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Influence of Entrepreneurial Green Process Marketing On Innovation Performance of Manufacturing SMEs in Nairobi, Kenya

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Abstract

The study aimed at determining the influence of entrepreneurial green process marketing on innovation performance of Manufacturing SMEs in Nairobi. The study used a descriptive design targeting a population of 172 SMEs in the manufacturing sector in Nairobi County, using management personnel of the firms under study. Stratified random sampling technique was utilized to sample 120 owner managers. Gathering of primary data was done through questionnaires and interview guides and secondary data sourced from existing literature. Pilot study was carried out to ensure that the instruments were reliable while validity was tested through consultations with the supervisors and experts. Quantitative data analysis was done using both descriptive and inferential statistics and the association of independent and dependent variables verified using multiple regression models. The aggregate mean responses on statements about entrepreneurial green process marketing and innovation performance of Manufacturing SMEs sector is 3.75, an indication that majority of the respondents agreed that entrepreneurial green process marketing affect innovation performance of manufacturing SMEs. The aggregate standard deviation of 1.38 is an indication that the response by respondents were clustered around the mean. The study recommends that SMEs in Kenya to adopt green process marketing practices since they lead to enhanced innovation performance. The practices should include changes in techniques, reduced carbon emission processes and green disposal. This can be adopted using diverse productive manufacturing processes to optimize performance in the market, to appeal to the consumers and hence be competitive in the market sustainably.

Keywords: *Entrepreneurial green process marketing, innovation performance, Manufacturing SMEs*

1.1 Introduction

Innovation has influenced corporate performance by enhancing the firm's position in the market, improved competitiveness, and performance (Coad & Rao, 2013). According to Oke (2017), innovation includes novel products, new procedures of production, diverse sources of supply, new markets, and ways to organize business. Jalles (2014) argues that innovation measure is in R&D investments, patented or patentable process and new products. The distinction between the green entrepreneur and the traditional entrepreneur is that the former establishes a business model that is

economically profitable and considers the environment and society with such activities as ecotourism, recycling, energy efficiency, sustainable mobility, organic agriculture, and renewable energy (Katz & Green, 2019).

Research done by Shqipe, Gadaf and Veland (2013), discoursed two types of innovations incremental and radical innovations. The former is on features or costs improvements of the company's services, products, and processes whereas the latter targets the services, processes, and product with performance features. Yilmaz *et al.* (2015) described the dimensions used to measure innovation in organizations to be change in market, innovative and financial performance indicators. Green *et al* (2012) stated that embracing eco-friendly practices ensures optimal performance through cost and risk reduction.

This study defines green entrepreneurial practices as relating to products or processes involving the reduction, reusing, and recycling of resources for economic, environmental, and social sustainability leading to innovation as described by Shqipe, Gadaf and Veland (2013). These practices include energy saving, pollution prevention, waste recycling, green product design and environmental management. While green marketing innovations toward sustainable development have received increasing attention recently, empirical approaches to analyze these practices are poorly developed (Singh, & Pandey, 2012), and the new innovated products' environmental impact is often neglected (Yang & Chen, 2015). Notably, the issue of environmental impact on the innovation of manufacturing entrepreneurs in Nairobi County has not received much attention by the academic community recently (Otieno, Bwisa & Kihoro, 2012). Tietze, Schiederig and Herstatt (2017) states that "environmental innovation research is still in its early phase, and globally, there are very few actual innovation researchers working with environmental issues."

Tariyan (2016) assessed the impact of green process innovation on the organizational performance of the construction industry. A descriptive and objective survey was adopted in the study. The study population consisted of construction companies' experts and managers in Tehran. The sampling technique adopted was simple random sampling. The Cochran formula was used to arrive at the sample size. Content validity was tested using criterion validity while reliability was tested using Cronbach's alpha. According to the study findings green process innovation has a direct positive impact on increasing organizational performance.

An evaluation was done by Ma, Hou and Xin (2017) on green process innovation on innovation benefit. The study adopted the moderating variable firm image. The study was conducted among coal mining firms in China. A sample of 267 firms was used to obtain the survey data. The study established that in the long run, green process innovation has a positive effect on innovation benefit. On the contrary, green process innovation was found to have a negative impact on innovation benefit in the short term.

