INFLUENCE OF LEVEL OF TECHNOLOGY ON PERFORMANCE OF AGRO-PROCESSING FIRMS IN THIKA AND JUJA SUB COUNTIES, KENYA

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INFLUENCE OF LEVEL OF TECHNOLOGY ON PERFORMANCE OF AGRO-PROCESSING FIRMS IN THIKA AND JUJA SUB COUNTIES, KENYA

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ABSTRACT

The study sought to establish the effect of level of technology on performance of agro processing firms. The study focused on animal feeds agro processing firms in Thika and Juja Sub-Counties. The study employed descriptive research design targeting a population of 210 respondents from all the 35 animal feeds firms in Thika and Juja Sub-Counties who participated in the study. In total 62 respondents served as informants of the study. The questionnaires were used for data collection and administered to all respondents in their respective offices. From the study findings it was clear that most of the respondents felt that in their company, if the employees could not tackle a problem using standard methods, they invent new methods which had an influence of firm performance to a very large extent. In summary, businesses shared the idea that information technologies had an effect especially on the new product ideas. The study recommended that managers need to pay more attention to organizational innovations, which had a crucial role for innovative capabilities.

Keywords: *Human Resource, Technology, Organization Performance, Agro Processing Firms in Kenya*

INTRODUCTION

Innovation is a key prerequisite for achieving organizational competitiveness and long-term wealth in the volatile business environment. As such, enterprises must be able to innovate, and do so constantly and sustainably if they are to function competitively (Bradley, McMullen, Artz & Simiyu, 2012). Innovativeness is one of the fundamental instruments of growth strategies to enter new markets, to increase the existing market share, as well as to provide the company with a competitive edge.

Through innovation, a business can be in a position to meet its needs, such as reducing the cost of production or increasing output per every unit of input. An organization desire to innovate may also be prompted by the need to satisfy market needs (Bradley, McMullen, Artz & Simiyu, 2012). Businesses also require being innovative in order to respond to change.

To be successful in achieving this, an organization requires skilled and well-trained personnel. Its workforce must be aware of both the current trends in the sector that the firm operates in. They must also be adequately educated. Their education levels should be consistent with the roles that they are assigned within the organization. The management team of any organization must also be able to keep their employees motivated. As a result, they will become committed to the organization. Consequently, their output within the organization will be increased significantly. They will also be in a position to innovate constantly to help the firm deal with matters affecting it.

Malaysia Productivity Corporation (2009) defines innovative capability as capability to generate new ideas that lead to higher performance, create new opportunities, increase future capacity, technological leadership as well as increased knowledge base through managing technological changes. In their study, Samson and Lawson (2001) point out the various aspects that influence innovative capability in an organization as human resource, level of technology, research and development and prevailing organizational culture.

Agro-processing involves the manufacture of raw materials and intermediate goods derived from the agricultural sector into finished products. The raw materials can be obtained from different subsectors, such as agriculture, forestry, and fisheries. Traditionally, agriculture and industrialization were considered to be two completely different fields (Goedhuys, Janz & Mohnen, 2014). However, agro-processing today has been viewed as important process in agricultural sector. The reason behind this is that it aids in value addition of agricultural output. Organizations involved in agro-processing must be in a position to innovate constantly in order to increase on their efficiency. Their performance is dependent on their innovative capability. Through innovation, they are in a position to improve the quality of their products. Innovative capability in agro-processing can also be in terms of developing new processes that enhance efficiency (Mahsud, Yukl & Prussia, 2012). Innovation can also be aimed at dealing with problems that have been identified in the production process or in the product. One such problem is that of agricultural products are highly perishable. By being able to develop solutions for such problems, an organization in the agro-processing sector will gain competitive advantage over others engaging in similar activities.

