European Journal of Business and Management Research
www.ejbmr.org

Innovativeness and Performance: Evidence from Kenyan SMEs

Daniel Kiama Kiiru, Elegwa Mukulu, and Peter Ngatia

ABSTRACT

Entrepreneurship has acknowledged innovation as a force behind successful business operations. As a result, the study explores how innovation affects Kenyan enterprise performance. The primary data used were obtained through surveys given out to respondents. The target population was animal fed manufacturing SMEs and unit of analysis were Owners and directors. Structural equation modeling (SEM) was the analytical technique employed. The findings indicated that innovativeness has a positive and significant impact on company performance. According to the study's findings, innovative businesses perform better. In order to thrive and succeed in the market, the study advises management and business owners of SMEs to foster an innovative culture.

Keywords: Innovativeness, Kenya, Performance, SMEs.

Submitted: January 02, 2023

Published: March 15, 2023

ISSN: 2507-1076

DOI: 10.24018/ejbmr.2023.8.2.1810

D. K. Kiiru*
PhD Candidate, Jomo Kenyatta University of Agriculture and Technology (COHRED), Kenya
(e-mail: danielkiiru@gmail.com)
E. Mukulu, Prof.
Senior Lecturer, Jomo Kenyatta University of Agriculture, Kenya
P. Ngatia
Lecturer, Jomo Kenyatta University of Agriculture and Technology, Kenya

****Corresponding Author***

I. Introduction

A. Background of the Study

Entrepreneurship has been recognized throughout the world as an important driver in the creation of businesses that fuel national economic growth. For example in China and Japan, SMEs contribute 60%, in the USA they generate 65% and in UAE they contribute 52% to the respective GDPs (Kawira *et al.*, 2019). In Africa, SMEs, similarly contribute emissary in both job creation and GDP. For example, In Ghana, SMEs offer 70% of industrial employment way over 505 of the country's GDP (Kaberia & Muathe, 2021). In Kenya, as in many other growing economies, SMEs are central to the development of the economy. They comprise about 80% of all Kenyan businesses (7.4 million SMEs), jointly employ approximately 14.9 million people (78% of labor force) and account for a third of Kenya's GDP (Krishnan *et al.*, 2019). According to the Micro Enterprises Act of 2012, small businesses are those that have between 10 and 49 permanent employees. However, medium-sized enterprises are defined as those with a permanent workforce of 50 to 99 and annual revenue of 5-800 million (Nelima, *et al.*, 2016). Within the manufacturing sector, SMEs comprises 93.8% of all the establishments (Chittithaworn *et al.*, 2011). Moreover, According Bull (2017) opine that manufacturing sector globally is constituted by SMEs.

The Kenya government has carried out various intervention to promote performance of SMEs, especially in the manufacturing sector. For example, the Ministry of Industry, Trade and cooperative have formulated policies and regulation framework to promote enabling business environment in Kenya (Were, 2016). An example of such a policy that enhances manufacturing sector in Kenya is Vision 2030, which states that the role of the manufacturing sector in Vision 2030 is to create employment and wealth. Despite, the interventions put in place in Kenya to foster SMEs in manufacturing sector, the performance has been poor. Statistics shows that the sector grew at 3.5 % in 2015 and 3.2% in 2014, contributing 10.3 to gross domestic products (GDP) (KNBS, 2016). On average, however, manufacturing has been growing at a slower rate than the economy, which expanded by 5.6% in 2015. This implies that the share of manufacturing in GDP has been reducing over time. Additionally, according to Nyambura (2017), the majority of small and medium-sized animal feed production firms in Kenya are having trouble repaying their loans, which is evidence of their subpar financial performance.

Research shows that manufacturing SMEs just like other business in developing countries face numerous challenges that impede growth and performance. Some of the challenges manufacturing SMEs face in Kenya are lack of finance, socio-cultural factors, competition, lack of entrepreneurial mind set and physical resources (Gathungu & Baariu, 2018). Furthermore, there is fierce competition from other SMEs and big firms; as a result, SMEs must be strategic and have an entrepreneurial mindset to survive and succeed.

Furthermore, the performance of small and medium-sized businesses is hindered by inadequate resources, fierce rivalry, and improper technology, a low budget for research and development, and bad organizational practices (Sallem *et al.* 2017). Therefore, ideal intervention measures are required to address the issues and poor performance faced by SMEs in Kenya, particularly those producing animal feed.

It has been shown that firms that adopt an entrepreneurial mindset especially innovativeness, typically see higher returns.

