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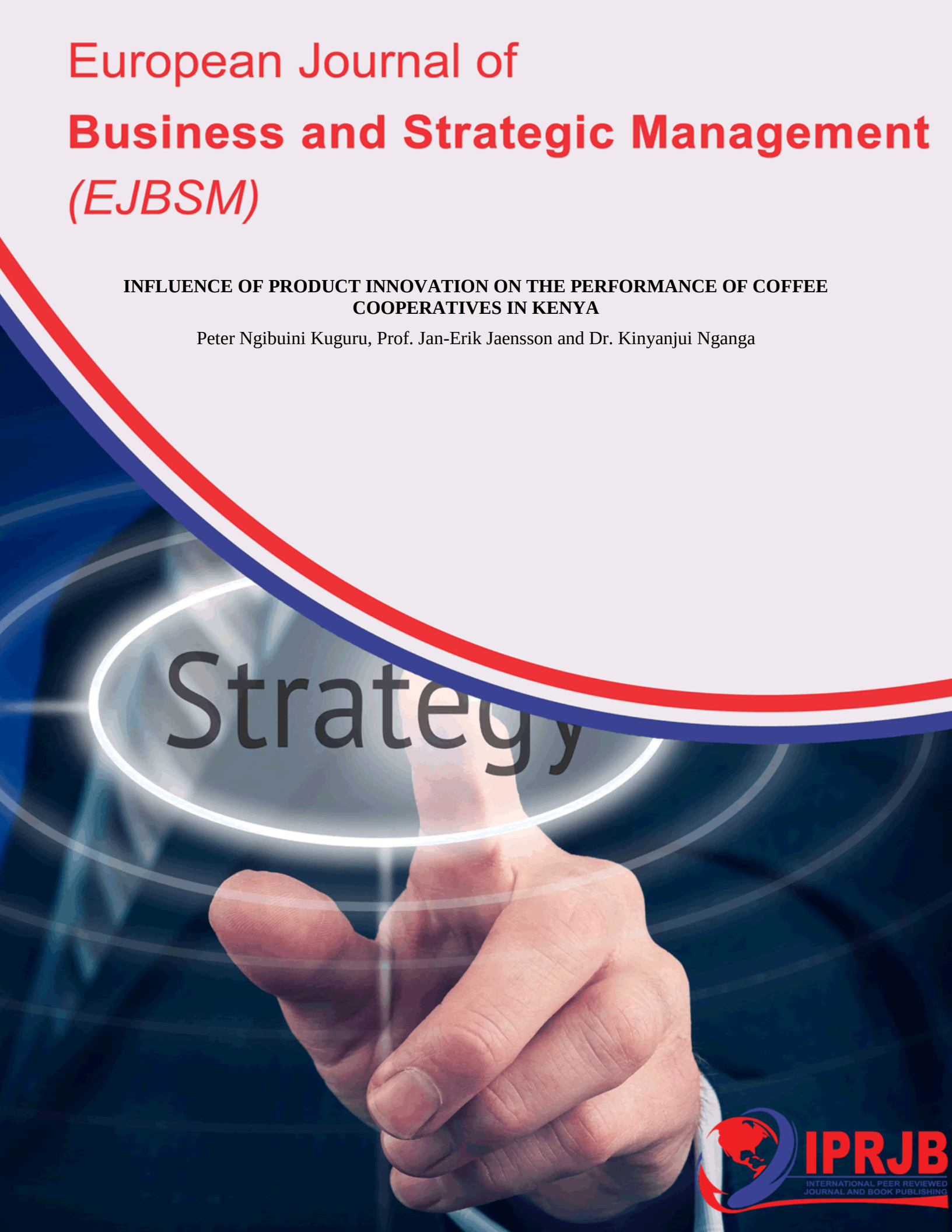

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Abstract

Purpose: The purpose of the study was to assess the influence of product innovation on the performance of coffee cooperatives in Kenya.

Methodology: A descriptive research design was applied. The target population of this study was 525 coffee cooperative societies in Kenya registered with the Commissioner for Cooperatives and licensed by AFFA (Coffee Directorate) as at 30th of October 2016. The sample size was 227 respondents. Structured questionnaires were used to collect primary data from the selected respondents.

Findings: The results of the study revealed that product innovation and performance are positively and significantly related (β=0.631, p=0.002). This indicated that developments of new products are essential for the improvement of the coffee cooperatives' performance.