In the United States of America, innovative capability is considered to be one of the core competences of any organization (Luce, 2012). It is also termed as one of the tangible cultural

values of American organizations. As such, all members, regardless of their position in the organizational hierarchy must be committed to innovation. In order to promote innovative capability, organizations must develop institutional structure related to the same. Most firms in America have resulted to developing incubation centres, research and development, as well as new venture departments. As such, they are able to come up with new ideas on a continuous basis. Innovative capability in USA is also viewed from a social perspective (Luce, 2012). In order to be successful, organizations in America welcome ideas from members of the public. They also buy, patent, and implement ideas from external parties.

In Africa, innovative capability is considered as one of the driving forces to economic prosperity (Department of Agriculture, Forestry and Fisheries, 2012). The ability to be innovative is not only beneficial to the business but also to the country within which it operates. The reason behind this is that the performance of a nation's economy is dependent on that of individual firms conducting business in it. Innovative capability is also viewed as the only way through which a wide variety of goods and services can be availed to the market. By having the capability to be innovative, organizations are able to create goods and services that differentiate them from other players in the market (Pretty & Williams, 2012). Africans also view innovative capability as the only through which firms can be able to exploit the available market niches. The reason behind this is that it requires the introduction of goods and services that were not previously available in the market.

In Kenya, the ability to be innovative has been considered a key driver for economic growth (Adam, 2010). The Government of Kenya, in the Vision 2030 strategy has considers science, technology, and innovation to be one of the eight most important sectors of the economy. The ability to be innovative will be instrumental in raising the status of the county into an industrialized middle income economy. Through increased innovative capability, it will be possible to transform Kenya into an industrialized country. Consequently, firms will be in a position to produce goods and services for both local and foreign consumption. With the Kenyan economy relying heavily on agriculture, it is increased innovative capability among agro-processing firms will have far reaching positive outcomes (Adam, 2010). The ability to be innovative will also ensure that the Kenyan businesses are in a position to produce goods and services that were previously non-existent. As a result, the country's produce will be differentiated from that of other countries. As a result, the country will gain competitiveness in the global market.

Agriculture is the predominant economic activity in Kiambu County involving over 80% of the population. It is therefore a leading sector in terms of employment, food security, income generation and overall contribution to the social-economic well-being of Kiambu population. Suffice it to say that majority of the people in this County depend on Agriculture for their livelihood, with more than 1.28 million people directly or indirectly employed in the sector. In Other manufacturing sub-sectors in order of their importance includes; metal and allied, chemical and allied and building and construction. In Kenya, the government has identified agro-processing as a key sector for the creation of sustainable jobs and enterprises, thus a number of government export and investment promotion initiatives exist to support the sector. In Kenya's manufacturing industry, agro-processing accounts for

approximately 70 percent of manufacturing turnover and 18.4 percent of export earnings. In this sub-sector, food products contribute 73 percent of the production turnover (Osano et al. 2008).

Thika is one of the most industrialized Sub Counties in Kenya. It is located in Kiambu County in Central Kenya 40 kilometers north east of the capital Nairobi. Thika town is its headquarters. Economic activities carried out in the sub-county include agricultural processing, motor vehicle assembly, cigarette manufacturing, packaging, as well as, production of industrial chemicals [Republic of Kenya (RoK), 2010]. Agriculture is the main economic activity of majority of the sub-county's population. Farmers in the sub-county engage in the production of pineapple, flowers, Sisal, cotton, macadamia nuts, vegetables, and livestock. Subsequently, many agro-processing firms have emerged in the sub county following the availability of raw materials.

Statement of the Problem

The key problem statement is that agro-processing firms that adopt innovative capability perform better than those that have not in terms of developing new capabilities that will cause response to environment, competitive advantage and high performance (Wafula, 2011). The contribution to GDP has stagnated at 3 percent for the agro-processing industry over the years and an annual growth rate averaging at 3 percent (KIPPRA, 2013, Haron & Chellakumar, 2012).

