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RESEARCH ARTICLE

EFFECTS OF ENVIRONMENTAL MARKET OPPORTUNITY ON SUSTAINABLE DEVELOPMENT AMONG THE SMES IN NAIROBI COUNTY

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ABSTRACT

This study was designed to investigate market opportunity and sustainable development among SMEs in Nairobi County. A sample representation of 246 from three levels of management of all SMEs was taken from the study using simple random sampling. In the process of answering the basic questions, a questionnaire for this study consisted of two sections: the profile of the respondents and their business, and the main questionnaire, which contained questions on, Market opportunity. After the data, had been collected, it was analyzed for both parametric and non-parametric tests. Most of the data collected using the Likert scale was ordinal. Open-ended questions were analyzed using descriptive content analysis. There was error checking before data analysis to check for correctness of data input to the system cleared out transcription errors. Descriptive statistics such as the mean, the range, the standard deviation and variance gave a good idea of how the respondents reacted to the items of the questionnaire and how good the items measured were. Exploratory data analysis included reliability tests for constructs at both individual and composite level and measurement of both convergent and construct validity were carried out using regression analysis to determine the relationship between the market opportunity on sustainable development. The findings established the effect of market opportunity on sustainable development as having a good fit. The effect of market opportunity was indicated by regression model results (R2 0.526, P < 0.000). The independent variable, market opportunity had significant effects on sustainable development ((P > 003).

Key words: Market opportunity, Sustainable development, SMEs

INTRODUCTION

Environmental marketing, more popularly known as green marketing or sustainable marketing can be defined as the effort made by a company to design, promote, price, and distribute products in a manner which promotes environmental protection (Polonsky, 2011). Markets, increased competition, and new technologies have reduced product lifetimes, demanding rapidity in anticipating or responding to new market needs. New technologies, such as, among others, micro-electronics, have made it possible for small firms in many industries to produce small batches as efficiently as large firms once produced large batches (OECD, 2010). Market opportunities may emerge as a result of either high costs or expected future high costs of energy or raw materials. In fact, cost savings are found to be an important motivation for the adoption by consumers and producers of solutions that reduce energy and material use (Horbach, 2010; Horbach, 2008). Once material prices reach a convenience threshold, more environmentally friendly alternatives are able to compete at comparable price points. The green niches place a specific focus on sustainability, composed of customers with a preference for environmentally superior products, and who are willing to pay a premium for this added benefit. This group of consumers typically serves as the first foothold for businesses in a new green sector.

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By targeting and selling to a growing green niche, firms can kick-off a virtuous cycle whereby the initial revenues can be invested in subsequent innovations, with demonstration of benefit and subsequent adoption of products at each interaction bringing down the cost of technologies and processes, thus making them even more attractive to users (Gartner, 2012; Romani *et al.*, 2011). Small and medium-sized enterprises (SMEs) are non-subsidiary, independent firms which employ less than a given number of employees. This number varies across countries. The most frequent upper limit designating an SME is 250 employees, as in the European Union. However, some countries set the limit at 200 employees, while the United States considers SMEs to include firms with fewer than 500 employees. OECD, (2005). Small and medium sized enterprises (SMEs) represent an important part of the economies of both developed and developing countries. They are recognized as a pivot on which economic growth, job creation, poverty reduction and industrial development can be built (Ogechukwu, 2008; Okpara, 2011; Terungwa 2012). SMEs development are essential in the growth strategy because of their "ability to respond to the systematic shock rapidly and their potentials to generate jobs and income at the time when the large firm sector was undergoing a rapid decline" Krasniqi&Hashi, (2011).

