0.437253	0.7901336	0.0270
Market Accessibility	0.3620392	0.2896499	0.0347
Composite Mean = 3.68053			
Composite Standard Deviation = 0.4768			
r = 0.3729			

The calculated correlation coefficient shows that r = 0.3729. According to Shirley et al. (2005), the strength of the relationship will be considered weak for $0.1 \leq r \leq 0.29$, moderate for $0.3 \leq r \leq 0.59$ and strong if $0.6 \leq r \leq 0.9$. It can, therefore, be concluded that there is a moderate positive correlation between Technological Innovation and Market Accessibility. The p-values indicate the statistical significance of the relationship. A p-value of less than 0.05 is recommended as it signifies a high degree of confidence. With all the independent variables having $p < 0.05$, this indicates that there is a significant relationship among all the two variables with the Performance of Group Owned Enterprises in Trans-Nzoia County.

Having the composite mean as 3.68053 and the standard deviation as 0.4768, meant that the respondents agreed that Technological Innovation and Market Accessibility, had a significant influence on the performance of group-owned enterprises in Trans-Nzoia County.

SUMMARY OF FINDINGS

This section provides the summary of the findings based on the study objectives. The study sought to examine the determinants of performance of group owned enterprises in the dairy industry in Trans-Nzoia County. These findings provide answers to the research questions derived from the objectives of the study.

Technological Innovation

While the study sought to examine the new technologies learned and adopted as a result of SDCP in group-owned enterprises in the dairy industry in Trans-Nzoia County, technological acquiring capability, and technological operating capability were singled out as technologies most learnt by the respondents. From the responses, respondents were found to be keen on learning technologies that can improve performance of their output. The study therefore agrees with the findings of Jones et al (2013) who noted that SME owner-managers recognized that different training methods provided benefit towards their business performance. Moreover Dewhurst et al (2007) found out that informal training has a positive impact with regard to productivity, quality, labor turnover, and financial results. He noted such advantages as being particularly attractive to SMEs and their strategic imperatives. Congruent to this view, and in agreement with this study, Jayawarna et al, (2007) agrees that SMEs are more likely to prefer informal and reactive training provision for immediate operational issues, as opposed to formal strategically planned training initiatives. It is therefore imperative to agree with the findings of Tharenou, (2006) that better-trained members will perform more effectively and efficiently, be more motivated and valuable, take greater responsibility and make a greater contribution to performance.

The respondents agreed that technological innovation to a very great extent influence performance of group-owned enterprises in the dairy industry in Trans-Nzoia County. Innovation was singled out as a clear cut key pillar that has positively influenced good performance of group-owned enterprises in the dairy industry of

Trans-Nzoia County. From the findings, we cannot agree more with the study by OSMEP, (2007) that found out that SMEs tend to have low productivity as a result of using inadvanced technology, not maximizing machinery utility and not improving in technology due to limitation of funding. While the findings of the study has boldly underscored the importance of technological innovation; a study conducted by Oke (2007), takes a different angle in agreement with this study. The study asserts that success of product/service innovations was found to be easily achieved through the improvement of processes. In addition, marketing and product innovation being positively related both have effect on each other. For example, when the level of the marketing innovation is high, the level of the product/service innovation is also high. Therefore as affirmed by their study, firms will attempt to develop products in a shorter time or respond quickly to the new product introduced by their competitors in order to overcome the competitive threat. This leads to competitive advantage increase. Elsewhere a study OECD, (2005) agrees with the findings that a firm's financial performance can be improved through innovation such as the ability to respond quickly to market forces, develop and launch new products with a lower lead time. In conclusion, with a composite Mean of 3.57863 and Composite Standard Deviation of 0.42134, respondents concluded that group-owned enterprises in the dairy industry of Trans-Nzoia County can greatly benefit from technological innovation in as diverse ways as highlighted in this study.