Despite innovative capability agro-processing firms in Kenya are still performing poorly by looking at the amount fresh products from the agricultural sector that are processed by the agro-processing industry have been significantly low making Kenya a net exporter of primary products. Agricultural products form 65 percent of Kenya's total exports and only 20 percent of the total agricultural products exported are processed (Bigsten *et al*., 2010).

To achieve a desired growth rate of 10 percent per year, as envisaged by the Kenya Vision 2030 the Government has come up with initiatives to strengthening production capacity and local content of domestically-manufactured goods; increasing generation and utilization of research and development results; increasing the share of locally manufactured products in the regional market; developing niche products for existing and new markets through implementation of Medium Term Performance (MTP) and the national industrialization policy strategies. However, the productivity of the agro-processing industry has remained below the expected performance. The Kenya Vision 2030 expects the agro-processing sector to grow at a rate of 10 percent annually and contribute 15 percent to the GDP.

Innovative capability allows a firm to create an image and improve in its performance. In recent years the livestock and animal feeds, industry in Kenya has witnessed increased emphasis on the cultivation of a culture, which fosters the effective implementation of innovation programs. This growing attention stems from the belief that sound innovations and positioning practices provide an important source of competitive advantage in the livestock sector, which is characterized by high levels of interaction between firms and their customers. A strong positioning culture leads to customer retention, which in turn, yields higher profitability (Ries & Trout, 2000).

Innovative capability has been recognized as a vital tool to confront the competitive pressure in the market environment and as a tool of improving the performance of firms (Kettunen, 2006). In Kenya, newly established agro-processing firms are currently facing major

challenges to survive in this highly vibrant industry due to their experiences in being innovative [Kenya Association of Manufacturers (K.A.M), 2012]. With these increased levels of competition, local animal feed manufacturing firms have had to strategically position and align themselves to capture new markets or retain existing market share. Animal feed manufacturing firms have chosen to extend their positioning to create a brand. Currently there are only 96 animal feeds manufacturing firms registered with Associations of Kenya Feed Manufacturers (AKEFEMA) (AKEFAMA, 2015). This notwithstanding, a detailed determination of the actual level of innovative capability in the agro-processing industry in Kenya and its' effect with specific interest on animal feeds subsector had not been done. It is view of this gap, that the study was designed therefore to determine the influence of level of technology on performance of agro-processing firms in Thika and Juja Sub-Counties with a specific interest on animal feeds industry.

Objectives of the Study

The objective of this study was to assess the influence of level of technology on performance of agro processing firms in Thika and Juja Sub-Counties.

LITERATURE REVIEW

Theoretical Review

Innovative Capability Concept

Lawson and Samson (2001) innovation capability they conceive it as higher-order integration or the capability of integrating the firm's key capabilities and resources to stimulate innovation successfully. However, before companies try to improve their processes of innovation and new product development, they must improve the areas of leadership, people, and partnerships and improve organizational capability to learn and innovate (Dahlgaard-Park & Dahlgaard, 2010).

Yung and Lai (2012) revealed how processes, positions, and paths of Asus improved its new product development performance. They claim that processes of integration and coordination, learning, practicing and accumulation of core competences have shaped the best practices in the industry. Further, Yama, Gun, Pun and Tang (2004) present's organizational innovation capability as a multifaceted phenomenon with many aspects that researchers and managers should be aware of categorizing it into several dimensions including: learning capability, research and development capability, manufacturing capability, marketing capability, organizational capability, resource exploiting and strategic capability.

A study by Chaveerug and Ussahawanitchakit (2008) brings out the relationship between organizational learning and new knowledge development, which is a key driver for gaining superior efficiency promoting high competitive advantage, enhancing the organization's capability to innovate, and achieving outstanding organizational performance. Consequently, this enable firms respond constantly to changing business environment and confront the long-term survival difficulties (Real, Leal & Roldan, 2006).

