Influence of Product Innovation Orientation on Performance of Micro, Small and Medium-Scale Agro-Food Processing Enterprises in Nairobi County, Kenya

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Abstract: Micro, Small and Medium-scale Agro-food processing enterprises are vital contributors in building vibrant economies. The purpose of this study was to determine the influence of product innovation orientation on performance of Micro, Small and Medium-Scale Agro-food processing enterprises in Nairobi County, Kenya. The target population for the study was 1,020 licensed Micro, Small and Medium-Scale Agro-food processing enterprises in Nairobi County. The study adopted correlational research design which sought to establish relationships between variables in the study. The study applied stratified and random sampling techniques in data collection. Qualitative data was analyzed using descriptive statistics which included mean, frequencies and percentages while quantitative data was analyzed using inferential statistics including correlational analysis and chi-square test. The analyzed data was presented using tables. The study concluded that product innovation orientation influenced performance of Micro, Small and Medium-scale Agro-food processing enterprises and recommended that Agro-food processing enterprises apply product innovation orientation for improved enterprise performance.

Key words: Product Innovation Orientation, Micro, Small and Medium-Scale Enterprises, Enterprise performance

1.0: INTRODUCTION
1.1: Background of the Study

Application of product innovation orientation in the Micro, Small and Medium-Scale enterprise sector is an instrumental management practice for guiding and directing performance of enterprises. Product innovation is a function which enables organizations to effectively implement strategic marketing by focusing on dynamic customers’ needs for realization of superior enterprise performance (Jaakkola, 2006). In this scenario, the focus is to address the customers’ tastes and preferences, build strong customer relationships, create value in products, remember the customers’ concerns and fulfill the demand raised by the customers through incremental product innovation (Stokes, 2000; Hills, Hultman, & Miles, 2008; Hakala & Kohtamaki, 2010). As a focal point for a firm’s strategy and a key factor for its competitive performance, product innovation is based on introduction of a new product, or a significant qualitative change in an existing product (Schumpeter, 1942). In addition, product innovation strategy is an essential instrument for product development and continued enterprise growth even in bad economic times (Cooper and Edgett, 2010). Similarly, prudent leadership provides direction for operationalization of product innovation for competitive enterprise performance (Kirk, 2009).

Globally, Micro, Small and Medium-scale Agro-food processing enterprises are documented in academic researches and in practice as instrumental in establishment of progressive and vibrant economies (EU, 2012; Government of Canada, 2012). However, European Agro-food SMEs face stiff competition in the Pan-European and the world market and equally unable to embrace vibrant marketing and production practices, a trend hampering their competitive performance (EU, 2012). In attempts to overcome challenges to the performance of Agro-food processing enterprises, a study by Baregheh, Rowley, Sambrook and Davies (2012) in the UK revealed that food sector SMEs adopted radical and incremental product innovation to innovate new products; improve; and modify existing products.

In the same wavelength, Agro-food enterprises in South Africa experienced limited access to the...
market and limited amount of value addition in rural areas resulting into post-harvest losses amounting to millions of Rands (Republic of South Africa, 2012). In Kenya, Agro-industry sector is a major contributor to Gross Domestic Product having registered as the third largest contribution at 10 percent after wholesale and retail trade at 11 percent and agriculture at 24 percent (Government of Kenya, 2009). However, the sector has registered poor performance in its production, value addition to its products and limited contributions to economic development in Kenya (UNIDO, 2012). These prevailing scenarios demand that Micro, Small and Medium-scale enterprises be engaged in development of new products and modification of existing products.

