EFFECT OF GREEN MARKETING PRACTICES ON ENVIRONMENTAL PERFORMANCE: AN EMPIRICAL INVESTIGATION IN KISUMU WATER AND SEWERAGE COMPANY IN KENYA

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Abstract

The purpose of this paper was to examine the effect of green marketing practices on environmental performance at Kisumu Water and Sewerage Company in Kisumu Kenya (KIWASCO). Specifically, the study sought to establish the effect of green products, sustainable distribution, and green pricing on environmental performance. The study is guided by the stakeholder's theory in correlation study design. The study population constituted 181 employees of KIWASCO, out, of which a sample of 25 respondents was drawn using a proportionate stratified sampling technique. Pilot results showed a reliability test of Cronbach's Alpha coefficient between 0.701 and 0.777. The findings revealed that green marketing practices collectively accounted for 55.6% (R^2 =0.556, p=0.000) variation in environmental performance at KIWASCO. It was further revealed that dimensions of sustainable green products (B = 0.466, p= 0.001) and sustainable distribution (B =0.343, p = 0.000) both had significant positive influence on environmental performance at KIWASCO. The study concludes that both green products and green distribution practices are all critical antecedents of environmental performance. The study provides new insights into green marketing practices and their likely effects on environmental performance as an emerging area in environmental

conservation. Additionally, the findings of the study will be deemed useful for the managers in public water utilities as it gives insight on how to re-design their green marketing practices to contribute to better organization performance.

Keywords: Green marketing Practices, green product, sustainable distribution, green pricing, and environmental performance

INTRODUCTION

Environmental conservation is a key activity that any organization should take into consideration for the sustainable development of the organization, its customers, suppliers, stakeholders, and the public. Administrations all over the biosphere have now become concerned about developing green marketing regulations (Surya and Vijaya, 2014). Since ecological issues affect all human doings, societies now have become more concerned with ecological management (Shruti & Vandana 2017). Green or environmental marketing entails all actions designed to produce and enable any proposed interactions of human needs or requirements, such as satisfying these needs and desires, with minimal adverse impact on nature (Gurmeet, 2013). It is a holistic marketing idea where products and facilities are produced, promoted, and removed in a way that is less harmful to the environment while increasing awareness about hints of global warming, non-biodegradable solid waste, the harmful impact of pollutants (Dorjesh & Upasana, 2011). Green marketing today has moved from a trend to a way of doing business and the companies involved must bear in mind the value of turning to the environment and incorporating this message into its marketing program and making that connection with consumers (Shruti & Vandana, 2017). The green marketing concept adds value to the business by fulfilling the needs of stakeholders in a way that will not adversely affect human well-being or the natural environment (Bhat and Kansan, 2016). Moreover, the concepts will open opportunities in new markets or investments by increasing consumers' roles and obligations to preserve the environment (Shalash, 2021).

In a conceptual model proposed by Bakshi and Mahajan (2021), green marketing practices entail such things as green products, green prices, green promotion, green distribution, etc. According to Matthew (2016), green products are those products with less conservative or less harmful effects on human fitness than older products. Similarly, it is a product with natural ingredients, non-toxic chemicals, and products that do not harm or pollute the environment, Rajasekaran and Gnanapandithan. (2013). A green price is a price ready to be paid by consumers of environmentally friendly products (Beecher & Shanghai,

2016). Green distribution refers to logistics practices that minimize environmental harm and will include issues of storage, order processing, packaging, and final-mile delivery. The goals of green logistics are to reduce waste and carbon. The environmental performance of a firm can be defined as a firm's ability to produce environmental public goods, (Isabel &Rosa, 2014). Barrack (2015) alludes that environmental performance describes the performance of the organization concerning the ecological effects of goods procured by an organization by taking to less environmentally damaging activities. Understanding the relationship between environmental performance and corporate performance is important, as companies are increasingly required to be both profitable and environmentally responsible (Schultze and Trommer, 2012). Today, there are growing concerns around the world emanating from issues such as Global climate change, environmental pollution, and environmental policies and laws. Consequently, the need to comply with these requirements has piled enormous pressure on organizations and companies to pay attention to green marketing practices that will promote environmental conservation.