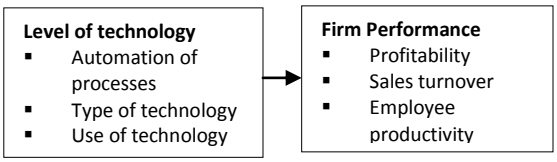
A study by Calantone, Cavusgil & Zhao (2002) reveals that innovative capability measured by the rate of adoption of innovations by the firm and as the organization's willingness to change, is positively related to firm performance. Further, Cainelli, Evangelista & Savona (2004) found that innovative capability can explain a firm's performance. Firms with a high level of

innovative capability have higher levels of productivity and economic growth than firms with a low level of innovative capability. A study by Rhee, Park and Lee (2010) concluded that innovative capability has a positive influence on performance. These results show that performance can be derived from the propensity for innovation. Jiménez-Jiménez and Sanz- Valle (2011) also found a positive and significant effect of innovative capability on performance, covering the number of innovations, the proactive or reactive character of those innovations, and the resources the firm invests in innovation.

Earlier studies have also suggested that innovative capability is an important determinant of firm performance constructs, such as profitability as well (Leiponen, 2000). It has been found that there exists a clear difference in profitability between firms with a high level of innovative capability and firms with a low level of innovative capability (Cefis & Ciccarelli, 2005). The findings of Pett and Wolff (2011) indicate that innovative capability is important for the profitability of return on assets. In the study by Subramanian and Nilakanta (1996), return on assets was used to measure profitability. It was found that the adoption of a large number of technical and administrative innovations leads to greater profitability.

According to Cho and Pucik (2005), the effect of innovative capability on profitability is mediated by quality. They also suggest that innovation has a positive effect on profitability, partly because innovative capability affects quality, which in turn affects profitability.

Conceptual Framework



Independent Variable Dependent Variable

Figure 1: Conceptual Framework

Empirical Review

In a study by Saygin and Karadal (2011) in Turkey on effect of information technologies on innovation capabilities in Small and Medium Sized Enterprises revealed that businesses use the information technologies in an active way and try to create new product ideas and make their productions convenient for their customers' needs. The businesses were asked to determine the effects of information technologies on innovation within their businesses and five variables were given to the managers. These variables were taken from the studies of Guleş (2003) and given results were taken from of Saygın (2011) study. According to Saygin and Karadal (2011), businesses share the idea that information technologies have an effect especially on the new product ideas. The study further shows that information technologies have an effect on the convenience of the new product for the customers. It shows that businesses in Aksaray province choose the new product ideas more commonly as a reason for the information technologies' use.

Ragui and Gathogo (2014) in did a study Thika Municipality on effects of capital and technology on the performance of SMEs in the Manufacturing Sector in Kenya. The Results indicated that majority of the respondents (84.3%) used manual technology, while a further 10% of the respondents used intermediate technology. Only 5.7% of the respondents had employed computerized technology. The technology in use determined the speed and efficiency of a firms operation. SME's in Thika and Juja seem to be lagging behind in embracing technology which affects performance and competitiveness of firms in

the municipality. From a different question, 60.9% those who use manual technology were willing to change to other technologies if they were assisted financially. This means that finance level of a firm dictates the technology used and ultimately performance of the firm. This agreed with SME survey (2007) that technology is a real business enabler and if competent levels of ICT maturity have been reached, successful delivery of the company strategies will be enabled. To continue to be competitive and ensure future growth, ICT infrastructure has to interface with the needs of the business and have the flexibility to adapt to changing markets.

Ragui and Gathogo (2014) study further revealed that SMEs require technology not only for faster quality processing of products, but also for cost saving purposes. Respondents indicated that they were generally not satisfied with the level of technology employed by their firms as this affected their performance. Majority, accounting for 55.7% indicated that technology used affected their performances to a very great extent while 27.2% indicated that this was to a great extent. 17.1% of the respondents on the other hand indicated that the technology in use only affected their performance moderately. This agrees Dave and Wayne (2005) concluded that human resources regularly find new application of technology to improve their efficiency and their effectiveness in an effort to influence firm performance. This reveals the need for technology use by the SMEs for success as it enhances quality of goods therefore increasing SMEs competitiveness.