Tang *et al.* (2020) argued that innovation propel enterprises to superior performance. In his view innovation is about continuous improving a firm's products or services, production process and management with the aim of achieving a competitive edge and superior performance. Moreover, innovativeness is the improvement (add value) of something already existing; the successful executing of a new novel and appropriate ideas and the commercialization of an invention (Bwisa, 2011). A number of empirical studies claim that innovativeness is considered as one of the most critical strategic orientations of SMEs to enable them to achieve long term success.

B. Statement of the Problem

SMEs in manufacturing sector, especially animal feed contribute greatly to the development of Kenya economy. Despite vision 2030 envisages manufacturing sector to contribute 10% of Kenya GDP, this has been a pipe dream.

According to Economic Survey 2020 (2020), the real value of SMEs in manufacturing in Kenya in 2018 and 2019 were 3.2 and 4.3 percent respectively. Research by Nyambura (2017) reports that most of the small and medium animal feed manufacturing enterprises are struggling with loan repayment which is a proof of poor financial performance. Therefore, there is evidence of poor performance among SMEs in manufacturing sector and therefore, there is a need to address the issue to stimulate performance in the sector.

According to Dickson (2018), opines that decline in performance of animal feed manufacturing enterprises in Kenya had led to closure of a number of enterprises and loss of jobs. It is, therefore, imperative that there is need to develop policies and strategies to spur the performance of SMEs in Kenya, especially animal feed manufacturing enterprises. Local scholars have attempted to investigate the predictors of performance of small and medium animal feed manufacturing enterprises. For instance, Karumbi (2018) examines the competitive marketing strategies adopted by animal feed manufacturing firms in Kiambu County. Mwangi (2019) examines the influence of free trade agreement on business growth of animal feed firms in Nairobi County, Kenya. Dickson (2018) investigates inventory management practices and operational performance of Kenya animal feeds industry. This study depicts that there exists a conceptual gap on the topical issue, because previous studies on performance of small and medium animal feed manufacturing enterprises have not taken an entrepreneurial approach. This research examined into how innovativeness influenced the performance of Kenya's small and medium animal feed manufacturing enterprises. The study aimed to close the knowledge gap caused by the paucity of innovativeness in SMEs manufacturing animal feed.

C. Hypothesis

There is no relationship between innovativeness and the performance of small and medium animal feed manufacturing enterprises in Kenya.

II. Literature Review

A. Theoretical Review

The study was anchored on the Schumpeterian theory of innovation (1934).

Schumpeterian Theory of Innovation emphasizes the use of innovation in coming up with new combinations, introducing new products, and production functions, the opening of new markets, conquering of new sources of materials among many others. According to Schumpeter (1936), entrepreneurs exploit opportunities through creation and provision of leadership and exercising good management practices to maximize potential, profit and growth. That is, each innovation is aimed at creating a new process or product that gives its creator a competitive advantage over its business competitor; it does so by rendering obsolete some previous innovation (Schumpeter, 1936). Thus, innovation is what differentiates an entrepreneur and non-entrepreneur. To initiate high firm performance, innovation has to be integrated in a firm to attain survival and success.

This theory supposes that technological progress comes from innovations carried out by firms motivated by the pursuit of profit, and that it involves what Schumpeter called "creative destruction". Creative destruction in the view of Schumpeter is about doing away with the old way and develop new ones that will generate better returns. Further, creative destruction allude that entrepreneurs hate status quo and thus monopoly is their main vision. Ndirangu (2016) supported Schumpeter theory of innovation and further advance that innovation is a tool that an entrepreneur should always promote in the firm with the purpose of exploiting market opportunities.

The current study perceive innovation as a strategic behaviour for managers/entrepreneurs of animal feed manufacturing SMEs ought to put in place in their firms to achieve competitive edge. Innovation is presented as a discipline with capabilities of being studied, learned and practice. Thus, it can be said that animal feed Manufacturing SMEs in Kenya are in need of being managed in innovative ways especially in this era of globalization and great technological advancement. These enterprises would ultimately provide a base for economic growth in Kenya and consequently contribute to minimizing unemployment especially among the youth.

B. Empirical Review

Innovativeness is the propensity of a firm to create new ideas that would improve its goods and services and possibly lead to large profits for the enterprise. Gudda *et al.* (2013) view innovativeness as the inclination of a firm towards innovation in product and process with the purpose of meeting the needs and wants of the customers in the market. It is the behaviour of the firm to be creative, promotes experimentation that may lead to new products, services or processes (Sok & O'Cass 2015). Laban (2019) explored the effect of strategic innovations on organizational performance of information communication technology sector firms in Nairobi County, Kenya. He found that innovation had a positive impact on performance. In the study, market innovation had the best predictor of organizational performance, and then process innovation and product innovation followed in that order. It was noted that most of

the firms in Kenya had the challenge on product and service differentiation. Tuan *et al.* (2016) investigates the impacts of innovation activities on the different aspects of innovation performance and in turn, their effects to firm performance of 118 firms that support industry in Vietnam. The findings show that process, marketing and organizational innovation activities are the main drivers of performance in the SMEs rather than product innovation. Waithaka *et al.* (2016) conducts a survey on SMEs in Kenya and found that, ultimately, actively innovative SMEs with a tendency to take advantage of new opportunity improve their performance. Similarly, Gunday *et al.* (2011) highlights that those innovative SMEs in Turkey have significantly better performance. However, limited allocation of resources for innovative activities has been identified as the greatest barrier to innovation within organization (Fransco & Haase, 2013).