Research undertaken by Pinar (2015) examined the effect of green innovation on environmentally friendly companies' performance. The best 500 companies were selected as the sample who provided the data. Correlation and regression analysis were conducted on the data that was gathered through the survey method. The study indicated that green process innovation had a significant effect on company's environmental performance and competitive advantage.

A study by Ngniatedema (2014) on manufacturing and service organizations which was based on 500 publicly traded companies in the US. The research aimed at investigating the influence of

green marketing on the performance of manufacturing and service companies. From the findings based on metrics for environmental impact used, manufacturing companies scored the least when it came to green image than the service organizations. Furthermore, the results indicated differences in the effect of green marketing practices between manufacturing and service companies. The results showed that although the green image played a key role in the overall firm's performance, green policies also impacted greatly on the performance of the manufacturing firms.

A research study by Kinoti (2012) done on 120 organizations in Kenya which were ISO 9000 and 14000 certified focused on the green marketing practices. The research discovered that although green marketing practices overly impact on performance, certain measures of performance of green marketing point to a key influence on the effectiveness, competitive advantage, innovativeness, and efficiency. Noting that these elements do not have a significant impact on the firm's bottom line. A study done by Gitonga (2014) on the influence of green marketing mix strategies on performance of Fast-Moving Consumer Goods companies in Nairobi County. The study's findings showed the green marketing mix strategies impacting the competitiveness of the firms under study to a greater extent. However, the study was focused on fast moving consumer goods which is different operation wise from the current study that cuts across several manufacturing firms.

According to Hasan (2015) study on the effect of green marketing strategy on the firm's performance in Malaysia exhaustively concluded that the green marketing strategy contributes to the firms' profitability, competitive advantage and encourage a greener pattern of consumption among consumers. However, the study focused on Malaysian firms. The business environment of Malaysia may differ from business environment in Kenya.

According to Pride and Ferrel (2013), green marketing defines a firm's efforts of presenting products designed and priced in an environmentally safe process and manner. Some of the issues that environmentally safe firms are concerned with may include the designing and processing operations that are energy conserving (Porter, 2011); accurate promotion messages that depict the firm's environmental commitment (Kangun et al., 2011); coming up with the pricing component that is balanced encompassing cost conscious consumers needs and their willingness to pay more for environmental safety (Jay 2010); minimizing pollution and conservation of resources whilst transporting the products (Bohlen et al., 2013); among others. Firms that aim at being seen to be environmentally sensitive endeavor to place themselves with green goals through activities of either reducing, reusing, or recycling.

1.2 Statement of the Problem

Globally, environmental pollution has negatively affected enterprises in the manufacturing sector as well as the consumers of products and services as is indicated by the increasing disease burden among consumer households (World Health Organization, 2018). Unlike the traditional entrepreneurs, many enterprises are increasingly becoming more innovative by going green through establishment of business models that are economically profitable adding value to the environment and societal activities such as ecotourism, recycling, energy efficiency, sustainable mobility, organic agriculture, and renewable energy among others (Katz, & Green, 2019; Patnaik & Chopdar, 2019; Prakash, 2012). Many businesses are innovatively embracing green marketing

practices to promote their products and services with environmentally friendly targets and outcomes (Luthra, Garg & Haleem 2016; Groening, Sarkis & Zhu 2017).

In Africa, the quest to industrialize is resulting in a lot of industrial pollution which is leading to unhealthy food products and services adversely affecting both the manufacturing industry and consumers (Wichmann, 2017; Efobi *et al.,* 2019). Some of the resilient private sector enterprises in Africa are innovatively and creatively forging "green" alliances and partnerships with development partners like United Nations Environmental Program and their national governments among other pro-climate stakeholders to develop strategies to address environmental pollution and thereby enable them to stay afloat businesswise (Efobi, et al., 2019).