Literature review

According to Hall et al. (2010), market opportunities are defined within and by the different identified environmental

challenges and opportunities present in the given market. That is, if entrepreneurs are willing to resolve identified environmental challenges, they will be more likely to be able to position themselves within the market effectively. Furthermore, the resolution of these challenges increases market opportunities, as well as ups sustainable development practices, because new ways of doing things are established. Entrepreneurs need to be extra cautious when looking for a catch-all remedy to all problems within the identified area of environmental challenges, as while such matters may initially seem to be simple in resolution, the entrepreneurs may not be up to the challenge or to the profit, for a host of different reasons. By the same token, customers should not be lured with the promotion by an organization that the company has made a breakthrough in the provision of a good or service without a thorough investigation, as some are just taking advantage of green and sustainability fans to generate additional revenues without making changes.

As more consumers become aware of a given product or service, the product or service may enter the mainstream. There are numerous examples of entrepreneurs who have identified a green niche in existing industries and have gone on to turn that green niche into an industry-changing business. Some governments have also put in place initiatives that are designed to give visibility to successful green businesses as a way to raise market attention and to highlight good business practices and role models. These measures may also combine the signaling effect with specific support to the firms identified. Korea's Excellent Green Biz program, which fosters exemplary SMEs in terms of green management, is one such example of a practical initiative of this nature (SMBA, 2011). In areas where market signals are not fully effective, the government can contribute to the creation and strengthening of new markets for green innovations through the creation of standards, well-designed regulations, and innovative public procurement OECD, (2011b). This leads to the following hypothesis

Ho: Market opportunity does not have significant effects on sustainable development.

METHODS

The study used a descriptive research design to investigate the effects of venture product and sustainable development among SMEs in Nairobi County, Kenya. A descriptive research design provided for a standardized collection and interpretation of data through surveys and statistical software SPSS. The study was conducted in Nairobi County. The population of the study comprised of the management of the SMEs. The research sample representation was from 246 respondents, however, the study received a total of 236 respondents who completed the questionnaires and this was considered sufficient. This being a descriptive survey, the questionnaire was an appropriate tool for data collection. Respondents selected their answers guided by a seven Likert scale. The Likert scale is psychometric response scale primarily used in questionnaires to obtain participant's preferences or degree of agreement with a statement or set of statements. This study applied various statistical techniques to compute the analysis. These included Analysis of Variance (ANOVA) and regression analysis. Reliability was ensured through the use of standard survey questionnaires which was administered to all SMEs who formed the sample selected (Sunders, Lewis, & Thornhill, 2012). The consistency of the variables is checked with Cronbach's alpha statistics. Cronbach's Alpha test was also used to test internal reliability assuring the ability of data collected techniques and analytic procedure to produce consistent findings if they are replicated by a deferent inquirer (Sunders *et al.,* 2012). The Cronbach's (α) alpha as a coefficient of reliability score was 0.900 for this study. Cronbach's Alpha's can only be measured for variables which have more than one measurement question.

Analysis/study

The study assumed a linear model based on the knowledge from reviewed literature and relationship between venture product (independent) and sustainable development (dependent) where venture product assumes to be a function of sustainable development.

Market Opportunity (MO) = (Sustainable development); $y=f(X^i)$

Where
X_i is the independent variable
Y = is the dependent variable

Thus, the regression model is $y = \beta_0 + \beta_1 I_i + \varepsilon_i$

It is assumed that the error $\boldsymbol{\varepsilon_i}$is independent with constant variance (homoscedastic)

Where:
Y = is the dependent variable and it represents sustainable development
B_0 is the autonomous components which are the level of sustainable development that is not influenced by the independent variables considered in the study. It also gives the Y intercept of the model. From the table 4 on regression coefficients, $\beta_0 = 0.964$
€ is a random error term and takes care of other factors that affect sustainable development which is not defined in the model. The model generated can then be as follows: -
B_1 is the coefficient of proportionality which tells the variation to which market opportunity causes on sustainable development in SMEs. The coefficient is positive and its magnitude is 0.191. Therefore, where changes in the score of SME market opportunity reflects changes in the score of sustainable development in SMEs in Kenya
Y = 0.964 + 0.191MO