A review of extant literature reveals that empirical studies on the relationship between green marketing strategies and firm performance exist. For instance, Fraj-Andres, Martinze, and Matule (2011) investigated the effect of green marketing strategy and firm performance and found that green marketing strategy can lead to improved firm profitability by optimizing marketing performance and reducing the cost of manufacturing firms in European Countries. In South Africa, Fatoki (2019) did a study on green marketing orientation and social performance of the hospitality industry and concluded that green marketing operations have a significant positive relationship with performance. However, Fatoki (2019) used variables like green design, green positioning, green supply chain, and green strategy. Elsewhere, Eneizan et al. (2019) sought to understand the relationship between green marketing strategy and firm performance among car dealers in Jordan. Their study established that a green marketing strategy has a significant and positive effect on firm financial performance. Anyahie et al. (2020) sought to examine the impact of green marketing practices on organization sustainability in corporate firms in Rivers State Nigeria. Their finding indicated that firms that carry out green marketing practices enjoyed high profitability and sustained corporate performance. Bakshi and Mahajan (2012) in their conceptual paper on the effect of green marketing strategy and business performance concluded that the green marketing strategy positively affects the financial and non-financial performance of the firms reviewed. In Pakistan Pharmaceutical Industry, Shaukat and Ming (2022) investigated the impact of green marketing orientation on business performance and found that green marketing orientation has a significant direct and indirect

impact on business performance. In tourist Companies in Vietnam, Nyugen and Nyuyen (2020) established that green marketing has a positive influence on both corporate reputation and business performance. Finally, Mujahid et al. (2021), found that green marketing will positively influence the performance of small businesses registered in Indonesia.

From the foregoing reviewed literature, it is obvious that empirical evidence on the relationship between green marketing practices and firm performance exists but in a different context. However, the majority of the reviewed studies (Fraj-Andres et al.2020; Fatoki, 2019; Eneizan et al. 2019; Nyugen and Nguyen, 2020; Anyahie et.al, 2020 and Mujahid et.al, 2021) focused on variables of firm performance such as corporate reputation, financial and non-financial performance, social performance and corporate sustainability. Therefore, analysis of how green marketing practices will influence environmental performance was largely ignored. Furthermore, the majority of studies reviewed focused on industries like manufacturing, tourism and hospitality, small business, and pharmaceutical industries thereby ignoring the context of water utility provider firms. Moreover, most literature reviewed relates to most developed countries in Europe and Asia whose circumstances may not relate well with those of developing countries like Kenya. Subsequently, there is a near exclusion of studies in less economically developed countries like Kenya. Consequently, the effect of green marketing practices on the environmental performance of firms in water utilities in the Kenyan market remains largely unexplored. Therefore, the purpose of this study was to examine the effect of green marketing practices on environmental performance.

The study was guided by the following specific objectives

   i.   To determine the effect of green products on the environmental performance of KIWASCO.

   ii. To establish the effect of green distribution on the environmental performance of KIWASCO.

   iii. To examine the effect of green pricing on the environmental performance of KIWASCO.

To realize the outcome, the following hypotheses will underpin the study

   i. H_{01}. The sustainable green product does not significantly affect environmental performance in KIWASCO

   ii. H_{02}. Green distribution does not significantly affect environmental performance in KIWASCO

   iii. H_{03}. Green pricing does not significantly affect environmental performance in KIWASCO.
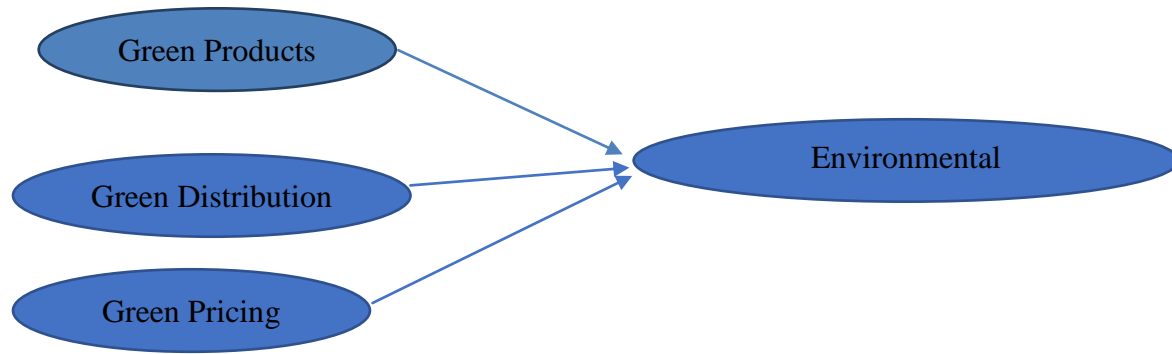
Source: Adapted from Bakshi and Mahajan (2021), modified by Author (2023)

METHODOLOGY

This study adopted a Correlational research design to obtain empirical data and address the study objectives. The study was carried out in the city of Kisumu, within Kisumu County of Kenya, the city lies along the shores of Lake Victoria. The population of the study constitutes a total of 330 employees of KIWASCO who were categorized as top management staff (7), middle management (15) including section heads of both commercial and technical departments, and non-managerial staff of about 308. A sample size of 181 was calculated using Yamane (1967) with a margin of error of 3-5% deemed sufficient to estimate the population characteristics (Saunders, et al, 2007). The study adopted a proportionate stratified sampling with the distribution of sample respondents under each stratum as follows: Top management (4), middle management (8), and non-managerial staff (169).