1.2: Statement of Problem
Statistical estimates indicate that over ten (10) million Kenyans experience inadequate food supply and many people are confronted with high cost of food (Kenya Agriculture Research Institute, 2012). Attempts to overcome food supply shortage in Kenya through Micro, Small and Medium-scale Agro-food processing enterprises has encountered challenges as almost a half (1/2) of SMEs die or close down within the first three (3) years of their establishment (Kenya Private Sector Alliance, 2014). Additionally, Oiye and Wangalachi (2011), reported that the collapse or death of Small and Medium-Scale food-based enterprises especially in fruit juice production, dairy production, horticulture and bakeries in Kenya has not only been due to inadequate finances but mainly marketing challenges comprising product innovation and management challenges. Similarly, inadequate marketing skills comprising customer-oriented production amongst SMEs owners are reported as key constraints to the competitiveness of the SMEs in Kenya (Government of Kenya, 2012). Consequently, product innovation challenges have been identified as major causes of poor performance and closures in the Kenya’s SMEs sector and it is against this background that this study focused on the influence of product innovation orientation on performance of Micro, Small and Medium-Scale Agro-food processing enterprises in Nairobi County.

1.3: Specific Objectives
(i). To determine the influence of product innovation orientation on performance of Micro, Small and Medium-Scale Agro-food processing enterprises in Nairobi County.

1.4: Research Hypothesis
This hypothesis was derived from the conceptual framework of the study and specific objective. 
Hₐ : Product innovation orientation positively influences performance of Micro, Small and Medium-Scale Agro-food processing enterprises in Nairobi County.

2.0: LITERATURE REVIEW
2.1: Theoretical Review
Two theories which are associated to this study include Porter’s Generic Strategy Model and Marketing Mix Theory.

2.1.1: Porter’s Generic Strategy Model
Porter (1985) suggested four possible generic strategies which include; cost leadership, differentiation, cost focus and differentiation focus. In circumstances of a narrow scope, the distinction between cost and differentiation is considered not vital and three strategies comprising focus, differentiation and cost leadership is determined. Being generic implies that these strategies are general in nature and may be used in products or services from different forms of enterprises.

![Figure 2.1: Basis of competitive Advantage](source, Porter, 1985)
In this model, focus strategy emphasizes cost-minimization and pursues strategic differentiation within a niche market. In addition, cost leadership concerns reducing the cost to an enterprise for producing products to the market while differentiation strategy implies making products different from competitors and more attractive to customers. In strategic product differentiation, the Agro-food processing enterprises engaged in product innovation orientation to serve the tastes and preferences of the customers within a niche market (Boland, 2009). Similarly, Agro-food processing enterprises adopted cost minimization for the benefit of customers and enterprises. In this research, the Micro, Small and Medium-scale Agro-food processing enterprises focused on a niche market in which they interacted with customers and fulfilled the actual tastes and preferences of the customers by adding value to products through incremental product innovation (Sauzet, 2009).

2.1.2: Marketing Mix Theory

According to McCarthy (1960) and Stokes and Wilson (2006) on the selection of target market and product positioning within that market, marketing approach applies the strategy through the marketing mix of Four Ps. These comprise product, price, promotion and place. Elements of marketing are further extended to eight ‘P’s in the services marketing theory through the addition of physical evidence, people, pace and process. Product is a tangible good or an intangible service that is produced at a specific volume of units for consumers (Kotler, 2000). Maintaining its competitiveness in the market requires adoption of product differentiation strategy (Kotler, 2000; Stokes & Wilson, 2006). However, in this study, the decision to produce a particular product is customer-based and not producer-based because the tastes and preferences of the consumers inform on the nature and quality of product to be produced. Price as the amount of money a customer pays for the product concerns various pricing approaches and the extent of customization. To attract and maintain customers, strategies such as fair pricing, discounts can be adopted by Micro, Small and Medium-scale Agro-food processing enterprises (Stokes & Wilson, 2006; Kotler, 2000). Additionally, place is an element of marketing mix which refers to the location where a product can be purchased. These include the physical stores and virtual stores in the internet therefore enterprises should ensure efficient distribution of products (Kotler, 2000; Stokes & Wilson, 2006). Lastly, promotion as an element of marketing mix covers all the communications adopted in the marketplace by a marketer. It is also based on four principal elements which include public relations, advertising, personal selling and sales promotion (Stokes & Wilson, 2006; Kotler, 2000). Additionally, in classical marketing, strategies are built through segmentation, targeting and positioning processes and further applied through a formal market research based on the marketing mix of Four Ps (Kotler, 2000). However, the concept of 4Ps has been criticized for being production-oriented marketing as opposed to customer-oriented (Popovic, 2006). This study embraced incremental product orientation which is customer-oriented in nature.