Unique Contribution to Theory, Policy and Practice: The study recommended adoption of technology for the development of new services, new functions, and formation of new alliances. The study further recommended an organization to employ and develop a high technology for its product in order to determine strategic position to adopt the differentiation position or the cost leadership position. This study is recommended as it will benefit scholars and researchers who will gain insight on the influence of product innovation on performance of coffee co-operatives hence use it as a source of reference for other researches. The results of this study will contribute new knowledge which will provide the government and other stakeholders with better ways of managing co-operatives and improving their production.

Keywords: *Product Innovation, Performance, Coffee Cooperatives*

INTRODUCTION

The practice of product innovation influences firm performance in terms of its capacity and output. Firms that offer products that are tailored to the needs and wants of target customers and that market them more quickly and effectively than their competitors are in a stronger position to establish a lasting competitive advantage (Jones et al., 2018). The increasing importance of product innovation can be traced back to three primary trends: increased global competitiveness, increasingly fragmented and demanding markets, and an increasingly diversified and constantly changing technological landscape (Clarkson, 2005).

Smaller organizations, such as cooperatives, have a greater potential for rapid innovation than larger ones, according to Sousa and Aspinwall (2010), who point to the cooperative model's decentralized management as evidence. The management does not rely on complex reporting systems for checks and balances and is able to quickly adjust to novel situations. The inclusion of performance assessment metrics should therefore benefit companies in arriving at solid business decisions that will fuel the potential to innovate and also develop processes that can aid the organization's efficiency and effectiveness (Broadbent and Weill, 2008). (Broadbent and Weill, 2008). It is postulated that via innovation, businesses can obtain a market edge by capitalizing on their distinctive capabilities (Barney, 2007). Innovation is widely acknowledged as playing a crucial part in the success of businesses and contributing to economic expansion.

Strategic innovation, as described by Abernathy and Utterback (2005), serves primarily to ensure the entities and the business ecosystem's continued existence, which is predicated on the achievement of sustainable financial success. In order to survive, many businesses need to innovate in order to keep up with the ever-shifting business climate. The link between innovation and performance in an organization can be traced back to both innovation and the underlying organizational variables. Capabilities within an organization serve as the foundation for new ideas, which can lead to increased productivity (Kariuki, 2016).

Coffee is a high-profile product that impacts a big section of the world's population. The coffee beans used in the estimated more than 2.25 billion cups of coffee consumed every day around the world are grown by an estimated 25 million mostly small-scale farmers, mostly in subtropical and equatorial regions (FAO, 2014). Many low-income countries rely heavily on the profits from the export of this agricultural product, as it is one of the most actively traded agricultural commodities in the world. The coffee industry, however, has undergone some major shifts in the recent few decades. Millions of growers in over 40 nations have had a tough time as a result of low and highly unpredictable green (unroasted) coffee prices since 1989, when the International Coffee Agreement's economic terms were eliminated.

As innovation is critical and has a direct impact on capacity and output, it is essential for coffee cooperatives to develop in all areas if they are to maintain their development, earnings, and revenues in the short and long periods. However, competition is increasing, and enterprises are learning to maximize output. However, the path to innovation is murky and difficult to anticipate (Nagy et al., 2016; Teece, 2018). Businesses in Malaysia can gain a competitive edge through the development of their TICs (technological innovation capabilities), which encompass product

innovations (Rahim and Zainuddin, 2019). Despite these trends, the industry in Kenya has continued to see a decline in both quality and quantity of output.

There have been several empirical studies examining the connection between innovation and business success. For instance, the theoretical ramifications in the supply chain sense were examined in Iddris's (2018) Swedish study, which indicated that businesses can expand beyond their own internal assets and knowledge by forming partnerships with other organizations. However, the research relied on systematic literature review (SLR) methods, thus it's possible that the technique missed some relevant primary data that was published elsewhere than in studies of innovators' capacities. The current investigation sought to address this knowledge gap by examining the links between product innovation and the success of coffee cooperatives in Kenya.

LITERATURE REVIEW

Innovation/ Advancement Theory

Innovation is defined as introducing either another item or adjustments brought to a current/existing product; a new process of innovation in an industry; the disclosure of another market or growing new wellsprings of supply with crude materials or different changes in the association (Mensah, 2017).