RESULTS

This study sought to establish the effects of market opportunity on sustainable development among the SMEs in Nairobi County. This study reports the results of the tested hypotheses out of the existing literature on the existence of the relationship between market opportunity and sustainable development. The hypotheses link was examined and reported. The hypotheses market opportunity was found to be significant, sustainable development as the ultimate dependent is influenced directly by, market opportunity. Out of 246 questionnaires distributed to SMEs in Nairobi County, 236 (95.9%) of the questionnaires were filled out and collected, all of which were analyzed. This was a high response rate that was enhanced using various ways. First, an introductory letter that briefly explained the purpose of the study accompanied the questionnaires assuring

anonymity of the responses provided, secondly, the drop and pick late method used to administer the questionnaires enhanced the responses rate. In addition, phone calls were used so as to get enough responses for statistical analysis and validity. Respondent's gender, age, company and their Job positions in the organization are relevant personal data. In addition, in all the indicators from the five-study contrast are relevant to the SMEs characteristics.

Background information

Background information was summarized using frequencies and percentages. From the study findings majority 47.9% are from the age group of 21-30 followed by slightly old generation group of 31-40 years of age 36%, 2.5% of the respondents were the old generation 41-50 years of age and .8% of the respondents were above 50 years of age. The study further sought to ascertain the gender balance of the respondents, the study findings majority 107 (45.3%), were female while 99 (41.9%) were male. 12.7% (n = 30) did not disclose their gender. The study discusses the means and standard deviations of the results as per the variable of the study. This was applied for the variables whose data was collected through a Likert scale. The investigation of market opportunity and sustainable development. From table 4.5, the mean scores were, 5.19, 5.77, 5.57, 5.65, and 6.14 respectively. The standard deviations were 1.13, 1.24, 1.36,1,44 and 1.19 respectively.

This shows that a very good majority agreed that product development was environmentally friendly, companies focused on promoting environmental products, companies established realistic and attainable economic and financial goals, companies pays attention to environmental market trends, companies conducts ample environmental research before production of a new product and companies consider what consumer demands are when developing new products. New markets, or market niches, for green entrepreneurs, may also emerge from their close interaction with consumers or users, which can favor a greater understanding of their attitudes and market behavior. This is the case of "people-centric" or "user-driven" eco-innovation, whereby the innovator actively screens and/or involves customers and users in the innovation processes. User screening means engaging with users' real-life interactions with products and services, observing them and their interaction products or services gain insight into both the spoken and on spoken needs of the users. User participation happens when companies work together with users and invite them in an ideation setting with a focus on tapping tactic knowledge to uncover unrecognized needs in the use situation (Bisgaard *et al.,* 2011)

Model Testing

A linear regression model was applied to investigate the effects of market opportunity and sustainable development among the SMEs Based on the findings as presented in Table 2 above, the

Table 1. Market opportunity

Effects of market opportunity on Sustainable development among SMEs	Mean	Std. Deviation
The company focuses on promoting environmental products	5.19	1.31
The company establishes realistic and attainable environmental, economic and financial goals	5.77	1.24
The company pays attention to environmental market trends	5.57	1.36
The company conducts ample environmental research before production of a new product	5.65	1.44
The company considers what consumer demands are when developing new products	6.14	1.19

Source: Research Data 2015

Table 2. Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.725[a]	.526	.515	.635	.526	48.18	5	217	.000

a. Predictors: (Constant), Innovation, Product development, Market opportunity, Venture product, Resource opportunity

Table 3 Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	97.06	5	19.41	48.18	.000[b]
	Residual	87.43	217	.403		
	Total	184.49	222			

a. Dependent Variable: Sustainable Development

b. Predictors: (Constant), Innovation, Product development, Market opportunity, Venture product, Resource opportunity