2.2: Conceptual Frame Work

The conceptual framework conceptualized the influence of Product Innovation Orientation on the Performance of Micro, Small and Medium-scale Agro-food processing enterprises in Nairobi County.

![Product Innovation Orientation](A) Independent Variable

- Production of new products.
- Improvement and modification existing products.
- Efficient production for higher sales.

![Performance of Agro-food processing enterprises](B) Dependent Variable

- Profitability

Figure 2.2: Conceptual Frame Work
In this conceptual framework, independent variable (product innovation orientation) was considered to influence performance of Micro, Small and Medium-Scale Agro-food processing enterprises in Nairobi County (dependent variable). Additionally, performance of Micro, Small and Medium-scale Agro-food processing enterprises was measured by profitability (Annual Net Profit).

### 2.3: Empirical Studies on Product Innovation Orientation and Enterprise Performance

Product innovation orientation is operationalized by enterprises to realize new products or improve and modify existing products for improved enterprise performance in the market (Isoherranen & Kess, 2011; Baregheh, Rowley, Sambrook, & Davies, 2012). Accordingly, enterprises must carry out product innovation to gain favourable position in the market by introducing new products or improving and modifying existing products (Cooper & Edgett, 2010; Ebrahim, Ahmed, & Taha, 2010).

According to Fransen (2013), on Innovations in SMEs in Yogyakarta, Indonesia, most firms (57 percent) consider their operations to be highest at product innovation, followed by lower numbers on processes innovation, product diversification, marketing and other aspects. In the same vein, UNCTAD (2010) concurs with the findings in the study and considers product design to be the key factor for improved performance for average prices to products of high prices. According to Fransen (2013), accurate consideration of new products with demand and production processes is the main key to improved performance while product design is not considered as key to enterprise success. In the same wavelength, EU (2008) reported that product innovations are analyzed by the level of newness while Baregheh et al (2012) reiterated that product innovation includes among others incremental and radical innovations. Similarly, Fransen (2013) reported that 26 percent of the enterprises produced new products to Yogyakarta. According to a study by Batra, Sharma, Dixit and Vohra (2015) on strategic orientations and innovation in resource-constrained manufacturing SMEs in the Punjab region of India, the results showed that customer-oriented SMEs create innovation by utilizing unique organizational resources. However, customer orientation does not directly influence innovation among SMEs in India. Additionally, improved performance of the Indian SMEs comes from thorough application of customer information for creation of sustainable resources which are suitable for innovation. It is worth noting that most SMEs in India are not able to access all necessary resources for their operations thus the need to use customer information for innovation decision making. In the same wavelength, Suwannaporn and Speece (2010) on Assessing new product development success factors in the Thai food industry revealed that top managers in the New Product Development (NPD) process are focused on realizing improved performance. The application of marketing research in the new product development process presents the most essential factor resulting into improved performance. Similarly, the flow of information and communications is considered a vital factor in the research. The impact of internal information flow and communications is higher than that of external communications (supplier linkages) in terms of influence on new product development in the Thai food industry. In certain circumstances, enterprises engage in personal selling and build close ties with the customers by responding to their feedback on the products with an aim of attracting and retaining them. In such scenarios, application of a formal marketing research is unnecessary to an enterprise (Judson, Schoenbachler, Gordon, Ridnour, & Weibaker, 2006).

