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INFLUENCE OF PRODUCT DEVELOPMENT STRATEGY ON THE PERFORMANCE OF NZOIA SUGAR COMPANY IN KENYA

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Abstract: **The main objective of the study was to examine the influence of product development strategy on the performance of Nzoia Sugar Company (NSC). The study used a case study approach with a target population of 300 staff members to gain a full understanding of NSC. The respondents recruited recruited purposively from seven departments involved in the production which included Agriculture, Sales and Marketing, Factory, Human Resources, Finance, Strategy and Planning, and Procurement. A sample size of 90 staff members; 2 Executive staff, 8 Section Heads, 31 Superintendents, and 49 Supervisors were used. The information was obtained from both primary and secondary sources. Primary data was gathered by interviewing members of the workforce at the executive and business unit levels. Management reports and minutes, an annual work plan, reports from the strategic change management committee, and relevant formal letters and testimonials were used to collect secondary data. The data was assessed using content analysis to capture the prominent themes, and categories, and to aid in thematic analysis, which is one of the study's main aims. The study concluded that the product development had influence on performance of Nzoia Sugar Company in Kenya.**

Keywords: **Product Development, Strategy, Performance, Sugar Industry.**

1. INTRODUCTION

Sugar production has become one of the most developed industries in the agri-food industry in recent years (Nakai, 2018). Agriculture, which is the backbone of most Third-World economies, is being given more attention. However, agricultural productivity in many African countries is currently falling or stagnant. Agricultural productivity, particularly food production, has been dropping per capita almost everywhere since the 1970s. A stop in agricultural exports has accompanied this trend, as has a considerable increase in commercial grain and food aid imports (Magdoff &Tokar, 2010).

In addition to sugar, the sugar industry produces by-products such as biomass, bagasse, and molasses, which can be used to make energy, fuel, paper, and organic chemicals. In 2018-19, Asia produced 77 million tons of sugar, with South America (38 million tons) and Europe (36 million tons) following closely behind (27 million tons). More than half of the world's sugar was produced in 2018 by Brazil, India, the EU, Thailand, China, and the United States (Gopinath, *et al.*,2018).

According to MacCormack et al. (2012), the goal of product development is to balance the needs of larger target markets with the wants of present customers. Mbithi, *et al.* (2015) claim that a corporation stays within its current markets while creating new products for them. New products, according to academics, are advantageous for sponsoring companies' bottom lines. According to De Jong & Marsili (2010), when inventive new items are first introduced, there is less direct rivalry, which enables sponsoring businesses to realize relatively sizable profits.

While high earnings are expected to decline over time as a result of copying and competition, he argued that businesses that are always coming up with innovative new products may be able to sustain high profitability for a considerable amount of time. A substantial and growing amount of research demonstrates the connection between company profitability and innovation. In a study of 721 U.K. manufacturing companies between 1972 and 1983, Schumpeter (2017) discovered, for instance, that the number of innovations made by businesses had a positive effect on their operational profit margin. The effectiveness of an organization in a project for improvement is determined by its product strategy as well as its general process and association strengths. He proceeds to say that organizations' products assist with shaping the market environment, and that the market environment changes as customers and contenders find out about new products and services. Goedhuys and Veugelers found that innovative execution, especially the integration of product and process improvements, is a vital driver of business development. Financial markets might be intensely tuned to the results of item advancement in publicly traded companies (Mbithi, et al., 2015).

Company performance, as indicated by Lelissa and Kuhil (2018), is a component of various components. The structure conduct-performance (S-C-P) paradigm of industrial organization economics has been found to have a connection between the thoughts of climate, technique, and execution. Sugar organizations should continually dissect what their item improvement methodology means for their performance to remain in business. Their prosperity is probably going to be affected by how predictable their strategic activities are with environmental changes.