C. Conceptual Framework

The concept of the study presented innovativeness and performance of small and medium animal feed manufacturing enterprises in Kenya.

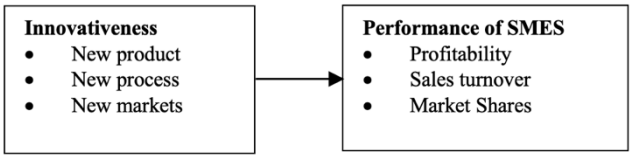

Fig. 1. Conceptual Framework.

III. Research Methodology

The study adopted positivist's approach philosophy which calls for independence and bias-free behavior in conducting a study so that the subjects of the research do not come affected. This philosophy allowed both a quantitative and qualitative research methodology. To be applied in the study. A cross-sectional research design was used which describe the elements at a particular time. The study target population was animal feed manufacturing SMEs in Kenya, and the scope was all firms based in Kiambu and Nairobi City Counties. The study respondents were owners and directors and were picked using Celsius survey. A total of 116 respondents were identified to participate in the research. Data was collected using open and closed questionnaires. Also, the study employed partial Least Squares structural equation modeling (SEM) to analyze the data.

IV. Results and Discussion

A. Response Rate

The study was able to obtain 87% responses from the distributed 116 questionnaires. The response rate was deemed suitable for the data analysis as it was representative of the sample population.

B. Pilot Study Results

A pilot study was carried out in seven firms of the target population which were later excluded in the actual research. Pilot study was done to refine the research tool. Through pilot study reliability and validity of the questionnaire was to be evaluated. In this study, reliability was to be tested using Cronbach's alpha. Janadari *et al.* (2016) opined that that a coefficient greater than or equal to 0.7 is satisfactory for basic research. The Cronbach's Alpha for innovativeness was 0.796 and composite reliability was 0.744 as shown in Table II which was above the threshold of 0.7 adopted in this study hence the nine items were reliable in measuring technology orientation. Through use of experts in the field of entrepreneurship and literature review content and construct validity was done. After confirmation that the questionnaire had met the threshold of reliability and validity, actual data collection was carried out.

TABLE II: Summary of Reliability Statistics of Innovativeness

Cronbach's Alpha	Composite Reliability	No of Items
0.796	0.744	9

C. Descriptive Statistics

The study sought to determine the influence of innovativeness on performance of animal feed manufacturing SMEs in Kenya. To achieve this the respondents were requested to indicate the level of agreement on five-point Likert scale with '1' indicating 'strongly disagree',2 'disagree', 3 'neutral', 4 'agree' and 5'strongly agree'. The respondents were asked to fill out a questionnaire that had statements on the level of technology orientation within their firms. The results of the descriptive statistics were shown in Table III.

TABLE III: Measurement of Innovativeness

Items	Mean	Std Dev
I often create new products that will provide value for customer	2.54	1.03
My company has invested in latest innovations to improve product market performance	2.38	1.02
I regularly encourage development of employees' ideas for the purpose of business products	3.99	0.75
I regularly improve on the production process	2.00	0.70
I design our own unique new methods of production to remain competitive	3.92	0.77
Our enterprise has strong intention to encourage and stimulate process innovation	3.93	0.71
I always look for new market to target	4.20	0.77
I often find new ways to reach out to customers such as through social media	4.00	0.74
I always remain in the same business and target only the existing market	4.08	0.74

D. Diagnostic Results

In statistical analysis, all parametric tests assume some certain characteristic about the data, also known as assumptions. Bryman (2012) posits that before data analysis is done, it is important to test a number of assumptions about the distribution of the study variables. In this study, test for normality, multicollinearity and homodescasticity were carried out.

1) Normality

Table IV shows the test results for normality, using skewness and kurtosis. According to Pallant (2010) variable with an absolute skew index value greater than 3.0 is extremely skewed while Kurtosis index greater than 8.0 is an extreme kurtosis.

TABLE IV: UNIVARIATE NORMALITY FOR INNOVATIVENESS

Constructs	Statistic	Std. Error	Statistic	Std. Error
Innovativeness	0.279	0.239	-0.209	0.479

Based on the results presented in Table IV, shows skewness values are below 3.0 and kurtosis values are below 8.0. The data, therefore, adhered to the regression assumption of normal distribution.