In Kenya, quite a few manufacturing enterprises are using outdated technologies, running outdated systems, and using obsolete machines and practicing business-as –usual creative imitation and adaptation of archaic business models that are not friendly to the environment (Were, 2016; Drucker, 2015). A substantial number of manufacturing enterprises are visionary and have embraced green technologies and are producing and innovatively promoting environment-friendly products and services (Kinoti, 2011; Daub & Ergenzinger, 2011). According to Shqipe, Gadaf and Veland (2013), it is hoped that all the enterprises going green by embracing green technologies will lead to more radical and innovative enterprises that are producing environmental, social, and sustainable products and services.

However, no empirical studies have been found showing how embracing green technologies and green process marketing influences innovation performance of manufacturing enterprises. According to Otieno, Bwisa and Kihoro, (2012), issues of environmental impact on the innovation of manufacturing entrepreneurs in Kenya has not received much attention by the academic community. Tietze, Schiederig and Herstatt (2017) states that "environmental innovation research is still in its early phase, and there are worldwide very few actual innovation researchers working with environmental issues." The few studies that have been carried have mostly foccussed on the impact of green marketing on the performance of the enterprises and consumer behaviour (Maziriri, 2020; Fatoki, 2019; Wu & Chen, 2014; Obayelu, 2016; Maiywa, 2013 and Mungai, 2016). No studies have been found that investigate how green process marketing affects the innovation performance of enterprises in the manufacturing sector. The main objective of this study was to empirically investigate and document the influence of entrepreneurial green process marketing on innovation performance of small and medium enterprises in the manufacturing sector in Kenya. This study seeks to fill this research gap.

1.3 Objective of the Study

To determine the influence of entrepreneurial green process marketing on innovation performance of Manufacturing SMEs in Nairobi

1.4. Research Hypothesis

Ho_1: Entrepreneurial green process marketing has no influence on innovation performance of Manufacturing SMEs in Nairobi.

2.1 Theoretical Literature Review

Schumpeter's theory of innovation underscores the vital role that innovation plays in the entrepreneurial process, particularly through the concept of "creative destruction." This idea

involves the disruption of existing market structures by introducing new goods or services, which then causes a reallocation of resources and fosters the growth of new firms. Schumpeter positions innovation as a tool that entrepreneurs use to create change and explore new business opportunities, making this theory highly relevant for studies that aim to validate innovation among manufacturing entrepreneurs.

Schumpeter (1965) further elaborates that entrepreneurs are the central figures in driving creative destruction. They are responsible for identifying sources of innovation, recognizing changes and their symptoms, and seizing innovative opportunities to apply these principles effectively. This perspective has been advanced by scholars like Drucker (1985) and Lumpkin & Dess (1996), who emphasize that entrepreneurs must engage in purposeful innovation and proactive behavior to succeed, highlighting the intrinsic link between entrepreneurship and innovation.

Entrepreneurial alertness, a concept aligned with Schumpeter's ideas, involves the ability of entrepreneurs to anticipate where products or services are lacking or devalued, as discussed by Alvarez and Barney (2012). Brockman (2014) describes this as "flashes of superior insight," which are crucial for proactive organizations that rely on historical data to make strategic business decisions (Sharma & Sharma, 2014). Innovation, therefore, is essential not only to entrepreneurship but also to broader economic growth, as countries with strong commitments to innovation and research tend to have larger, more robust economies. However, in today's complex and competitive global business environment, a major critique of Schumpeter's theory is that firms face increasing challenges in managing and adapting their business models. The rapid development of markets and the emergence of the knowledge economy have made it difficult for firms to routinize innovation and capture new knowledge, necessitating a reevaluation of how innovation is approached and sustained within modern enterprises (Becker, Knudsen & Swedberg, 2012).

3.0 Research Methodology

This study used positivism research philosophy. The study adopted descriptive survey design. The target population was 172 SMEs in the manufacturing sector (KAM, 2019). Stratified random sampling technique was used to select 120 SMEs in the manufacturing sector. The study employed structured questionnaires and an interview guide to collect primary data. Secondary data for the variable innovation was also used from the key organizations such as Kenya Bureau of Standards (KBS) and NEMA.