Firm performance differences can be understood differently by different people in many aspects and connotations depend on the application. It refers to a standard that a firm does something. Various firm performance measurements have been applied in previous studies. However, the majority of these studies did not provide any justification for the selection of measures used, and there has not been any agreement among entrepreneurship scholars on the assignment of an appropriate set of measurements (Madsen, 2007). To capture different aspects of performance, multiple measures, that is, financial and non financial should be employed. However most studies apply only financial measurements to access performance, with firm performance being investigated as the dependent variable (Wang, 2008).

Traditionally, performance measurements were accounting oriented which emphasized on selective financial indicators such as return on investment. However, the area has evolved and it is measured differently based on the objective of a study. For example, Neely, Filippini, Forza, Vinelli, and Hii (2001) used four items to measure business performance, namely return in investment, market share competitive position versus direct competitors, and value to the customer; whilst Rujirawanich, Addison and Smallman (2011) measured performance using measure of success also involving return on investment. Performance can be measured based on two concepts either an objective concept based on absolute measures of performance or a subjective concept based on self-reported measures. Objective measures are directly taken from external recorded and audited accounts using absolute measures; whilst subjective measures are based on the respondents' ratings of their company performance (Wall, et al., 2004).

METHODOLOGY

Descriptive survey design was used for this study since the entire population was taken into account knowing that the population was small

and manageable. This study enabled generalizing of the findings on the effect of innovative capability dimensions on performance of agro-processing firms in Thika and Juja Sub-Counties. The main focus of this study was quantitative in nature. However some qualitative approach was used in order to gain a better understanding and possibly enabling a better and more insightful interpretation of the results from the quantitative study. The target population of this study was composed of agro processing firms in Kenya. The study target population was 210 employees of 35 agro processing firms that were involved in manufacturing animal feeds in Thika and Juja Sub-Counties. The sampling frame was sourced from Association of Kenya Feeds Manufacturer (AKEFEMA) in Thika and Juja Sub-Counties (Ministry of Agriculture, Livestock and Fisheries, 2013). Stratified random sampling technique was conducted on the 63 employees in all AKEFEMA registered animal feed firms in Thika and Juja Sub-Counties. Primary data was collected using a semi structured questionnaire because it was effective. Additionally, they were convenient to collect and summarise responses (Zikimond, 2003). The questionnaire in this study contained both open ended and close ended questions. Primary and secondary data was collected. Primary data was collected using the questionnaires, which were self-administered. Secondary data was collected from journals, newspapers, magazines and internet downloads. A pre-test involved 10 respondents (5% of 210 targeted population) who were randomly sampled from 5 animal feeds firms from neighboring Ruiru Sub County. The study generated both qualitative and quantitative data. For the quantitative data, analysis of the data was done through descriptive statistics such as frequency counts, averages for structured items and the results were presented by use of tabulations.

RESULTS AND DISCUSSIONS

The study sought to get information from a target population of 210 respondents from different agro-processing firms in Thika and Juja Sub-Counties in relation to the effect of innovative capability dimensions on performance. Out of the target population of 210 a sample size of 63 respondents were selected. However, 62 of the 63 sampled population responded to the research questions and returned the questionnaires representing 98% success rate which is high thus was used to draw conclusions and give recommendations. Mugenda (2008) stated that a response rate of 50% is adequate, 60% and above is good, and above 70% very good. Therefore a response rate of 98%, was quite adequate.

The study was interested in finding out the gender category of the respondents. The findings showed that most respondents were male represented by 63% as opposed to female respondents who were represented by 37%. From the results it was clear that this may be an indication of the fact that the industry was male dominated. The study sought to establish the respondents educational qualifications. The findings showed that most of those who participated in the study were graduates at 29% followed by those with diploma at 27%. The findings indicated that 26% of the respondents had masters while 19% of the respondents indicated that they had other qualification including PhD and post graduate diplomas. It was conclusive that majority of the respondents were graduates and above meaning that they were better placed to provide relevant answers to the study questions.