2) Multicollinearity

Table V shows the test results for multicollinearity, using both the Variance Inflation Factor (VIF) and tolerance. If VIF statistic is above 5, then there is presence of multicollinearity, and it should be removed from regression models (Senaviratna & Cooray, 2019).

TABLE V: MULTICOLLINEARITY TEST OF STUDY VARIABLES

2nd order constructs	VIF	Tolerance
Technology orientation	1.789	0.556

Based on Table V, VIF values were less than 5. It was thus concluded that there was no presence of multicollinearity. The VIF shows how much the variance of the coefficient estimate is being inflated by multicollinearity.

3) Heteroscedasticity Test

Breuch-pagan / cook-weisberg test was used to test null hypothesis that the error variances are all equal versus the alternative that the error variances are a multiplicative function of one or more variables. Table VI shows the results of a test of heteroscedascity.

TABLE VI: HETEROSCEDASTICITY TEST OF STUDY VARIABLE

Ho	Variables	Chi2(3)	Variables
Constant Variance	Innovativeness	2.409	0.121

Table VI shows that the constant variance (Chi-square= 2.409) is insignificant (P = 0.121). A large Chi-square value greater than 9.22 would indicate the presence of heteroscedasticity (Dutta *et al.*, 2012). Thus, we fail to reject.

E. Correlations of the Study Variables

The study found that innovativeness had a positive linear relationship with firm performance in small and medium animal feed manufacturing enterprises in Kenya. With Pearson correlation coefficient of 0.395 at 0.01; the significance level is shown in Table VII. Literature reveals that innovativeness within a firm contribute to new products, new processes and new markets with the purpose of meeting the need and wants of the customer; thus, fostering firm performance (Gudda *et al.*, 2013).

TABLE VII: CORRELATION MATRIX

	innov	Per
Innov	1	-
PER	0.395**	1

F. Partial Least Squares-Structural Equation Modelling (PLS-SEM)

Partial Least Squares Structural Equation Modelling (PLS-SEM) is a statistical tool which allows the estimation of cause-effect relationship models with many constructs, indicator variable and structural paths without imposing distributional assumptions on the data. Also, PLS-SEM offers solutions with small sample sizes when models comprise many constructs and a large number of items (Cheah *et al.,* 2018). PLS-SEM involves two processes: measurement model and structural model. The measurement model was the first carried out to examine the relationships between the latent variables and their measures. The measurement model further entails two stages: namely, exploratory factor analysis and confirmatory factor analysis. Structural modelling follows measurement model to assess the relationship between exogenous and endogenous latent variables.

Measurement model involves the estimation of the outer or measurement model which assess the relationship between the observable variable and the theoretical construct they represent (Bryne, 2001). The measurement model further entails two stages: namely, exploratory factor analysis and confirmatory factor analysis. Exploratory factor analysis (EFA) is a statistical technique that is used to reduce data to a smaller set of summary variables and to explore the underlying theoretical structure of the phenomena (Tabachnick & Fidell, 2013). Exploratory factor analysis was tested in order to identify the variables that group together into the most effective number factor. Exploratory factor analysis constitutes computation of factor loading matrix, extraction of communalities and principal component analysis. Table V111 shows Innovativeness produced a KMO statistics of 0.720 exceeding the KMO threshold value of 0.50 (Noor & Foo, 2004) for factorable items. On the other hand, Bartlett's test of Sphericity yielded a p value of 0.000, demonstrating that there were sufficient relationships among the variables to be investigated. The results from the KMO and the Bartlett's test of Sphericity suggest that the data in this study is suitable for factor analysis. The factor loading found out that none of the items was removed because all of them had a factor loading of greater than 0.4 (Hatcher & O'Rourke, 2013). These findings confirmed that all the factors significantly contributed to the overall variable and thus, all items were retained for further analysis. The communalities show that they ranged from 0.523 to 0.729 indicating that all were above the 0.5 cut-off point (Eze *et al*., 2020). Further, it is an indication that the variables fitted well with other variables in their factor. Based on the criteria, three factors were imputed. Amongst themselves, they were able to explain 78.626 % of the total variance in the data.

Confirmatory factor analysis (CFA) involves evaluating the measurement model on multiple criteria such as internal reliability, and convergent and discriminant validity. Prior to testing reliability and validity, CFA loadings were done for the purpose of validating confirmatory factor analysis (Flora & Flake, 2017). All of the item loadings for innovativeness were above 0.50 and were statistically significant as p-values were less than 0.05. Construct reliability for the variable was assessed by computing the composite reliability and internal consistency of the items. Table IX shows the output of construct, composite and convergent reliability.