Table 4.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.964	.321		3.00	.003
Market Opportunity	.191	.065	.182	2.96	.003

a. Dependent Variable: Sustainable Development

overall model was statistically significant (R^2 = 0.526, F= 48.18, p > 0.000). The R- square coefficient of determination informs the proportion of change in sustainable development that is caused by the variation of the explanatory variables; the R-value of 0.725 indicate that the predictor variables (innovation, venture product, product development, market opportunity and resource opportunity) contribute for a total of 72.5% change in sustainable. The findings indicate that the R-square is 0.515 revealing that had the study been conducted in an entire population rather than a sample, then the result obtained would give 48.5% (1-0.515) less variance; this indicates that if the researcher had taken the entire population rather than a sample, then the result obtained would be 48.5% difference from the actual result obtained from the entire sample, which is within the percentage provided for by Kothari (2009) for the difference in results obtained from sample population and actual population not to be more than 30%. From results shown in table 3, the F statistic is 48.18 with a corresponding p-value of 0.000. Therefore, the calculated F-statistic is greater than the tabulated statistic at the five percent level of significance. Thus, the predictor variables are jointly significant in explaining variations in sustainable development. Since the p-value (0.000) was less than α (0.05) then the result was significant, implying that the explanatory variable explains the major variations on the dependent variable. This led to the opinion that independent variables Market opportunity, significantly explained the variations in the dependent variable (sustainable development).

Regression Coefficients

Table 4 presents the regression coefficients that show the effects of market opportunity on sustainable development among SMEs in Nairobi County. The table also presents the t-statistics and the p-values measuring the significance of the relationship between the dependent and independent variables. The above table 4 shows the coefficients of the multiple regressions for the explanatory variables. At 5% significance level and 95% confidence level, market opportunity is significantly influencing the growth of medium enterprises. The independent variable market opportunity had a significant influence on sustainable development among SMEs in Nairobi County as indicated by the regression results of (β 0.964, p>0.003). Table 4 shows that market opportunity had a significant influence on sustainable development at (β 0.191, p>0.03).

DISCUSSION

This study sought to establish the effects of market opportunity and sustainable development among the SMEs in Nairobi County. The research objective under this variable was to establish theeffect of market opportunity on sustainable development among the SMEs. Based on the research findings, the correlation analysis established that there existed a strong correlation between market opportunity and sustainable development, in that market opportunity explains 19.1% of the variation in the sustainable development of SMEs in Kenya (t= 2.958, =0.191, P > 0.003). Thus, the t-calculated (2.958) value is greater than t-critical (2.069) and the P-value of 0.003 is statistically significant. The findings lead to the rejection of hypothesis market opportunity does not have a significant effect on sustainable development. These findings validated the findings of OECD (2011d) who reported that Market-based drivers consist of opportunities to respond to the need for environmental or sustainable, and greener goods and services perceived by market players, consumers, or businesses. These needs can emerge as a result of changes in values and norms, but can also reflect changes in relative prices. In particular, government market-based instruments, such as taxes and subsidies, modify price signals so that the value or cost of externalities is taken into account and all factors of production, including natural capital, are properly valued. The regression analysis, market opportunity had a significant influence on sustainable development at (β =0.191, p > 0.03), in another study conducted by Greenpeace, (2010) Green marketing provides an opportunity to change people's behavior, as in the case of Facebook, where protest against the decision of the company, Facebook, to utilize energy efficiency in their new data center in the state of Oregon. Demonstrators, on Facebook, were of the opinion that Facebook should not use a Pacific energy supplier (Pacific Power, a utility owned by PacifiCorp) for the purposes of running its data center, though they did not cease using Facebook in protest (Greenpeace, 2010). The reason for the distaste was that the company's primary means of power generation was coal. Currently, 58% of its energy is generated from coal, and only 21% percent from renewable (Greenpeace, 2010).