From the innovation/advancement theory, Schumpeter (1934) defines innovation as introducing either another item or adjustments brought to a current/existing product; a new process of innovation in an industry; the disclosure of another market or growing new wellsprings of supply with crude materials or different changes in the association. It is a new thought that comprise of: new product, services, new markets and new structures used by companies. This is substantiated by diffusion of innovation theory whose thought of advancement includes both information creation and dispersion of existing information (Kahn, 2018). The innovation theory is related to our study since it brings out the concept of innovation in cooperative societies as the ability of the companies to evolve and advance in terms of the products from the industry.

Empirical Review

In today's globally interconnected economy, innovation may be the key to long-term success. In developed nations, Ardyan (2016) analyzed the connections between innovative potential and productive investment in SMEs. This research confirmed a strong and mutually advantageous connection between consumer usage system innovation and the competitiveness of small and medium-sized businesses. However, the study exposed a lack of theoretical depth in its examination of Turkish institutions.

Antonnet (2014) looked at how the development of commodities affects the long-term viability of Kenya's financial institutions. The study utilized a survey methodology that was similarly illuminating. The research found that introducing new features and improvements to existing products improved their overall efficiency. However, there would be a knock-on effect on productivity from innovations in coordinated buyer-use systems. The paper theoretically differentiated between the financial sector and the coffee market, with the latter being the focus of the proposed study.

Ngure (2017) found similar results when he looked at consumer-use program technologies and investments and debit group efficiency societies in Kirinyaga County. According to Ngure, progress favorably affects relative performance in terms of the SACCOs program for user applications. Therefore, a new program designed for customer needs, and especially when a SACCO establishes new deposit accounts, would reduce the volume of deposits and boost productivity. It's also helpful that credit card users and contactless payments bring in new revenue streams through service charges. It's true that transaction payment-based revenue is pushed significantly upwards after automatic remittance is put into place.

According to Teece, companies seek out product entrepreneurs in order to increase overall industry productivity (2018). Today's businesses have capabilities aimed at developing new items according to the wants of customers in order to survive in the increasingly competitive market. The expansion of the food industry is driven by a desire to explore new consumer bases and distribution channels. The ability of coffee cooperatives to innovate new products while also enhancing quality and technological performance is essential in today's ever-evolving market.

Given the potential for situations that are dynamic, unexpected, nuanced, and ill-defined, and the realistic need for differentiated techniques and indicators, it is essential to place a premium on higher-order skills that can be used in any setting (Schoemaker, Heaton and Teece, 2018). In the contemporary business climate, the creation and distribution of a certain set of assets and services rely on a wide range of complex capacities, including competent production, effective marketing, reliable alliances, and competent strategic leadership. Companies benefit from exposure to such resources even if they don't actually possess them (Teece, 2018).

In order to compete effectively, businesses need to combine strong common skills with proprietary (often intangible) attributes. Companies may develop, integrate, and orchestrate competitive combinations of qualifications and resources, and then utilize them with a creative and flexible organization, all thanks to modern technologies. New company prospects can be found with the use of cutting-edge technologies, which can then be used to branch out into industries where competitors have not yet established a foothold. This category is important in a number of ways. The development of novel products, processes, and particular operational instrumentation techniques characterizes complex capacities, which are all about always getting the job done right (Schoemaker, Heaton and Teece, 2018).

In a market where the only constant is change, an advantage based on knowledge is the only thing you can count on to help you succeed (Teece, 2018). Knowledge generation and absorption, knowledge assimilation, and knowledge reconfiguration are three fundamental expertise-based dynamic skills that must exist simultaneously at the institutional level for product development processes to be sustained. Example: after experiencing issues with transformation or resource reconfiguration, Samsung used a new technology strategy to generate a competitive market edge and successfully identified new brands to pursue for expansion. Market dominance has been established, and the company has been proactive about capitalizing on opportunities presented by the growing connectivity of automobiles. This has included the creation of novel specialized products, technologies, and infrastructure, which has helped the company maintain its leadership position and gain an edge over the competition (Čirjevskis, 2019).