According to Haeussleret al., (2012), there is empirical evidence of the impact of strategy choices on company performance relates to the development of new products and the success of the company They linked product innovations to business growth, but Rothensteinet al., discovered evidence of product development failures in financial losses. While other studies have been carried out in various contexts and industries, this study aims to address the performance implications of product development strategy in terms of developing new goods and improving existing products in the sugar business in western Kenya.

2. STATEMENT OF THE PROBLEM

Organizations can use strategic responses to build on their core capabilities and create value-added goods and services. When compared to those that do not adopt strategic responses, organizations that embrace strategic responses perform better. In Kenya, the sugar industry has been subjected to a dynamic business environment, hence millers must adapt effective strategies to remain competitive. Without appropriate strategic involvement, the plan to become a self-sufficient country in terms of sugar production may not be realized.

To evaluate the factory's performance, NSC conducted certain empirical research. Factors affecting job involvement in Nzoia (Lubakaya, 2014), Factors Affecting E-Procurement Implementation in Nzoia (Waniani, et al., 2016), Factors Affecting Supply Chain Performance in Nzoia (Oteki, &Wamalwa, 2014), and Influence of Employees Reward Program on Job Performance (Oteki, &Wamalwa, 2014). (Wycliffe &Migosi, 2017).

Several studies on strategy implementation in NSC have also been undertaken. Ambia (2012) and Wefwafwa (2009), for example, looked at NSC's strategic plan implementation, whereas Mohamed (2007) looked at NSC's responses to shifting external factors. Several investigations concentrating on the performance of NSC have been carried out and despite the aforementioned studies, reports on the overall performance of NSC has remained unimpressive over the past years. According to the Report of the Auditor- General (AG), NSC is technically insolvent and its continued existence as a going concern is dependent upon the financial support from the Government and its creditors. The company is unable to meet its financial obligations as and when they fall due with current liabilities of Kshs.53.2billion and current assets of Ksh.1.62billion. (Report of the Auditor-General on Nzoia Sugar Company Limited for the year ended 30th June 2020). This confirms that there is urgent need for government owned mills like NSC to implement strategic options that can regulate production costs in order to maximize on profits

However, aside from the work done by Wefwafwa (2009) and Ambia (2012) on strategy implementation, which identified general strategy responses, studies on the effects of specific strategic responses on the performance of the NSC, such as product development strategy, has not been conducted. This research intends to fill in the gap by looking into this strategic responses on NSC performance as well as the obstacles to implementing them.

3. LITERATURE REVIEW

A study on strategic partnerships in high-tech new enterprises was done by Hanisch, et al. (2018). In order to determine how new businesses might maximize the advantages of these ties while minimizing their risks, the study analyzed a database of biotechnology companies. Hanisch had to evaluate their alliance portfolio, technological prowess, and product development in order to test the study hypotheses. Biotechnology companies in the United Kingdom and Germany, Europe's largest and most sophisticated biotech industry, were polled for the study. Face-to-face communication interviews were performed with 162 German and British companies that agreed to take part in the study. Germany had a response rate of 47 percent, while the UK had a response rate of 34 percent. In order to determine correlations between the study's variables, descriptive statistics were used in the analysis.

When it comes to NPD, the study indicated that specialization of new enterprises' technology capabilities can help managers employ alliances more efficiently. When the endogeneity of coalitions was taken into consideration, the results were consistent across a number of model configurations (Haeussler&Patzelt, 2008). However, the findings highlighted the relevance of the breadth vs depth of a firm's technological specialty, which was not addressed in this study.

With regards to creating product developments, research was directed to figure out which of three potential vital directions of the firm (client, cutthroat, and innovative directions) is more suitable, when, and why (Rizan and Purwohedi, 2019). By utilizing polls to gather information from market chiefs, 87.5 percent (209 administrators) of the 239 showcasing leaders consented to partake in the review. The findings revealed that the suitability of a strategic orientation, even a customer orientation, is not always guaranteed (Rizan&Purwohedi, 2019). It was, however, impossible for the researchers to determine the causes of the unexplained variance.