Market Accessibility

Market accessibility is a challenge to SMEs in terms of both domestic and export markets. Indeed as Oshikoya & Hussain, (2007) found out, many firms in Africa operate in an information-poor environment due to lack of adequate business support services and the poor information technological infrastructures. Majority of the respondents indicated at 48.8% that they use promotion as their preferred marketing tools. In respect to the study, majority of the respondents agreed market accessibility factors influence business performance to a great extent. This relates to the

findings of Ghouri, Khan, Malik &Razzaq (2011) who emphasize that executing a proper marketing strategy adds excellence to a firm's activities and strengthens the competiveness and market share of the firm. Congruent to the findings is Andres, Salinas & Vallejo 2009 who affirm that firms' performance has been established to directly depend on efficient marketing practices.

In another perspective, the findings agree with Hansen, (1995) who reported that entrepreneurs require information, capital, skills, and labor to start business activities. While they hold some of these resources themselves, they often complement their resources by accessing their contacts. The contacts that lead to successful outcomes are their social capital and they are a key component of entrepreneurial networks. In agreement with the findings, Burt (1992) find social capital as the set of tangible or virtual resources that accrue to actors through the social structure, facilitating the attainment of the actors' goals adding that by this they include contacts that help them getting things done.

In conclusion, market accessibility as a major determinant of performance of group owned enterprises in the dairy industry in Trans-Nzoia County, should be addressed by adopting ICT to improve market access. In agreement with Chyau, (2005), potential benefits of ICT to SMEs include enhancing efficiency; reducing costs and broadening the market both locally and globally; empowering SMEs to participate in the knowledge economy by facilitating connectivity; helping to create and deliver products and services on a global scale and providing access to new markets.

Conclusion

The study concludes that technological innovation is critical to the successful performance of group owned enterprises. Majority of the respondents had adopted the technology that they had learnt from SDCP. The adoption of technology reduced the cost of production and thus improved productivity. The study further

concludes that market accessibility influences performance of group owned enterprises in the dairy industry in Trans-Nzoia County to a very great extent. The enterprises used promotion as their major marketing tool.

Recommendations

Drawing from the findings, this section presents some of the key policy recommendations that, when implemented, would enhance the performance of group owned enterprises in Trans-Nzoia County.

The County government of Trans-Nzoia County should in collaboration with other development partners strategize on how to invest more in technology among farmers not only in group-owned enterprises but across the entire farming population of Trans-Nzoia County. This should be done bearing in mind that Kenya is highly dependent on agricultural outputs while Trans-Nzoia County is the food basket of the country. Since the respondents were found to be keen on learning technologies that can improve performance of their outputs, there exist impeccable motivation and goodwill to embrace farming technological knowhow. Therefore with the current dispensation of devolved government structure where counties are putting heavy premium on developing their counties, the county government of Trans-Nzoia should inject funds in promoting technological innovation of SDCP in group-owned enterprises in the dairy industry of Trans-Nzoia County. Additionally there is a need to hold seminars to educate farmers on the merits of embracing farming technological knowhow in all group-owned enterprises.

The study found out that majority of the respondents agreed that market accessibility factors influence business performance to a great extent. Since many studies have outlined the challenges faced by SMEs in gaining access to both the domestic and export markets, a remedial measure should not be an option but a must especially in counties. Therefore, since SMEs seem ill-equipped in embracing opportunities presented while confronting challenges of globalization, Trans-Nzoia County should embark on upgrading of technological capability; ways of spreading risks; lowering and sharing costs, including

R&D costs; disseminating market information to the farmers; developing infrastructure; and providing linkages to export markets.

Suggestions for Further Study

The following areas are recommended for further research:

i) This study concentrated on the determinants of performance of group owned enterprises in the dairy industry in Trans-Nzoia County. To facilitate generalization of the findings, this study recommends that another study be carried out to establish the determinants of performance of group owned enterprises in another business industry and not dairy.

ii) The study focused on group owned enterprises in the dairy industry that had been supported by SDCP. It is recommended that another study be done on group owned enterprises that do not receive assistance from external sources.

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