In order to achieve similar returns to the market average, businesses need to combine superior common abilities with proprietary (often intangible) real estate. Businesses can take advantage of Vibrant Innovation by identifying, combining, and orchestrating novel talent and resource sets, and then capitalizing on these. As technology develops, new business opportunities arise, and organizations may find themselves into previously uncontested market niches. That sort of thing is significant in a number of ways. Doing the right thing on a consistent basis, with an emphasis on creating novel goods, processes, and one-of-a-kind operational instrumentation technology, is an example of a complex capability. The productivity of coffee cooperatives is projected to rise as a result of their members' efforts to innovate new products and raise existing ones in terms of quality and technical specifications. Cooperatives acquire coffee cherries, pulp them, wet grade them, sun dry them on coffee trays and troughs, dry grade them, re-grade them to categories and requirements, and finally package them in bags for sale to various markets. Cooperatives will be able to improve their capacity for product innovation going forward (thanks to the demutualization statute). The added value of the coffee roasting process is facilitated by cooperatives (product innovation) (Bijman, Muradian and Cechin, 2012).

Research Gaps

A conceptual gap can be identified from the research, for example, Ardyan (2016) examined the relationships in developed countries between creative potential and productive investment in small and medium-sized enterprises. The results of this study showed a positive and mutually beneficial relationship between innovation in customer usage systems and the competitiveness of small and medium-sized companies. The research, though, showed a conceptual void as it focused upon Turkey's organizations.

A theoretical gap can also be identified from the research, for instance, Antonnet (2014) analyzed the effect of commodity creation on the sustainability of Kenya's banks. The research applied Explanatory Research Design where a census of all the 106 managers in charge of various departments and branches was conducted. The respondents were targeted using questionnaires. Results of the study suggested that increased product innovations/developments had a positive influence on the performance. However, innovation in organized buyer-use system would have an indirect impact on business productivity. The study utilized the Social Cognitive Theory and the Evolutionary Model but failed to appreciate the advantages of the dynamic capability theory. Therefore, presents a theoretical gap.

METHODOLOGY

In this study, the descriptive research design was applied. The target population of this study was 525 coffee cooperative societies in Kenya registered with the Commissioner for Cooperatives and licensed by AFFA (Coffee Directorate) as at 30th of October 2016. The sample size was 227 respondents. Stratified random sampling was used to classify the coffee cooperatives into strata according to their regions in order to select the particular coffee cooperatives to be used in the research. Stratified random sampling was used in each stratum. This involved randomly selecting the coffee cooperatives from a given region (stratum) until the sampled size was attained. The study targeted the board chairpersons/ assistant chairpersons of each of the coffee cooperatives in Kenya. Structured questionnaires were used to collect primary data from the selected respondents.

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Quantitative data was analyzed descriptively and inferentially. Descriptive data was analyzed through measures of central tendency including means, standard deviations, frequencies and percentages. Data was processed using the SPSS version 21.0. Regression analysis was done to establish the causal effects of the predictor variables on the dependent variable. It was also done to show the magnitude of the effect of independent variables on the dependent variable. The magnitude was measured by use of beta coefficients, F and t statistics which at 95% confidence interval (0.05 significance level), implying little room for chances of error. At 5%, there is little risk of error probabilities.

RESULTS

Descriptive Statistics

The respondents were required to indicate whether they agree or disagree with the following statements relating to organizational innovation. The results are as shown below.

Table 1: Descriptive Statistics on Product Innovations

Statement	1	2	3	4	5	Total	Mean	S. D
Development of new products is essential for the improvement of the coffee cooperatives' performance	2%	8%	13%	45%	32%	100%	3.97	0.99
Product innovation involves development of new products	2%	1%	13%	49%	35%	100%	4.13	0.82
Product innovation involves improvement of existing products.	2%	0%	4%	53%	41%	100%	4.31	0.73
Quality improvement is one of the ways an organization can achieve product innovation	2%	0%	4%	51%	43%	100%	4.33	0.73
Product innovation involves enhanced technical specifications	2%	0%	7%	53%	38%	100%	4.25	0.77
Product innovation can be achieved through creation of customer friendly products.	3%	2%	5%	43%	47%	100%	4.31	0.86
Average							**4.22**	**0.82**

The results in Table 1 above show that 77.33% of the respondents agreed with the statement that development of new products is essential for the improvement of the coffee cooperatives' performance. In addition, 83.56% of the respondents also agreed that product innovation involves development of new products. Moreover, 94.22% of the respondents agreed that product

innovation involves improvement of existing products. Likewise, 94.22% of the respondents also agreed that quality improvement is one of the ways an organization can achieve product innovation.

Additionally, 91.11%of the respondents agreed that product innovation involves enhanced technical specifications. Finally, 90.62% of the respondents also agreed on the statement that product innovation can be achieved through creation of customer friendly products.