According to Baregheh et al (2012) in a study on innovation in food sector SMEs in the UK, it is revealed that firms engaged strongly with incremental innovation than radical innovation. Focusing on product innovation 77 percent always or mostly engaged in incremental product innovation, 57 percent indicated that they always or mostly engage in radical product innovation and application of incremental position and paradigm innovation is higher than involvement in radical innovation. Focusing on incremental innovations, food SMEs reflect their highest level of involvement in product innovation at mean: 4.2 and lowest in both packaging and paradigm innovation with mean 3.7. However for radical innovation, food SMEs reflected a fairly high level of involvement with both product and position innovation of mean: 3.5; and tend to be least involved with paradigm innovation at mean: 2.9. The food SMEs in the UK portrayed a good level of involvement in both radical and incremental innovation for all types of innovation, but their level of involvement with incremental innovation is higher than that for radical innovation. The result of this study concurs with the previous literature on the focus of incremental innovation by SMEs (Stokes, 2000; Oke, Burke, & Myers, 2007). In addition, food SMEs are specifically considered to be focused on incremental innovation (Avermaete, 2002).

A study by Capitanio, Coppola, and Pascucci, (2010) on the application of product and process innovation amongst food firms in Italy revealed that food enterprises develop less of product
innovations, but more process innovations and the majority of product innovations are incremental in nature where the products are improved based on the information of tastes and preferences from the customers. Additionally, limited researches have been conducted to investigate innovation orientation in food processing enterprises. However, studies that have been carried out measure the extent of innovation based on enterprises’ expenditure on research and development and number of new products produced among others (Bigliardi & Dormio, 2009).

2.4: Enterprise Performance

As a key concept in human resource management, performance management is a continuous process of identifying, measuring and developing the performance of human resources and aligning the performance with the enterprise strategic goals (Aguinis, 2009). In addition, Mabey, Salaman and Storey (1999) proposed the model of performance management system in the form of ‘performance management cycle’ comprising five (5) elements and suggested how the elements should be implemented by an enterprise. These elements include: setting of objectives; measuring the performance; feedback of performance results; reward system based on performance outcomes and changes to objectives and activities. Therefore, a successful enterprise must set objectives, implement objectives, measure the achievement of the set objectives and employ mitigation measures in case of failure. Additionally, dimensions of performance or measurement areas of performance include the main operating dimensions namely; time, quality and flexibility. Other dimensions such as performance of human resources, customer satisfaction and financial performance are key indicators of performance (Hudson, Smart, & Bourne, 2001).

Similarly, performance measurement is an important aspect of strategy development by SMEs. Therefore, an effective performance measurement system should support the growth of SMEs (Garengo, Biazzo, & Bitici, 2005). In the same vein, performance measurement quantifies the efficiency and effectiveness of enterprises performance for sound decision making (Ketsaraporn & Zhilong, 2012). To overcome the resources and time constraints facing enterprises, performance indicators need to be well defined (Hudson, Smart, & Bourne, 2001). According to Kotabe and Murray (1994) measures of market performance is divided into strategic indicators such as market share, consumer confidence and financial indicators such as rate of return on investment, rate of return on assets, profitability. However, Reijonen et al (2012) adopted strategic market performance which was measured relative to competitors with regards to customer satisfaction, enterprise competition, acquisition of new customers, and retention of customers. This study measured the performance of Micro, Small and Medium-sized Agro-food processing enterprises by adopting profitability (annual net profit).

3.0: RESEARCH METHODOLOGY

3.1: Research design

According to Kothari (2010) and KIM (2009) the study adopted correlational research design which sought to establish the relationships between variables and described the nature of relationships in the study. This study was grounded on positivist approach of research which is principally a quantitative approach adopted to obtain objective results through formulation of hypothesis for testing (Rossman & Rollis, 2003).

3.2: Target Population and Sample Size

In this study, the target population was one thousand and twenty (1,020) licensed Micro, Small and Medium-Scale Agro-food processing enterprises in Nairobi County. This comprised bakers and bakeries 134, Grain millers 550 and Dairy milk processors 336 (County Government of Nairobi, 2015). A sample size was drawn from a list of the target population of Micro, Small and Medium-scale Agro-food processing enterprises in Nairobi County. The sample size included bakers and bakeries 100, Grain millers 226 and dairy milk processors 179 (Kothari, 2008). The sample size of 505 respondents represented managers or owner operators who made executive decisions for the enterprises.