The composite reliability of indicator items was all above the acceptable 0.6 threshold which means all the variables in the study exhibited construct reliability. Cronbach's Alphas (α) as a measure of internal consistency its indicator items were all above the 0.7 thresholds (Taber, 2018) indicating average to good reliability.

TABLE VIII: EXPLORATORY FACTOR ANALYSIS FOR INNOVATIVENESS

ü	KMO	Bartlett's (df)	Sig.	%Variation	Factor loadings	Communalities
NPd1	0.720	χ^2=325.377 (d.f.=36)	0.000	31.910	0.536	0.857
NPd2	-	-	-	-	0.518	0.919
NPd3	-	-	-	-	0.610	0.637
Npr1	-	-	-	23.618	0.709	0.738
Npr2	-	-	-	-	0.524	0.565
Npr3	-	-	-	-	0.807	0.736
NM1	-	-	-	13.229	0.581	0.559
NM2	-	-	-	-	0.772	0.690
NM3	-	-	-	-	0.511	0.687
			cumulative %	78.626	-	-

TABLE IX: CONSTRUCT RELIABILITY AND CONVERGENT VALIDITY

Variable	Cronbach's Alpha ≥0.6	Composite Reliability ≥0.7	Average Variance Extracted (AVE) ≥0.5
Innovativeness	0.796	0.744	0.619

Convergent validity was also assessed using average variance extracted (AVE). The overall Average Variance Extracted for all factors was above 0.5 as indicated in Table X which exceeded the cut-off value of 0.5, thus confirming convergent validity.

TABLE X: RESULTS OF DISCRIMINANT VALIDITY

	Per	Inno
Per	0.785	-
Innov	0.395**	0.787

The discriminant validity was confirmed as the square root of a construct's Average Variance Extracted AVE was greater than the correlation between the construct and other constructs in the model as indicated in Table IX.

G. Structural Modelling and Hypothesis Testing

The statistical objective of PLS is to show the coefficient of determination (R-squared), coefficients (βs), and t-values. R^2 coefficient was used to determine the variation in firm performance that was accounted for by the independent variable (latent variable). Coefficients (βs) were meant to show direction and strength and t-values were the basis of rejecting or accepting the null hypothesis of no effect.

H. Hypothesis Testing

To find out the Influence of Innovativeness on Performance of Small and Medium Enterprises in Animal Feed Manufacturing in Kenya.

Table X1, shows values of outliers and model fit for innovativeness. The results of the components' normality test ranged from -1 to +1. Because the values obtained in testing normality were within the thresholds, no outliers were found. Standardized root means square residual (SRMR) value for innovativeness in performance of small and medium-sized firms in animal feed manufacturing in Kenya was 0.048, which is less than 0.08, showing a satisfactory fit to the data and recognized as accurate (Henseler *et al.*, 2014) 2014Normed Fit Index (NFI) had a value of 0.977, which was satisfactory because any value of 0.90 or higher indicates a well-fitting model (Alhadadad, 2015). The geodesic distance (dG) had the value of 0.732, which was less than bootstrapped HI 95%, suggesting the data fits the model exactly. Similarly, the squared Euclidean distance (dULS) fit indices had the value of 1.637, which was less than the bootstrapped HI 95% of d ULS. The model's GOF was 0.487, demonstrating that empirical data fits the model satisfactorily and has a strong capacity for prediction when compared to the initial value (Gbongli & Amedjonekou, 2019). The structural model therein illustrates the path coefficients relationship between the performance of Kenya's small and medium-sized animal feed enterprises.

TABLE XI: CONFIRMATORY FACTOR ANALYSIS
MODEL FITS OF INNOVATIVENESS

Model	NFI	SRMR	d_{ULS}	d_G	GOF
Saturated Model	1	1	1	1	1
Independent Model	0.954	0.048	1.637	0.732	0.487

The hypothesis to test for this specific objective was:

H_{01}: Innovativeness does not influence the performance of small and medium enterprises in animal feed manufacturing in Kenya.

The study found that there was a positive path coefficient (beta= 0.295) between innovativeness and performance of small and medium enterprises in animal feed manufacturing in Kenya, as shown in Fig. 2.