After quantitative data is obtained through questionnaires, it was prepared in readiness for analysis through editing, handling blank responses, coding, categorizing and keyed into computer software called statistical package for social sciences (SPSS) version 20.0 for analysis. SPSS offers extensive data handling capacity and numerous statistical routines that can analyze small to large data statistics (Donald & Tromp, 2006). Data obtained through the interview guides was analyzed through content analysis. The statistics to be generated are both descriptive and inferential statistics. A multivariate regression model and path analysis technique was employed to show the link between the independent variables to the dependent variable.

4.0 Results and Discussion

4.1 Response Rate

Response rate refers to the number of successful questionnaires completed and returned Yin (2009). This is expressed as a percentage of total target questionnaires issued. Different scholars have given their opinions on the acceptable response rate levels. According to Babbie and Mouton (2001) response rate of 50 per cent is adequate for analysis and reporting, while a response rate of 60 per cent is good and a response rate of 70 per cent is very good. On the other hand, Polit and Beck (2004) asserted that a response rate greater than 65 per cent may be sufficient for most purposes, but lower response rates are common.

Meanwhile, Neuman (2000) argued that anything below 50 per cent is considered poor and over 90 per cent excellent and according to Arora & Arora, (2003) a questionnaire that produces above 75 per cent response rate has done extremely well. The current study obtained an overall response rate of 97.5 per cent as indicated in Table 1. The number of questionnaires that were administered was 120 and a total of 117 questionnaires were duly filled and returned.

Table 1: Response Rate

Response	Frequency	Percent
Returned	117	97.5%
Unreturned	3	2.5%
Total	**120**	**100%**

Out of the 120 questionnaires administered, 117 were properly filled in and returned, representing 97.5 percent response rate. This response rate is considered satisfactory to make conclusions for the study as discussed in the first and second paragraph of this section. Based on this assertion, the response rate in this case of 97.5% is therefore very good.

The good response rate is attributed to various factors including but not limited to the collection procedures used and the availability of owner managers who were the target group for filling in the questionnaires. The collection methods used included pre-notification of respondents and voluntary participation by respondents; drop and pick of questionnaires to allow for ample time to fill; assurance of confidentiality and anonymity and follow up calls to clarify queries from the respondents.

The researcher also had established contacts with instrumental persons in ensuring that the questionnaires were duly filled and returned by the owner managers who were largely the secretaries and/or personal assistance in the target organizations. Moreover, the strategy of personal visits and sending email reminders was employed by the researcher in ensuring that the questionnaires were duly filled.

4.2 Background Information of the Respondents

The researcher started by a general analysis on the demographic data gotten from the respondents which included: gender, level of education of respondents and duration of the business in terms of inception, awareness of green marketing practices and key areas where green marketing was being

practiced. This was followed by a description of the study variables under various sections of the questionnaire.

4.2.1 Gender of Respondents

The respondents were required to indicate their gender by ticking against the option of either male or female. This was to have a clear understanding on who are the owner managers whether it is male or female owned enterprises.

Table 2: Gender of Respondents

Gender	Frequency	Percentage
Male	87	74.4
Female	30	25.6
Total	**117**	**100**

The findings revealed that 74.4% of the respondents were male while the remaining 25.6% were female. The findings indicated male respondents were slightly more 90 in total, and female respondents were 30 showing that there was diversity in respondents and hence the data collected was not distorted by factors relating to data distribution.

This is also an indicator that most SMEs in the manufacturing sector are male dominated which reflects the male skewed business demographic in Kenya generally. Gender diversity in organization positions could improve environmental performance of firms through several channels. Greater representation of women could bring in heterogeneity in values, beliefs, and attitudes, which would broaden the range of perspectives in the decision-making process (OECD, 2012) and stimulate critical thinking and creativity (Lee & Farh, 2004).

4.2.2 Level of Education of Respondents

The study sought to determine the respondents' level of education. This is because the level of education influences the impartation of managerial skills as observed by Owino and Kwasira (2016). Response on the level of education of the respondents is as presented in Table 3.