The study was interested in finding out the years of service among the respondents. The findings showed that majority of the respondents had been with the organizations for a period of between 2-5 years representing 45% followed by those that had been with the organizations for a period of years above 5 at 34%. The results also showed that 21% of the respondents had been with the organizations for a period of less than two years. It was clear that most of those who responded had been with the organizations for a period of more than two years which means that they were experience enough to provide answers to the research questions.

The study was interested in findings out the age categorization of the respondents**.** The findings indicated that most of the respondents were in the age category of 30 years and above at 63% respondents followed by those in the age category of between 20-30 years representing 34 respondents. The results indicate that those in the age category of below 20 years were represented by 3% of the total respondents. The findings therefore showed that majority of the respondents were in the age category of 30 years and above. The study sought to find out the designation of the respondents in the organizations. The findings indicated that majority of the respondents were supervisors represented by 26% followed by marketing officers at 24%. On the other hand 19% of the respondents were firm managers while 13% of the respondents were operations manager. As shown from the study findings it was clear that most of those who participated in this study were supervisors in the companies.

Descriptive Analysis: Level of Technology

The study was interested in finding out from the respondents the extent of influence of level of technology on firms performance.This was illustrated in table 1.

Table 1: Level of Technology

Level of Technology	VLE (%)	LE (%)	NE (%)	SOE (%)	SE (%)	Mean	S.D
Our company is up to date in adopting the latest technological innovations in our processes.	71	15	10	3	2	1.26	.903
We have processes in place to review new technological or market developments and what they mean for our firm's performance	60	19	11	6	3	1.41	.916

KEY: VLE- very large extent; LE-large extent; NE- no extent; SOE-some extent; SE-small extent

From the findings majority of the respondents (86%) stated that companies were up to date in adopting the latest technological innovations in their processes and this was to a large extent in relation to the firm performance and 79% of the respondents stated that they have processes in place to review new technological or market developments and what they mean for their firm's performance.

The study sought from the respondents how they rated the level of automation of processes in the companies. The results as indicated in table 1 showed that most of the respondents representing 52% indicated that the rate of automation of processes in the companies was

good this was followed by those who stated that the level of automation of processes in the companies was very good at 29%. On the other hand 11% of the respondents stated that the rate was excellent while 8% of the respondents indicated that it was poor.

Previous studies in terms of the level of technology have encouraged new application of technology to improve efficiency and effectiveness in an effort to influence firm performance. This reveals the need for technology use by the SMEs for success as it enhances quality of goods therefore increasing SMEs competitiveness Dave and Wayne (2005).

Table 2: Rating Level of Automation

Level of automation rating	Frequency	Percentage
Small Extent	5	8
Some Extent	32	52
No Extent	18	29
Large Extent		
Very Large Extent	7	11
Total	**62**	**100**
Mean =2.33 SD =0.718		

The study was interested in establishing from the respondents their view in regards to the extent automation of processes influence performance of the companies. The study findings in table 2 indicated that most of those who respondent at 63% were of the opinion that this was to a great extent, 21% stated that it was to a very great extent while 10% of the respondent indicated that it was to a little extent. The results showed that 5% of the respondents indicated that this was to a very little extent whereas 2% of the respondents stated that automation of processes did not influence performance of companies.

Table 3: Extent of Influence of Automation of Processes

Extent of influence	Frequency	Percentage
Very great extent	39	63
Great extent	13	21
little extent	6	9
Very little extent	3	5
Not at all	1	2
Total	**62**	**100**
Mean =1.105 SD =.918		

Firm Performance Factors

The study wanted to establish from the respondents the extent of influence firm performance factors. This were as shown in table 4.