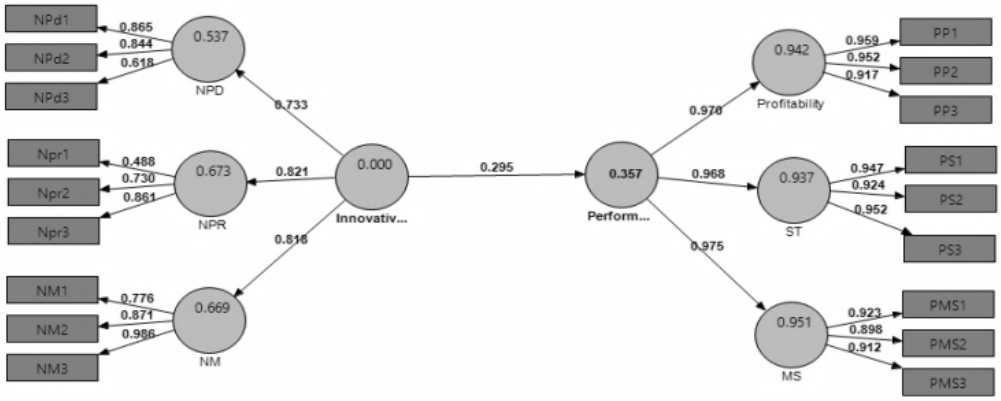

Fig. 2. Structural model path coefficients between innovativeness and performance of small and medium enterprises.

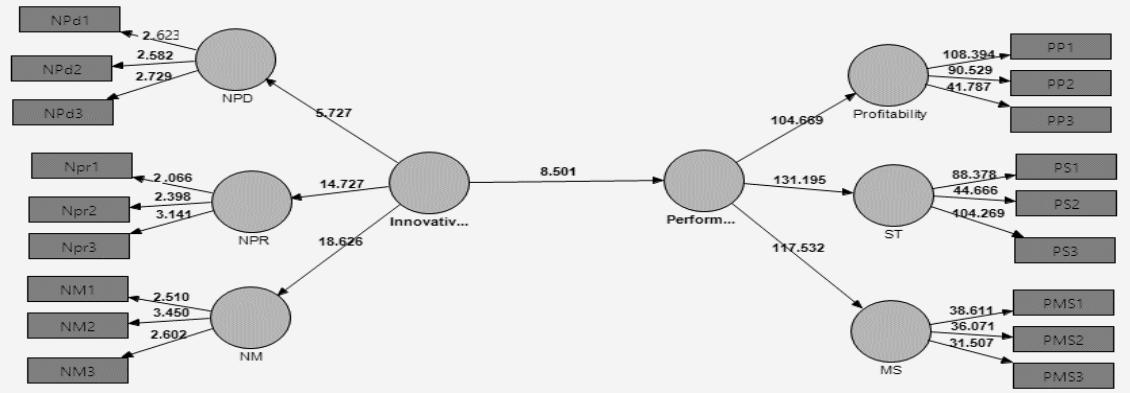

Fig. 3. Structural Model T-Statistics for relationship between innovativeness and performance of small and medium enterprises.

TABLE XII: PATH COEFFICIENTS FOR RELATIONSHIP BETWEEN INNOVATIVENESS AND PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P value
Innovativeness -> Performance	0.295	0.295	0.035	8.501	0.000

Similarly, Fig. 2 shows that innovativeness had a coefficient of determination (R^2) 0.367. The value of R^2 indicates that 36.7 % of the variation in firm performance can be accounted for by innovativeness.

Based on the T-value of technology orientation 8.501 which was more than 1.96 ($p<0.05$), thus the relationship between innovativeness and performance of small and medium enterprises was significant and positive, as shown on Fig. 3. The study rejects the null hypothesis and accept alternative and concludes that innovativeness (new product, new process and new market) influences the performance of small and medium enterprises in animal feed manufacturing in Kenya.

Table XII shows that innovativeness had a beta value of 0.295 and T-statistics of 8.501 which is above the critical value of 1.96, thus its null hypothesis was rejected. The beta value of 0.295, signifies that for every one-unit increase in technology orientation, the performance of small and medium enterprises in animal feed manufacturing in Kenya is predicted to increase by 0.295 units. Therefore, innovativeness enhances the performance of small and medium enterprises in animal feed manufacturing in Kenya. The findings were consistent with those of Waithaka *et al.* (2016) who conducted a survey on SMEs in Kenya. They found that ultimately, actively innovative SMEs with a tendency to take advantage of new opportunity improve their performance. Besides, the findings echo the study of Gachigo *et al.* (2019) that a unit change in exploratory innovative strategy, disruptive innovative strategy and outcome driven innovative strategy leads to an increase in organizational performance.

V. CONCLUSION

The study revealed that animal feed manufacturing SMEs in Kenya support and nurture innovative behaviour. In particular, the firms introduced new products, new processes and opened new market. Each of these innovative behaviours had contributed positively to firm performance through increase of profit margins, sale turnover and market share. Therefore, the study concludes that SMEs under survey that supported innovative behaviour experienced superior firm performance. The study further concludes that the findings of the research were in line with Schumpeter Theory of Entrepreneurship that emphasizes the use of innovation to create new processes and product that give an entrepreneur a competitive advantage over business rivals through rendering previous practices and procedures obsolete. Based on these findings, this study further concluded that innovativeness is equivalent to the oil that keeps SMEs alive. Being innovative in terms of new products, new processes and new markets is therefore a must for SMEs to remain alive and also to enhance their performance.