Table 3: Level of Education of Respondents

Level of Education	Frequency	Percentage
Diploma	65	55.6
Bachelors	42	35.9
Masters	10	8.5
PhD	-	-
Total	**117**	**100**

The study findings revealed 35.9% of the respondents were found to be Bachelor holders. The findings are like those recorded by Wario (2012) in a similar study where he indicated that most of the population had bachelor's degrees at 76%. There has also been an increase in the modular studies which encourage most employees to attend evening or classes over the weekend. From the findings respondents with master's were 8% because some of the employees having gained experience opt for masters' programs to put themselves at a competitive edge over the others. Employees with Diploma level were 57%, this follows the establishment of the technical and

vocational education and training Act of 2013. The act aims to expand and improve learning institutions in Kenya by imparting practical and technical skills to the learners.

Learners from these institutions have the practical skills to create their own jobs and this explains the high percentage in owned firms. As per this study' findings, most of the respondents were well above diploma level. A study by King and McGrath (2002) indicated that in today's constantly fluctuating business environment, education is one of the factors that impact positively on development of firms.

He asserts that organizations with larger stocks of human capital, in terms of education and vocational training, are better placed to adapt their organizations to unexpected fluctuations. This shows that academic qualifications affect environmental sustainability of the business sector in Kenya. Having owners with high academic qualifications has a positive impact on the SMEs overall performance and rating.

4.2.3 Firm's Age

The respondents were required to indicate the age of the firm. This was to ascertain the milestones in terms of innovation gained over time. Findings are presented in Table 4.

Table 4: Age of the Firms

Duration	Frequency	Percentage
0 to 3 years	15	12.8
3 to 5 years	30	25.6
Over 5 years	72	61.6
Total	**117**	**100**

The findings indicated that 61.6% of the firms under study had been in existence for over 5 years. Further, 25.6% had existed for between 3 to 5 years while 12.8% had existed for less than 3 years. The firms that have been in operation for over 5 years were the majority and hence the information provided can be seen to be authentic.

This means that the information provided was reliable and could be used to make conclusions on the study hypothesis and variables. The findings also indicated that the managers in these firms were the owners of the enterprises who had a higher need to succeed, explaining the success rate of these firms. This can relate to the entrepreneurship theories especially the psychological approach theory which pays attention to personal traits, motives, and incentives of an individual and concludes that entrepreneurs have a strong need for achievement (McLelland & Winter, 1971).

4.3 Descriptive Analysis

4.3.1 Entrepreneurial Green Process Marketing and Innovation Performance of Manufacturing SMEs

The objective of the study was to determine the influence of entrepreneurial green process marketing on innovation performance of Manufacturing SMEs sector in Nairobi, Kenya. This was done by analyzing various parameters that aimed at measuring the processes of producing the firms' products. It included the various ways of modifying the existing products whether such

procedures were in place, mechanisms that the firm have put in place to protect the environment during the process of manufacturing, and the presence of new or improved machines for efficiency.

The study also sought to find out whether the organizations under study had training programs geared towards improving, sensitizing, and equipping employees on the changing dynamics in the manufacturing process by establishing whether there are scheduled trainings, workshops, and seminars. Moreover, the study sought to find out whether the firms under study had in place initiatives that steer the company into conserving the environment while producing and transporting their products to the consumers. Such initiatives included green energy, and recyclable biproducts.

The respondents were presented with a set of statements to guide in answering the questions ranging from whether they strongly disagree with the statements given or strongly agreeing. The results obtained were tabulated and are shown in the table below.

Table 5: Entrepreneurial Green Process Marketing

Statements	SD	D	N	A	SA	Mean	S.D
We continuously modify design of our products towards producing green products and rapidly enter new emerging markets	7.8%	9.7%	10.7%	26.2%	45.6%	3.92	1.29
Our firm is keen to minimize on environmental harm during the production process	7.8%	8.7%	17.5%	32.0%	34.0%	3.76	1.23
New business methods and services are always worth if they improve productions of green products (new machinery and process).	7.8%	12.6%	14.6%	33.0%	32.0%	3.69	1.26
Employees attend seminars, workshops, conferences with intention to acquire or improve their skills in their production process.	8.7%	10.7%	11.7%	28.2%	40.8%	3.82	1.31
Development of new channels for products and services at our corporation is an on-going process.	10.7%	8.7%	12.6%	33.0%	35.0%	3.73	1.32
The firm aims at developing offerings that conserve energy and other natural resources in their production process.	14.6%	9.7%	9.7%	29.1%	36.9%	3.64	1.43
The firm has put into place measures of conserving resources in the transportation of products to the market	11.7%	12.6%	10.7%	30.1%	35.0%	3.64	1.38
Aggregate mean and SD						**3.75**	**1.33**