Table 4: Firm Performance Factors

Firm Performance	VLE (%)	LE (%)	NE (%)	SOE (%)	SE (%)	Mean	S.D

Our firm productivity is relatively high	73	11	8	5	3	1.23	.713
The sales of our firm have been increasing over the years	79	10	6	3	2	1.19	.824
Higher returns on assets and sales have increased the profits of our firm	68	15	8	6	3	1.37	.767
Our firm has been witnessing high return on sales	65	15	13	5	3	1.40	.849

KEY: VLE- very large extent; LE-large extent; NE- no extent; SOE-some extent; SE-small extent

From the findings, majority of the respondents (84%) indicated that firm productivity was relatively high, 89% stated that the sales of their firms had been increasing over the years to a large extent, 83% indicated that higher returns on assets and sales had increased the profits of their firm to a large extent and 80% indicated that firms had been witnessing high return on sales to a large extent.

This study sought to find out the level of the company's financial performance (profitability: net profit, income growth) in the past three years. The study findings indicated that most of the respondents at 44% indicated that the level was to a good extent, 29% indicated that it was to a very good level while 16% indicated that the level was excellent. On the other hand 11% indicated that the level was weak.

Table 5: Companies Financial Performance in the Past Three Years

Performance	Frequency	Percentage
Weak	7	11
Good	27	44
Very good	18	29
Excellent	10	16
Total	**62**	**100**
Mean 2.215 SD =0.786		

The study wanted to find out the level of the companies operational performance (productivity: accomplished projects or products, market share) in the past three years. Majority of the respondents indicated that 45% of the respondents indicated that the level was very good while 26% indicated the level was good. The results indicate that 18% indicated that the level was excellent whereas 11% stated that the level was weak.

Table 6: Companies Operational Performance in the Past Three Years

Performance	Frequency	Percentage
Weak	7	11
Good	16	26
Very good	28	45
Excellent	11	18
Total	**62**	**100**
Mean=3.112 SD= 0.576		

SUMMARY, CONCLUSION AND RECOMMENDATION

Based on the findings, the study determined that the level of technology was important in influencing performance of agro-processing firms. The findings indicated that majority respondents were of the opinion that the firms were up to date in adoption of technological innovations and that the firms had processes in place to review new technological and market developments. The study found that 52% of the respondents agreed that the level of automation in the firm was good. The finding indicated that the level of technology was positively and significantly correlated to performance of agro processing firms ($r = 0.329$, p-value=0.009<0.05). In addition , Level of technology was found to be a positive and significant predictor of performance of agro processing firms. ($\beta=0.181$, T-value=2.568, $p=0.013<0.05$). The study findings are in agreement with Saygin and Karadal (2011) who revealed that businesses use the information technologies in an active way and try to create new product ideas and make their productions convenient for their customers' needs. Human resources regularly find new application of technology to improve their efficiency and their effectiveness in an effort to influence firm performance.

Conclusion

In summary businesses share the idea that information technologies have an effect especially on the new product ideas. Information technologies have an effect on the convenience of the new product for the customers. Businesses choose the new product ideas more commonly as a reason for the information technologies' use. Level of technology positively influences performance of agro-processing firms and thus businesses use the information technologies in an active way and try to create new product ideas and make their productions convenient for their customers' needs.

Recommendations

From the findings , Firms which are technologically advanced increase their innovation capabilities and are more likely to increase their market and production performance. Therefore organizations should pay more attention to changes in technology and enhance so as to gain a sustainable competitive advantage and to raise performance.

Areas of Further Studies

Owing to the limitations that the research encountered further studies are recommended on the following topics: a study to establish other factors that affect performance of agro processing firms other than those covered in this study, to establish the role of government regulations on innovative capability dimensions and how this affects performance of agro processing firms and effects of innovation types including product, process, marketing and organizational innovation on different aspects of firm performance such as innovative, production, marketing and financial performance among agro processing firms in Kenya.

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