VI. RECOMMENDATION

The study's findings show that innovation positively improved firm performance, thus, the study recommends that entrepreneurs and managers of small and medium animal feed manufacturing enterprises should adopt the behaviour of improving firm products, new processes and new markets. Further, the study recommends that policy makers in the government under SMEs should develop policies that promote innovation among SMEs to enhance the SMEs' performance and improve their competitive edge.

REFERENCES

Alhaddad, A. A. (2015). The effect of advertising awareness on brand equity in social media. *International Journal of e-Education, e-Business, e-Management and e-Learning, 5*(2), 73.

Bryne, M. (2001)Data analysis strategies for qualitative research. (Research Corner). *AORN journal 74*(6), 904-906.

Buli, B. M. (2017). Entrepreneurial orientation, market orientation and performance of SMEs in the manufacturing industry: Evidence from Ethiopian enterprises. *Management Research Review, 40*(3), 292-309.

Bwisa, H. (2011). *Entrepreneurship theory and practice: A Kenyan perspective*. Narobi: Jomo Kenyatta Foundation.

Cheah, J. H., Sarstedt, M., Ringle, C. M., Ramayah, T., & Ting, H. (2018). Convergent validity assessment of formatively measured constructs in PLS-SEM: On using single-item versus multi-item measures in redundancy analyses. *International Journal of Contemporary Hospitality Management, 30*(11), 3192-3210.

Chittithaworn, C., Islam, M., Keawchana, & Yusuf, D. (2011). Factors affecting business success of small and medium enterprises (SMEs) in Thailand. *Journal of Asian Social Science, 7*(5), 180-185.

Dickson, M. M. (2018). Inventory management practices and operational performance of Kenya animal feeds industry. Unpublished Doctoral dissertation, University of Nairobi, Kenya.

Dutta, A., Bandopadhyay, G., & Sengupta, S. (2012). Prediction of stock performance in the Indian stock market using logistic regression. *International Journal of Business and Information, 7*(1), 105.

Eze, C. E., Awodele, I. A., Adegboyega, A. A., Onyeagam, O. P., & Guto, J. A. (2020). Assessment of the triggers of inefficient materials management practices by construction SMEs in Nigeria. *International Journal of Real Estate Studies, 14*(1), 38-56.

Franco, M., & Haase, H. (2013). Firm resources and entrepreneurial orientation as determinants for collaborative entrepreneurship. *Journal Management Decision, 51*(3), 680-696.

Gachigo, S. M., Kahuthia, J, & Muraguri, C. (2019). Exploration innovative strategy and performance of the telecommunication industry in Kenya: A case of Safaricom PLC in Nairobi metropolis. *International Academic Journal of Human Resource and Business Administration, 3*(6), 299-319.

Gathungu, J. M., & Baariu, V. L. (2018). Competitive Strategies Entrepreneurial Orientation, External Environment and Performance of Small and Medium Enterprises in the Manufacturing Sector in Nairobi City County, Kenya. *Journal of Arts and Humanities, 7*(9), 22-33.

Gbongli, K., Xu, Y., & Amedjonekou, K. M. (2019). Extended technology acceptance model to predict mobile-based money acceptance and sustainability: A multi-analytical structural equation modeling and neural network approach. *Sustainability, 11*(13), 3639.

Gudda, P. M., Bwisa, H., & Kihoro, M. (2013). Gudda, PEffect of Clustering and Collaboration on Product Innovativeness: The Case of Manufacturing Small and Medium Enterprises (SMEs) in Kenya. *International Journal of Academic Research in Business and Social Science,5*(7), 42-55.

Gudda, P. M., Bwisa, H., & Kihoro, M. (2013). Gudda, PEffect of Clustering and Collaboration on Product Innovativeness: The Case of Manufacturing Small and Medium Enterprises (SMEs) in Kenya. *International Journal of Academic Research in Business and Social Science,5*(7), 42-55.

Gunday, G., Ulusoy, G., Kilic, K., & Alpkan, L. (2011). Effects of innovation types on firm performance. *International Journal of Production Economics, 133*(2), 662-676

Hatcher, L., & O'Rourke, N. (2013). A step-by-step approach to using SAS for factor analysis and structural equation modeling. SAS institute.