N=117, SA=Strongly agree, A=Agree, N=Neutral, D=Disagree, SD=Strongly Disagree S.D=Standard Deviation

On the aspect of modifying the design of the products towards manufacturing "green products", the study found that majority of respondents at 71.8 percent agreed that their firms continuously modify design of their products towards producing green products and are increasingly entering new emerging markets, with mean response of 3.92 and standard deviation of 1.29. These findings corroborated by those of Hasan (2015) on the effect of green marketing strategy on the firm's performance in Malasya which concluded that the green marketing strategy contributes to the firms' profitability, competitive advantage, and increased market uptake.

Further, on the issue of minimizing environmental harm during the production process, the results showed that majority of the respondents at 66 percent agreed their firms are keen to minimize on environmental harm during the production process with mean response of 3.76 and standard deviation is 1.23. This finding agrees with the research done by Pinar (2015) which found that green process innovative firms are keen in environmentally friendly processes which in turn impact on performance. The findings also align with other studies that point out to the choices that consumers are making based on the impact the said products have on the environment whether positively or negatively (Coddington, 2013).

On the new business methods and services, the study revealed majority of the respondents at 65 per cent as agreeing that new business methods and services as always worth if they improve productions of green products (new machinery and process) with mean response of 3.69 and standard deviation is 1.26. The study by (Kinoti, 2011; Daub & Ergenzinger, 2011) validates these findings as they found several manufacturing enterprises as visionary and had embraced green technologies to innovatively produce and promote environmentally friendly products and services (green products).

Moreover, the question of employee training and sensitization, majority of respondents at 69 percent agreed that the employees at their firms attend seminars, workshops, conferences with the intention of acquiring or improving their skills in their production process with mean response of 3.82 and standard deviation is 1.32. These results support the assertion that dynamic capabilities are important to an organization's long-term profitability and enable the firms to plan its resources, competencies, and other assets in a sustainable way. The theory of Dynamic Capabilities further asserts that the capabilities are critical in an ever-changing environment and industry growth (Teece, 2007; Teece, 2009).

The study, on the development of new channels for products and services, established that majority of the respondents at 68 per cent agreed that the development of new channels for products and services offered by their firms was an on-going process with mean response of 3.73 and standard deviation is 1.32. The results are validated by a study done by Pride and Ferrel (2013) which stated that green marketing encompasses a firm's efforts to present products designed and priced in an environmentally safe process and manner. Further, these findings are in line with the theory of dynamic capability which narrates that the ability of the firm to innovate gives it the capacity to utilize resources in coming up with new resources, products, processes, and systems competitively (Teece & Pisano, 1997).

The findings on the conservation offerings in the production process, the study found that most of the manufacturing SMEs at 65 per cent, agreed that they aim at developing offerings that conserve energy and other natural resources in their production process as shown by mean response of 3.64 and standard deviation is 1.43. These results concur with the study by Porter (2011) indicating that environmentally safe firms concern themselves with designs and processing operations that are energy conserving.

Finally, the results on product transportation also showed that majority of the respondents at 65.1 per cent, agreed that the manufacturing SMEs have put in place measures of conserving resources in the process of transporting their products to the consumer with mean response of 3.64 and standard deviation of 1.38. These findings agree with other studies done on environmentally friendly firms (Bohlen et al.,2013) who among other concerns are willing to pay more for environmental safety in conservation of resources whilst transporting their products to the final consumer.