Primary data was collected using pre-validated questionnaires issued to the respondents. Secondary data, on the other hand, is collected from newspapers, published books, journals, magazine articles, and company handbooks. Pilot results showed a reliability test of Cronbach's Alpha coefficient between 0.701 and 0.777. Content validity was established through expert review. The data was then analyzed using descriptive and inferential statistics. The statistical tools (SPSS and Excel) helped the researcher to describe the data. The Likert scale was to analyze the mean score and standard deviation. To test the hypothesis, the study employed a multivariate regression analysis to study the relationship between green marketing practices and environmental performance. Regression can estimate the coefficients of the linear equation, involving one or more independent variables, which best predict the value of the dependent variable. The researcher used linear regression analysis to analyze the data. The regression model was as follows:

$Y_i = \beta 0_i + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \varepsilon$

RESULTS AND DISCUSSION

Response Rate

Primary data was collected using self-administered questionnaires, of which out of 181 expected respondents, 168 of the questionnaires were completed, a response of 92.8 %, which was deemed sufficient. According to Sekaran (2009), a response rate of 60% is considered adequate for analysis in social science research.

Effect of Green Marketing Practices and Environmental Performance

To actualize the study objectives, a regression analysis between the three dimensions of green marketing practices namely: green product, green distribution, green pricing, and the dimensions of environmental performance was undertaken. The direction and magnitude of influence or effect of each of the dimensions of green marketing practices on environmental performance were eventually established using the regression model whose findings are presented in Tables 1, 2, and 3.

Table 1 gives the model summary which shows that the proportion of variance in the environmental performance that is explained by the independent variables (Green marketing practices) is 55.6% (R^2 =.556, p=.0001). The coefficient of determination (R^2 = 0.556) and the model are acceptable since the F-statistic is significant and suggests that the independent variables jointly influence the dependent variable. The value of Durbin-Watson is 2.143. Generally, the value of the Durbin-Watson statistic ranges from 0 to 4. As a rule of thumb, the residuals are uncorrelated if the Durbin-Watson statistic is approximately 2. A value close to 0 indicates a strong positive correlation, while a value of 4 indicates a strong negative correlation. The computed value is also close to 2, which indicates the absence of serial correlation.

Table 1: Summary of Green Marketing Practices-Environmental Performance Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.745	.556	.548	.57906	.556	68.357	3	164	.000	2.143

a. Predictors: (Constant), Composite Green Distribution, Composite Green Pricing, Composite Green product

b. Dependent Variable: Composite Environmental Performance

Table 2 shows the ANOVA results of the estimated model. The data test revealed that $F_{(3, 164)} = 68.357$ at $p < 0.01$, an indication that the model fits the research data well. The researcher can, therefore, deduce that all the independent variables (i.e., green product, green distribution, and green pricing) jointly explain environmental performance at KIWASCO.

Table 2: ANOVA Results on the Estimated Environmental Performance Model

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	68.763	3	22.921	68.357	.000[b]
Residual	54.991	164	.335		
Total	123.754	167			

a. Dependent Variable: Composite Environmental Performance

b. Predictors: (Constant), Composite Green Distribution, Composite Green Pricing, Composite Green product

The regression model was in the form $Yi=\beta o+\beta_1X_{1i}+\beta_2X_{2i}+\beta_3X_{3i}+\varepsilon i$ and by adding regression coefficient as was shown in Table 3. This later transformed into:

Y_i= .835 + 0.466X_i - .042 X_i + 0.343X_i ....equation 4.1

t=2.340,   7.962,   -0.541,   5.161

R^2 = 0.556 (55.6%)

Table 3: Coefficients of Independent Variables

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	Collinearity Statistics
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.835	.357		2.340	.020		
Composite Green product	.466	.059	.509	7.962	.000	.663	1.508
Composite Green Pricing	-.042	.077	-.028	-.541	.589	.979	1.021
Composite Green Distribution	.343	.067	.330	5.165	.000	.666	1.503

a. Dependent Variable: Composite Environmental Performance

The first objective of the study was to establish the effect of green products on environmental performance at KIWASCO. In this regard, green product was found to have a significant positive influence on environmental performance (B =0.466, p=0.001) thereby rejecting the null hypothesis H_{o1}, which state that green product does not significantly affect

environmental performance at KIWASCO. This means that a unit change in sustainable green product practices causes a 0.466-unit change in environmental performance and the change is significant. This implies that green product is a significant determinant of environmental performance at KIWASCO.