3.3: Research Instruments

In this study, data collection tools were reviewed and pre-tested to determine reliability and validity. Validity is the degree to which a data collection instrument measures what it is intended to measure (Cooper & Schindler, 2011). Content validity test was measured in this research using professionals in the field of strategic management and marketing (Sanders, Lewis & Thornhill, 2009). To strengthen validity, the instruments were given to two groups of experts where one group was asked to assess what concept the instruments were trying to measure and the other to determine whether the set of items or checklist accurately represented the concept under study (Kothari, 2010; Mugenda, 2011). A scrutiny was conducted and any
amendments in the contents were done in accordance with the research objectives. Internal consistency measure known as cronbach’s alpha (α) was used in this study to measure reliability by administering the instruments. According to Mohsen and Dennick (2011), acceptable value of cronbach’s alpha should range from 0.70 to 0.95. In this study, the Cronbach’s Alpha (α) coefficients for product innovation orientation was 0.897. This was reliable and acceptable for the research since higher Cronbach’s Alpha values represent more reliable instruments.

3.4: Data Collection procedures

Stratified sampling method was used to categorize licensed Micro, Small and Medium-Scale Agro-food processing enterprises in Nairobi County into strata (sampling units). Stratified sampling was used because the total population was heterogeneous (Kenya Institute of Management, 2009). After stratification of enterprises, simple random sampling was applied to select 505 respondents because every element has a known and equal chance of being selected as a subject (Kothari, 2008; Saunders et al, 2009; Mugenda, 2011). The sample chosen was used for generalization of results (Saunders, Lewis, & Thonhill, 2009).

The study collected primary data by administering questionnaires to the sample size. Primary data was sought for due to their proximity to the truth and control over error (Saunders et al, 2009; Copper & Schindler, 2011). In adopting questionnaires, the study used closed-ended and open-ended questions because they guided respondents in giving relevant responses for easy analysis and permitted a greater depth of response respectively (Saunders et al, 2009). Likert scale was used to measure attitudes or opinions by seeking responses to a series of statements about a particular topic, on the basis of agreeing or disagreeing with them (Likert, 1932). It was established that the response rates in the study ranged between 87.0 to 93.3 percent with a mean response rate of 90.48 percent. The response rates were considered suitable, as they concurred with Jonson and Owens (2003) view that a response rate of 80% is adequate for a study.

3.5: Data Processing and Analysis

The administration of questionnaires yielded qualitative and quantitative data. Qualitative data was analyzed using descriptive statistics while quantitative data was analyzed using inferential statistics. The application of the two methods helped in attaining higher validity and reliability (Babbie, 1989). The collected data was edited, coded, classified, and tabulated for easy data analysis (Kothari, 2010). Descriptive statistics helped to organize, summarize, interpret and communicate qualitative information obtained from the study (Mutai, 2001; Kothari, 2010). Inferential statistics dealt with inferences about population based on results obtained from samples. The inferences were drawn after hypothesis testing on the relationship between product innovation orientation and performance of Micro, Small and Medium-scale Agro-food processing enterprises in Nairobi County.

In data analysis, correlational analysis was used as a hypothesis test tool to determine the relationship between product innovation orientation and the performance of Micro, Small and Medium-Scale Agro-food processing enterprises in Nairobi County. This was attained using Pearson’s coefficient of correlation (Kenya Institute of Management, 2009; Kothari, 2010). Additionally, computations of frequencies, averages, percentages, statistical tests including chi-square tests were used to analyze data which was presented using tables.

4.0: RESEARCH FINDINGS AND DISCUSSIONS

4.1: Demographic Information of Respondents

The aspects covered under this section included; gender of respondents, the type of Agro-food processing enterprise, number of employees in an enterprise among others. The study considered this section important as it provided information on the nature of the business under study and the respondents. The findings of this section provide oversight on the type of Agro-food processing enterprises under the study.