The aggregate mean responses on statements about green process marketing and innovation of Manufacturing SMEs sector is 3.75, an indication that majority of the respondents agreed that green process marketing affect innovation of manufacturing SMEs. The aggregate standard deviation of 1.38 is an indication that the response by respondents were clustered around the mean. The standard deviation describes the distribution of the response in relation to the mean. It indicates how far the individual responses to each factor diverge from the mean. A standard deviation of more than 1 shows that the responses are moderately distributed, while less than 1 indicates that there is no agreement on the responses obtained. An average of 1.33 for all statements on green process marketing indicates that the responses are moderately distributed. It was noted that green process marketing, disagrees with a study done by Ma, Hou and Xin (2017) on green process innovation in China which revealed that green process innovation had a negative impact on innovation in the short term.

4.4. Inferential Statistics

4.4.1 Hypothesis Testing

The section presents the hypothesis testing of the study. The Main purpose of hypothesis testing was to choose between two competing hypotheses about the value of a population parameter. The decision to either accept or reject the null hypothesis was based on p-value. If the p- value is less than 0.05, the hypothesis is rejected but if it is more than 0.05, then it is not rejected.

The hypothesis tested was:

Ho_1: Entrepreneurial Green Process Marketing has no influence on Innovation Performance of Manufacturing SMEs in Nairobi.

The study hypothesized that green process marketing has no significant influence on innovation of Manufacturing SMEs in Nairobi. The results are presented in Table 4.19.

Table 6: Entrepreneurial Green Process Marketing and Innovation Performance of SMEs Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.871[a]	.758	.734	.553

a. Predictors: (Constant), Green process marketing

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The coefficient of correlation between entrepreneurial green process marketing and innovation performance of SMEs was 0.871 indicating a positive relationship between entrepreneurial green process marketing and innovation performance of SMEs. The coefficient of determination of 0.758 indicated that 75.8% of innovation of SMEs could be explained by green process marketing. The remaining percentage could be explained by other factors excluded from the model. The standard error of estimate (0.553) showed the average deviation of the independent variables from the lie of best fit.

Table 7: Entrepreneurial Green Process Marketing and Innovation Performance of SMEs Model Anova

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.579	1	9.579	368.423	.000[b]
	Residual	3.060	116	.026		
	Total	12.639	117			

a. Dependent Variable: Innovation Performance of SMEs

b. Predictors: (Constant), Entrepreneurial Green process marketing

The findings revealed (F=368.423, p value = .000[b]). The results indicate that the significance of F is 0.000 which is less than 0.05, this, therefore, implies that the regression model statistically significantly predicts the outcome variable and is, therefore, a good fit for the data. This is an indication that there exists a significant relationship between entrepreneurial green process marketing and innovation performance of SMEs in Nairobi in Kenya.

The study hypothesized that entrepreneurial green process marketing has no significant influence on Innovation performance of SMEs in Nairobi in Kenya. The results are presented in Table 8.

Table 8: Entrepreneurial Green Process Marketing and Innovation of SMEs Model Coefficients

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.277	.641		.431	.675
	Green process marketing	.906	.162	.871	5.595	.000

a. Dependent Variable: Innovation of SMEs

The study findings indicated that there was a positive significant relationship between entrepreneurial green process marketing and innovation performance of SMEs (β= 0.871, t= 5.595 and p value 0.000). This, therefore, means that an increase in entrepreneurial green process marketing will increase innovation performance of SMEs significantly. Since the t was 5.595

which is greater than zero, the null hypothesis that entrepreneurial green process marketing has no significant influence on innovation performance of SMEs in Nairobi was rejected and the alterative hypothesis accepted.

It was therefore concluded that entrepreneurial green process marketing has positive significant influence on innovation performance of SMEs in Nairobi in Kenya.

Discussion of Findings on the Relationship between Entrepreneurial Green Process Marketing and Innovation Performance of Manufacturing SMEs

The study found that entrepreneurial green process marketing has a positive effect on innovation performance of manufacturing SMEs in Kenya ($r = .906$, $t = 5.595$, $p = 0.000$). Research was done by Ar (2012) on the impact of green process marketing on innovation and competitive capability among manufacturing firms in Turkey. The moderating variable in the study was managerial environmental concern. The data was collected from 140 manufacturing firms using a questionnaire. Structural equation modelling was used to analyze the data. The researcher found that green product innovation has a significantly positive effect on manufacturing firm's performance and competitive capability. Managerial environmental concern was also found to moderate the relationship between green product innovation and firm performance and competitive capability.