In summary, the average mean of the responses was 4.22. On a scale of five points, it means that most of the respondents agreed with the statements. A standard deviation of 0.82 implied a low variation in responses. The findings agreed with those of Akman and Yilmaz (2008) who revealed a high mean score on statements related to product innovation in medium-sized enterprises. The findings also agreed with those in Antonnet (2014) who revealed that organizations in her study reported high means for statements related to product innovation.

Regression Analysis

Bivariate/simple regression analysis was conducted so as to establish the influence of Product innovation on the performance. The resultant beta coefficient and level of significance were used to evaluate the hypothesis associated with Product innovation.

Table 2: Model of Fitness for Product Innovation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.528a	0.279	0.275	0.5406

Predictors: (Constant), Product Innovation

	Sum of Squares	df	Mean Square	F	Sig.
Regression	25.056	1	25.056	85.731	.000b
Residual	64.882	222	0.292		
Total	89.938	223			

a Dependent Variable: Performance
b Predictors: (Constant), Product Innovation

	β	Std. Error	Beta	t	Sig.
(Constant)	1.519	0.289		5.252	0.000
Product Innovation	0.631	0.068	0.528	9.259	0.002

The results in the Table 2, presents the fitness of regression used in explaining the study phenomena. Product innovation is an essential technique in the performance of a coffee cooperative. This is evident, as shown by the R square value which 0.279. This result's means that the model was used to connect the relationship. This implies that product innovation explains 27.9% of the outcome in performance of a coffee cooperative.

The findings agreed with those of Goedhuys and Veugelers (2012) who examined the various innovation practices adopted by Brazilian manufacturing companies. The results showed that adoption of technology significantly influences the success of innovation strategies. In conclusion, the study noted that the use of both process and product innovations significantly enhances the

organizations' expansion. In relation to the current study, this study presents a contextual gap since it focused on manufacturing sector while the current study focused on coffee sector.

The Table 2 provided on the analysis on variance (ANOVA). The results show that the model was statistically significant. The Table also shows that product innovation determines the firm's performance. This is further supported by the F statistic 85.731 where the value was greater than the critical value at 0.05 significance level, $F_{statistic} = 85.731 > F_{critical} = 3.89$ (1,222).

Regression of the coefficients results in the Table 2, revealed that product innovation and performance are positively and significantly related (β=0.631, p=0.002). This implies that improvement in 1 unit of the aspects related to product innovation improves performance by 0.631 units. The findings agreed with those of Akman and Yilmaz (2008) who revealed a positive and strong relationship between product innovation and profitability of small and medium-sized enterprises.

Hypothesis Testing for Product Innovation

The hypothesis was tested using the linear regression Table 2 above. The null hypothesis was that there was no relationship between product innovation and coffee cooperatives performance while the alternative hypothesis was relationship between product innovation and performance of coffee cooperatives in Kenya. Table 2 show that the p-value was 0.000<0.05. Therefore, the alternative hypothesis was accepted and hence there is a relationship between product innovation and performance of coffee cooperatives in Kenya.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The study found that, there exists a relationship between product innovation and the performance of coffee cooperatives in Kenya. Thus, in conclusion the study indicated that developments of new products are essential for the improvement of the coffee cooperatives' performance. It was concluded that improving the existing product is one way of initiating the process of product innovation. Since product innovation involves a wide range of developments from the contents of the product to the way the product is delivered to the customer, technical specifications play a vital role in the advancements.

Therefore, the firm cannot ignore the part played by technological advancements for instance use of internet payment systems in order to reduce the costs as well as time of placing orders. The study validated that these kinds of developments have a direct link to the overall performance since the customers are willing to pay for the quality product even at a slight price increase. Because of this, the study validated that firms in general apart from cooperative companies need to constantly maintain and sustainably improve on innovations related to the specific product itself in order to be at a better position to sustain competition in the market.

Recommendations

The study recommends adoption of technology for the development of new services, new functions, and formation of new alliances. The study further recommends an organization to

employ and develop a high technology for its product in order to determine strategic position to adopt the differentiation position or the cost leadership position.

This study is recommended as it will benefit scholars and researchers who will gain insight on the influence of product innovation on performance of coffee co-operatives hence use it as a source of reference for other researches. The results of this study will contribute new knowledge which will provide the government and other stakeholders with better ways of managing co-operatives and improving their production.

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