4.1.1: Gender Information

The results of the study in Table 4.1 indicated that 75.4 percent of respondent were male while 24.6 percent were female. The Pearson chi-square test ($\chi^2 = 119.035; df = 1; p < 0.001$) indicated that the males were significantly different from females in terms of sample size. This implies that the sample size comprises male and female in different proportions.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Frequency</th>
<th>Respondents</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>347</td>
<td>75.4</td>
</tr>
</tbody>
</table>
4.1.2: Categories of Agro-food processing Enterprises

According to Table 4.2, the results of study indicated that bakers and bakeries were 18.9 percent; grain millers represented 44.8 percent of the respondents and the dairy milk processors 36.3 percent. Pearson chi-square test ($\chi^2 = 48.004; df=2; p<0.001$) reported a significance difference among the categories of Micro, Small and Medium-scale Agro-food processing enterprises in Nairobi County. This implied that the categories of Micro, Small and Medium-scale Agro-food processing enterprises were different and comprised bakers and bakeries, grain millers and dairy milk processors in different proportions.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Number of MSMEs</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bakers and Bakeries</td>
<td>87</td>
<td>18.9</td>
</tr>
<tr>
<td>Grain Millers</td>
<td>206</td>
<td>44.8</td>
</tr>
<tr>
<td>Dairy Milk Processors</td>
<td>167</td>
<td>36.3</td>
</tr>
<tr>
<td>Total</td>
<td>460</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.1.3: Number of Employees in an Enterprise

According to Table 4.3, the results of the study indicated that 72.4 percent of the Micro, Small and Medium-scale Agro-food processing enterprises had employees ranging from 1 to 10 in numbers. Another 24.8 percent had employees ranging from 11 to 50 in numbers and a paltry 2.8 percent of the enterprises had employees ranging from 51 to 250 in numbers.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Frequency</th>
<th>Number of MSMEs</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise employees</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-10 Employees</td>
<td>333</td>
<td></td>
<td>72.4</td>
</tr>
<tr>
<td>11-50 Employees</td>
<td>114</td>
<td></td>
<td>24.8</td>
</tr>
<tr>
<td>51-250 Employees</td>
<td>13</td>
<td></td>
<td>2.8</td>
</tr>
<tr>
<td>Total</td>
<td>460</td>
<td></td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.2: Adoption of Product Innovation Orientation

Table 4.4 revealed that 100 percent of Micro, Small and Medium-scale Agro-food processing enterprises had adopted product innovation orientation to satisfy the dynamic tastes and preferences of customers. All the respondents had adopted product innovation orientation to keep abreast with the dynamic customers’ demand.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Frequency</th>
<th>Number of MSMEs</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Innovation Orientation</td>
<td>No</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>460</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>460</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.2.1: Application of Product Innovation Orientation

According to Table 4.5, the results of the study indicated that 41.5 percent of respondents applied product innovation orientation to a great extent. In addition, 31.1 percent of the responding enterprises applied product innovation orientation to a very great extent. In the same vein, 6.7 percent of the respondents had applied product innovation orientation to a small extent. Chi-square test ($\chi^2 =261.348; df= 4; p< .000$) indicated a significant difference in the extent of application of product innovation orientation among the respondents. This implied that the extent of application of product innovation orientation among enterprises were different.
4.2.2: Product Innovation Orientation

According to Table 4.6, the weighted average score for the opinion of respondents about focusing on production of new products as worked out by adding all respondents’ scores and dividing by the number of respondents resulted into a weighted average score of 4.18. This implied that the respondents agreed that product innovation orientation was implemented through production of new products. Chi-square test ($\chi^2 = 673.739; df=3; p<0.001$) indicated the presence of a significant difference among the Micro, Small and Medium-scale Agro-food processing enterprises in production of new products. Similarly, improvement and modification of the existing product to satisfy customers’ tastes and preferences realized a weighted average score of 4.19 implying that respondents agreed that Agro-food processing enterprises improved and modified existing products. Chi-square test ($\chi^2 = 652.609; df=3; p<0.001$) represented the presence of a significant difference among the Micro, Small and Medium-scale Agro-food processing enterprises on improvement and modification of existing products. In addition, application of product innovation for efficient production and higher sales attained a weighted average score of 4.20. This implied that respondents agreed that product innovation was implemented to enable enterprises attain efficient production for higher sales. Chi-square test ($\chi^2 = 658.348; df=3; p<0.001$) indicated the presence of a significant difference among the Micro, Small and Medium-scale Agro-food processing enterprises in application of product innovation for efficient production and realization of higher sales. In overall, the weighted average score of 4.19 indicated that respondents agreed that product innovation orientation indicators were implemented by the Micro, Small and Medium-scale Agro-food processing enterprises.