A green-oriented infrastructure has an economic stimulus option that would have an immediate impact on job creation. For instance, the Apollo Alliance estimates that every $1 million invested in the US in energy efficiency projects creates 21.5 new jobs, as compared to only 11.5 jobs for the new natural gas generation (DB advisors, 2008). On the other hand, green infrastructures have a potential for restoration of damage to the environment, the maintenance of current habitats, and rebalancing ecosystem services, all the while it works to create jobs and fuel the economy at a different level. According to a study by the Centre for Policy Development, in 2009 the green economy in Australia, as measured by the revenues of companies in the clean-tech, environmental science services, waste disposal services and recycling industries, was worth AUD 33 billion (Eltham, 2010). Also, Vaccaro *et al.,* (2009) reported that diversification increases market opportunities, the study was conducted by analyzing those commons that interact with global markets, allowing the reader to view how “the market potential of the commons, or resources contained in the commons, may produce a profit that acts as a subsidy for the rest of a community’s traditional productive activities. In a world dominated by monetized economies, the monetary revenues produced by such activities may represent a key resource for the continuity of the community in a national society or a transnational network” This suggests that market opportunities have numerous influences on sustainable development.

Investments in green infrastructure provide jobs as well as business opportunities and assist organisations in building partnerships (SURF, 2011). Studies conducted concerning the Milwaukee Metropolitan Sewerage Sub County (MMSD) show that, on average, there will be 160 new construction jobs per year for the construction and maintenance of new facilities. Once the new facilities are constructed, it is estimated that there will be over 500 green operations and maintenance jobs (MMSD, 2012). Globally, the UK Prime Minister has estimated that up to 25 million new "green" jobs could be created by 2050 with the appropriate supportive policies in place, estimation in line with President-elect Obama's plan to create 5 million new green jobs in the US (DB Advisors,

2008). Likewise, business parks have also generated more than £4.5m in capital receipts and created more than 2,800 jobs (LPI, 2008; Richard *et al.,* 2013).

Conclusion

The general objective of the study to investigate the effects of market opportunity and sustainable development among SMEs in Nairobi County, Kenya. The explanatory variables used in the study to influence marked opportunity and sustainable development are explained, p>0.000. It was established that market opportunity is more committed to sustainable development. An analysis also established that a strong and significant positive relationship correlation exists between, market opportunity. Based on linear regression analysis, there is a relationship between the dependent variable 'market opportunity' and 'sustainable development'. The independent variable market opportunities had a significant influence on sustainable development among SMEs in Nairobi County as indicated by the regression results of market opportunity had a significant influence on sustainable development at (β =0.191, p<0.03). The effects of Market opportunity on sustainable development which is statistically significant. Therefore, there is a positive relationship between sustainable development and market opportunity. In areas where market signals are not fully effective, the government can contribute to the creation and strengthening of new markets for green innovations through the creation of standards, well-designed regulations, and innovative public procurement

Recommendation

The findings of this study add significant information to the body of knowledge, specifically on market opportunity and sustainable development among the SMEs in Nairobi County. Analysis and synthesis provide descriptions of and recommendations on how to integrate market opportunities into achieving sustainable development goals. The study acknowledges luck of Policies that govern environmental market opportunity and therefore recommends to the government to have policies to govern environmental market opportunity concepts in the country and across the counties in Kenya. These policies should ensure that SMEs are well nurtured as they grow and will not need to pull out of ecopreneurship growth. Policy can also foster the interaction between eco-innovators and end-users, facilitating the emergence of products or services based on actual market opportunities and customer needs. Policy measures can help entrepreneurs, aiding in improving understanding regarding users' perceptions and consumption practices by supporting initiatives for customers' screening and their engagement in innovation development and or product testing. Incentives to engage in greening importantly arise from the marketplace.

External sources of pressure for the adoption of sustainable practices include customers' demand for environmental improvement in business processes or for products/services with reduced negative environmental impact Players and stakeholders in all sectors of the economy should priorities emissions reduction by encouraging innovative approaches to reducing emissions which are not limited to renewables. There is also need for building a knowledge base on resource efficiency among consumers. Possible actions and the benefits of reusing and recycling should be communicated among the public and private sectors and used for the benefit of society as a whole.

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