The second objective of the study was to examine the effect of green distribution on environmental performance at KIWASCO. In this regard, green distribution was found to have a significant positive influence on environmental performance (B = 0.343, p =.000) thereby rejecting the second null hypothesis H_{02}, which states that green distribution does not significantly affect environmental performance at KIWASCO. This means that a unit change in green distribution will cause a 0.343-unit change in environmental performance and the change is significant. This implies that green distribution is a significant predictor of environmental performance at KIWASCO.

The third objective of the study was to establish the effect of green pricing on environmental performance at KIWASCO. In this regard, green pricing was found to have an insignificant negative influence on environmental performance (B = - 0.042, p =.589) thereby accepting the third null hypothesis H_{03}, which states that green pricing does not significantly influence environmental performance at KIWASCO. This means that a unit change in sustainable green pricing will cause a -0.042-unit change in environmental performance but the change is insignificant. This implies that green pricing is not a critical antecedent of environmental performance. It further suggests that compared to the other two factors, green pricing was not a significant predictor of environmental performance at KIWASCO.

The finding that green marketing practices exert a significant positive influence on environmental performance has received some support from theoretical literature as well as past empirical studies. For instance, the finding of the current study was in concurrence with that of a study (Fraj-Andres, Martinze, and Matule, 2011) which investigated the effect of green marketing strategy on firm performance and found similar results. Similarly, Eneizan et al. (2019) study collaborated with the findings of the current study by establishing that a green marketing strategy has a significant and positive effect on firm financial performance. More evidence in support of the current study was offered by a study (Anyahie et al., 2020) whose findings indicated that firms that carry out green marketing practices enjoyed high profitability and sustained corporate performance. Other studies that concurred with the findings of the current study is that of Shaukat and Ming (2022) which concluded that green marketing orientation has a significant direct and indirect impact on business performance. However, the majority of the reviewed studies (Fraj-Andres et al. 2020; Fatoki, 2019; Eneizan et al. 2019; Anyahie et al., 2020 and Mujahid et al., 2021) focused on general firm performance and not

environmental performance which was largely overlooked. However, the current study made a significant milestone and contribution to knowledge by hypothesizing, isolating, and testing the effect of green marketing practices on environmental performance in water utility companies, an area hitherto not explored by previous scholars.

CONCLUDING REMARKS

Conclusions

On the first objective which sought to establish the effect of green product on environmental performance at KIWASCO, the study concludes that sustainable green product is a critical antecedent of environmental performance at KIWASCO. On the second objective of the study which sought to examine the effect of green distribution on environmental performance at KIWASCO, the study concludes that green distribution has a significant positive influence on environmental performance at KIWASCO. Therefore, it is a critical determinant of environmental performance at KIWASCO. On the third objective of the study which was to analyze the effect of green pricing on environmental performance at KIWASCO, the study concludes that there is a statistically insignificant negative relationship between green pricing and environmental at KIWASCO. Therefore, green pricing is not a critical factor in influencing environmental performance at KIWASCO.

Recommendations

Based on the foregoing findings and conclusions the study therefore recommends the following. First, since a significant positive relationship exists between green products and environmental performance at KIWASCO, the manager at this firm should lay more emphasis on the implementation of activities relating to sustainable green product practices largely as found to positively influence environmental performance. Currently, sustainable green product practices are being implemented only to a moderate extent in the study area. Secondly, because green distribution practices exert a positive significant effect on environmental performance, more effort and resources should focus on activities that ensure the successful implementation of sustainable green distribution as these efforts will enhance the environmental performance of the firm in the study area. Finally, since the study revealed that green pricing practices have a negative and insignificant influence on environmental performance, the management at KIWASCO should pay less attention to the adoption and implantation of sustainable green pricing policies since they play no role in enhancing their environmental performance.

Limitations of the Study

While this research offers insights into how various green marketing practices influence environmental performance at KIWASCO, this study is not without limitations. Specifically, the sample size was limited due to time and cost constraints. However, this weakness was remedied thorough literature review that gave different perspective on the issue and compensated for the inadequacy that caused by data limitations.

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