Table 4.6: Indicators of Product Innovation Orientation

<table>
<thead>
<tr>
<th>Indicators</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
<th>WA</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Our enterprise is focused on production of new products to dynamic customers' tastes and preferences Count</td>
<td>99</td>
<td>347</td>
<td>13</td>
<td>0</td>
<td>1</td>
<td>4.18</td>
</tr>
<tr>
<td>(ii) Our enterprise improves and modifies existing products to fulfill customers’ tastes and preferences Count</td>
<td>104</td>
<td>342</td>
<td>13</td>
<td>1</td>
<td>0</td>
<td>4.19</td>
</tr>
<tr>
<td>(iii) Application of product innovation helps my enterprise realize efficient production for higher sales Count</td>
<td>104</td>
<td>343</td>
<td>12</td>
<td>1</td>
<td>0</td>
<td>4.20</td>
</tr>
</tbody>
</table>

Total | 307 | 1032| 38 | 2  | 1  | 4.19 |

Note: Strongly Agree (SA) Agree (A) Neutral (N) Disagree (D) Strongly Disagree (SD) Weighted Average (WA)

4.3: Correlation Results on Product Innovation Orientation and Enterprise Performance

As indicated in Table 4.7, Correlation results on the association between product innovation orientation and performance of Micro, Small and Medium-scale Agro-food processing enterprises in Nairobi County indicated a strong significant positive correlation ($r=0.690$ at $p=0.000<0.01$) between product innovation orientation and performance of Micro, Small and Medium-scale Agro-food processing enterprises in Nairobi County. This indicates that product innovation orientation has 69 percent significant association with the performance of Micro, Small and Medium-scale Agro-food processing enterprises in Nairobi County. This result concurs with the findings of Isoherranen and Kess (2011) and Baregheh et al, (2012) that operationalization of product innovation results into improved enterprise performance. Additionally, the findings manifested evidence to suggest that there was linear relationship between Technology Orientation (TO), Customer Relationship Orientation (CRO) and Value Creation Orientation (VCO) with the
performance of Micro, Small and Medium-scale Agro-food processing enterprises.

### Table 4.7: Correlation Results

<table>
<thead>
<tr>
<th>Factor</th>
<th>Test</th>
<th>Y</th>
<th>PIO</th>
<th>TO</th>
<th>CRO</th>
<th>VCO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>460</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIO</td>
<td>Pearson Correlation</td>
<td>.690**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>460</td>
<td>460</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TO</td>
<td>Pearson Correlation</td>
<td>.613**</td>
<td>.489**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>460</td>
<td>460</td>
<td>460</td>
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</tr>
<tr>
<td>CRO</td>
<td>Pearson Correlation</td>
<td>.665**</td>
<td>.548**</td>
<td>.514**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
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<td>N</td>
<td>460</td>
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<tr>
<td>VCO</td>
<td>Pearson Correlation</td>
<td>.734**</td>
<td>.583**</td>
<td>.590**</td>
<td>.609**</td>
<td>1</td>
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<td></td>
<td>Sig. (2-tailed)</td>
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</tbody>
</table>

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

Note: Enterprise Performance (Y) Product Innovation Orientation (PIO) Technology Orientation (TO) Customer Relationship Orientation (CRO) Value Creation Orientation (VCO)

### 4.4: Hypothesis Testing

Hₐ: Product innovation orientation positively influences performance of Micro, Small and Medium-scale Agro-food processing enterprises in Nairobi County.