Janadari, M. P. N., Sri Ramalu, S., Wei, C., & Abdullah, O. Y. (2016, December). Evaluation of measurment and structural model of the reflective model constructs in PLS–SEM. In *Proceedings of the 6th International Symposium—2016 South Eastern University of Sri Lanka (SEUSL)*, Oluvil, Sri Lanka (pp. 20-21).

Kaberia, S. K., & Muathe, S. (2021). Effect of Covid-19 pandemic on performance of women owned micro, small and medium enterprises in Kenya. *International Journal of Social Sciences Studies., 9*, 7.

Karumbi, J. G. (2018). Competitive marketing strategies adopted by animal feeds manufacturing firms in Kiambu County, Kenya, to improve operational performance. Unpublished Doctoral dissertation, university of Nairobi, Kenya.

Kawira, K. D., Mukulu, E., & Odhiambo, R. (2019). Effect of Digital Marketing on the Performance of MSMES in Kenya. *Journal of Marketing and Communication, 2(*1), 1-23.

Kenya National Bureau of Statistics. (2016) *Economic Survey 2016*. Retrieved from: http://www.knbs.or.ke/index.php?option=com_phocadownload&view=category&download=862:economic-survey-2016&id=107:economic-survey-publications&Itemid=1181.

Krishnan, A., Were, A., & te Velde, D. W. (2019). Integrating Kenya's small firms into leather, textiles and garments value chains'. Background Paper. London: Supporting Economic Transformation.

Laban, O. M., & Deya, J. (2019). Strategic innovations and the performance of information communication technology firms in Nairobi Kenya. *International Journal of Academic Research in Progressive Education and Development, 8*(2), 1-24.

Mwangi, T. (2019). Influence of free trade agreements on business growth of animal feed firms in Nairobi City County, Kenya. Unpublished Doctoral dissertation of University of Nairobi, Kenya.

Ndirang'u, M. & Waititu, (2016). Determinant of Innovative Performance in Youth Owned Enterprises in Kenya. Unpublished Doctoral Thesis of Jomo Kenyatta University of Agriculture and Technology,Kenya.

Nelima, M., Namusonge, G, & Sakwa, M. (2016). Account receivable risk management practices and growth of SMEs in Kakamega County Kenya. *Expert Journal of Finance, 4*(2), 31-43.

Noor, H. M., & Foo, J. (2014). Determinants of customer satisfaction of service quality: City bus service in Kota Kinabalu, Malaysia. *Procedia-Social and Behavioral Sciences, 153*, 595-605.

Nyambura, T. N. (2017). Factors influencing financial performance of animal feeds manufacturing companies in selected Counties in Kenya. Unpublished Doctoral dissertation of KCA University, Kenya.

Pallant.J. (2010). *SPSS survival manual: A step by step guide to data analysis using SPSS*. Maidenhead: McGraw-Hil.

Sallem, N. M., Nasir, N. E. M., Nori, W. M. N. W. M., & Kassim, C. K. H. C. K. (2017). Small and medium enterprises: Critical problems and possible solutions. *International Business Management, 11*(1), 47-52.

Schumpeter, J. (1934). *The Theory of Economic Development*. Cambridge: MAS Harvard University Press.

Senaviratna, N. A. M. R., & Cooray, T. M. J. A. (2019). Diagnosing multicollinearity of logistic regression model. *Asian Journal of Probability and Statistics, 5*(2), 1-9.

Sok, P., & O'Cass, A. (2015). Achieving service quality through service innovation exploration–exploitation: The critical role of employee empowerment and slack resources. *Journal of Services marketing, 29*(2), 137-149.

Tabachnick, B. G., & Fidel, L. S. (2013). *Using Multivariate Statistics* (6th ed.). J. Mosher, Ed.

Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in science education, 48*, 1273-1296.

Tang, T. W., Zhang, P., Lu, Y., Wang, T. C., & Tsai, C. L. (2020). The effect of tourism core competence on entrepreneurial orientation and service innovation performance in tourism small and medium enterprises. *Asia Pacific Journal of Tourism Research, 25*(2), 89-100.

Waithaka, R. W., Bwisa, H. M, & Kihoro, J. M. (2016). Relationship between autonomy aspect of an entrepreneur and the performance of agro-based manufacturing small and medium enterprises in Kiambu Count-Kenya. *International Journal of Advanced Research in Management and Social Sciences, 5*(7), 103-110.

Waithaka, R. W., Bwisa, H. M, & Kihoro, J. M. (2016). Relationship between autonomy aspect of an entrepreneur and the performance of agro-based manufacturing small and medium enterprises in Kiambu Count-Kenya. *International Journal of Advanced Research in Management and Social Sciences, 5*(7), 103-110.

Were, A. (2016). Manufacturing in Kenya: Features, challenges and opportunities. *International Journal of Science, Management and Engineering, 4*(6), 15-26.