5.0 Summary of the Findings

The study found that a significant majority (71.8%) of respondents agreed that their firms continuously modify product designs toward producing green products, a strategy that has helped them enter new emerging markets. This result, with a mean response of 3.92 and a standard deviation of 1.29, is consistent with Hasan's (2015) findings that green marketing strategies contribute to firms' profitability, competitive advantage, and increased market uptake. Similarly, 66% of respondents agreed that their firms prioritize minimizing environmental harm during production, with a mean response of 3.76 and a standard deviation of 1.23. This aligns with Pinar's (2015) research, which found that firms engaged in green process innovation tend to have better performance outcomes, reflecting the growing consumer preference for environmentally friendly products (Coddington, 2013).

The study also revealed that 65% of respondents believe adopting new business methods and services is worthwhile if it improves the production of green products. This is supported by findings from Kinoti (2011) and Daub & Ergenzinger (2011), which showed that visionary manufacturing enterprises embrace green technologies to produce and promote environmentally friendly products. Additionally, 69% of respondents indicated that their firms invest in employee training and sensitization through seminars, workshops, and conferences to enhance their production processes. This supports the theory of Dynamic Capabilities, which argues that organizations must continuously develop their capabilities to maintain long-term profitability and adapt to an ever-changing environment (Teece, 2007; Teece, 2009).

Moreover, 68% of respondents agreed that developing new channels for products and services is an ongoing process within their firms, with a mean response of 3.73 and a standard deviation of 1.32. This finding is validated by Pride and Ferrel's (2013) research on green marketing, which emphasizes the importance of presenting products designed and priced through environmentally

safe processes. The theory of dynamic capability also supports this, noting that a firm's ability to innovate and utilize resources effectively is crucial for competitive advantage (Teece & Pisano, 1997). The study further found that 65% of manufacturing SMEs aim to develop offerings that conserve energy and other natural resources during production, aligning with Porter's (2011) emphasis on energy-conserving practices.

Finally, the study showed that 65.1% of respondents agreed that their firms have implemented measures to conserve resources during product transportation, consistent with Bohlen et al.'s (2013) findings on the importance of environmental safety in logistics. The overall results suggest that green process marketing positively influences innovation in the manufacturing SMEs sector, with an aggregate mean response of 3.75 and a standard deviation of 1.38, indicating moderate agreement among respondents. However, these findings contrast with a study by Ma, Hou, and Xin (2017), which found that green process innovation had a negative impact on innovation in the short term in China.

6.0 Conclusions

It can be concluded that entrepreneurial green process marketing has a positive influence on innovation performance of manufacturing SMEs Sector in Kenya. Firms continuously modify design of their products towards producing green products and are increasingly entering new emerging markets. Further, the firms are keen to minimize on environmental harm during the production process and the new business methods and services as always worth if they improve productions of green products (new machinery, new process among others). Moreover, the employees at their firms attend seminars, workshops, conferences with the intention of acquiring or improving their skills in their production process.

The coefficient of entrepreneurial green process marketing has a positive and statistically significant relationship with innovation performance of Manufacturing SMEs sector (β =.906, p = .000<0.05). The regression of coefficient results implies that if entrepreneurial green process marketing increases by one unit, the innovation performance of Manufacturing SMEs sector increases by .906 units. The null hypothesis was therefore rejected. The study adopted the alternative hypothesis that entrepreneurial green process marketing significantly influences the innovation performance of Manufacturing SMEs sector in Kenya.

7.0 Recommendations

The study recommends that SMEs in Kenya to adopt green process marketing practices since they lead to enhanced innovation performance. The practices should include changes in techniques, reduced carbon emission processes and green disposal. This can be adopted using diverse productive manufacturing processes to optimize performance in the market, to appeal to the consumers and hence be competitive in the market sustainably.

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