Research findings showed that product innovation orientation had a strong significant positive correlation ($r=0.690$ at $p=0.000<0.01$) with performance of Micro, Small and Medium-scale Agro-food processing enterprises in Nairobi County. Since the $p$-value = 0.000 which is less than $\alpha = 0.05$ at 95 percent confidence level, the study fails to accept $H₀$ and confirms $Hₐ$ that product innovation orientation positively influences performance of Micro, Small and Medium-scale Agro-food processing enterprises in Nairobi County.

### 4.5: Discussions

Correlation results established a strong significant positive correlation ($r=0.690$ at $p=0.000<0.01$) between product innovation orientation and performance of Micro, Small and Medium-scale Agro-food processing enterprises in Nairobi County. These results reinforce the findings of Isoherranen and Kess (2011) and Baregheh et al, (2012) that application of product innovation by enterprises results into improved enterprise performance. Similarly, the overall weighted average score of 4.19 shows that respondents agreed that product innovation orientation indicators (production of new products, improvement and modification of existing products and efficient production for higher sales) were implemented by the Micro, Small and Medium-scale Agro-food processing enterprises in Nairobi County. This study concurs with a study by Fransen (2013), on Innovations in SMEs in Yogyakarta, Indonesia, which revealed that most firms (57 percent) considered their operations to be highest at product innovation which is an indication that product innovation by SMEs is a key pillar for improved enterprise performance.

### 5.0: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1: Summary

The objective of the study was to determine the influence of product innovation orientation on performance of Micro, Small and Medium-Scale Agro-food producing enterprises in Nairobi County, Kenya. The correlational results established a strong significant positive correlation ($r=0.690$ at $p=0.000<0.01$) between product innovation orientation and performance of Micro, Small and Medium-scale Agro-food processing enterprises in Nairobi County.
5.2: Conclusions
This study determined the influence of product innovation orientation on performance of Micro, Small and Medium-Scale Agro-food processing enterprises in Nairobi County. The findings have established that application of product innovation orientation by Micro, Small and Medium-Scale Agro-food processing enterprises improve enterprise performance. Based on these revelations, product innovation orientation is considered as a contributing factor to the performance of Agro-food processing enterprises. The findings further demonstrated a strong significant positive association between product innovation orientation and performance of Micro, Small and Medium-scale Agro-food processing enterprises in Nairobi County. This implies that application of product innovation orientation significantly influences performance among Micro, Small and Medium-scale Agro-food processing enterprises.

5.3: Recommendations
Analysis of the influence of product innovation orientation on performance of Micro, Small and Medium-scale Agro-food processing enterprises has shown that the performance of Agro-food processing enterprises is significantly influenced by product innovation orientation. In order to enhance the performance of Agro-food processing enterprises, the study recommends that owners and managers or employees of Agro-food processing enterprises should apply incremental adjustments to products through development of new products; improvement and modification of existing products; and efficient production.

Additionally, the study recommends that the Government should develop a vibrant Agro-food processing sub-sector by strengthening product innovation programmes through sponsoring or subsidizing enterprise training and funding innovations for SMEs sector in Kenya. This will provide an enabling environment for holistic improvement in performance of Agro-food processing sub-sector in Kenya.

5.4: Areas for Further Research
The findings of the study on the influence of product innovation orientation on the performance of Micro, Small and Medium-scale Agro-food processing enterprises in Nairobi County could be used as a foundation for further research. Future research should investigate generalization of the findings beyond the Kenyan Micro, Small and Medium-scale Agro-food processing sub-sector. The scope of further research may also be extended beyond marketing function to include more elements in corporate strategy.

Additionally, findings on product innovation orientation could be used as the basis for specific and in depth research into every separate element of product innovation orientation in Kenya. The elements of product innovation orientation tested in the Agro-food processing sub-sector could also be applied in other sub-sectors.

6.0: REFERENCES


[57] Republic of South Africa .(2012). Agro-processing Strategy; Department of Agriculture, Forestry and fisheries (DAFF), Pretoria.