Nobeoka (2006) looked at recent empirical studies on product development in the automobile sector that had been conducted or published. Their goal was to figure out what had been learnt and what still needed to be learned about how to handle this activity effectively. The review looked at factors connected with item product strategy construction or association, and project as well as item execution, and the fundamental system used to analyze the examinations saw factors connected with item technique, project design or association, and venture as well as item execution. As per the outcomes, Japanese automakers have accomplished the best degrees of improvement efficiency as well as generally deals development, and have done it through the work of specific designs and strategies (Nobeoka, 2006). The proof, then again, isn't clear about the specific connections between advancement efficiency and quality or economic rewards.

4. METHODOLOGY

The study used a case study approach with a target population of 300 staff members to gain a full understanding of NSC. The respondents recruited recruited purposively from seven departments involved in the production which included Agriculture, Sales and Marketing, Factory, Human Resources, Finance, Strategy and Planning, and Procurement. A sample size of 90 staff members; 2 Executive staff, 8 Section Heads, 31 Superintendents, and 49 Supervisors were used. The information was obtained from both primary and secondary sources. Primary data was gathered by interviewing members of the workforce at the executive and business unit levels. Management reports and minutes, an annual work plan, reports from the strategic change management committee, and relevant formal letters and testimonials were used to collect secondary data. The data was assessed using content analysis to capture the prominent themes, and categories, and to aid in thematic analysis, which is one of the study's main aims.

5. FINDINGS

The objective of the study was to examine the effects of Product development strategy on the performance of NSC in Kenya. The descriptive statistics is shown in Table 1.

Table 1: Descriptive Statistics on the Influence of Product Development on Performance

Statement	N	Mean	Std. Deviation
The organization use existing production system to introduce new products	87	4.41	.771
The organization use existing managers/personnel to market new products	87	3.54	1.129
The organization share advertising campaigns to launch new products	87	4.10	1.012
The organization use existing departments to market products	87	4.59	.639
The organization use the existing brand to market new products	87	5.00	.000
The organization share operations, administration and management skill to introduce new products	87	4.45	.774
The organization share product development personnel to introduce new products	87	4.07	.873
Overall Mean Score	87	4.31	0.743

Scale: 5= Strongly Agree; 4= Agree; 3=Undecided; 2= Disagree; 1 =Strongly Disagree; M=mean; std. dev= standard deviation

The finding in Table 1 shows that respondents agrees that the organization use existing production system to introduce new products (M=4.41; std. dev.= .771), the organization use existing managers/personnel to market new products (M=3.54; std. dev.= 1.129), the organization share advertising campaigns to launch new products (M=4.10; std. dev.= 1.012), the organization share operations, administration and management skill to introduce new products (M=4.45; std. dev.= .774) and the organization share product development personnel to introduce new products (M=4.07; std. dev.=.873). Also, the respondents strongly agree that organization use the existing brand to market new products (M=5.00; std. dev.=.000) and the organization use existing departments to market products (M=4.59; std. dev.= .639). The overall results indicate that the respondents agree product development had influence on performance of NSC in Kenya (M=4.31; std. dev.= .743)

The findings from the interview sessions showed support that product development had influence on performance of the company. The following statements were noted.

"...the company uses existing managers and personnel to market new products hence improved sales"

[Key Informant Interviewee X]

In addition,

"...our company shared operations, administration and management skill sets to introduce new products. This has caused a spur in performance"

[Key Informant Interviewee Y]

The research also noted that currently, NSC produces sugar and molasses. Plans are underway for diversification of products and soon bottled water will be included in the product mix. NSC also has long term plans for cogeneration and production of ethanol.

The study established that new product development is an indicator of growth of NSC especially where new markets are reached by the new products from NSC, therefore there is a direct relation of new product development and better performance. The study also found out that successful product development has enhanced operating performance in NSC. The finding that new product has a positive effect on organizational performance of NSC reaffirms that the company cannot depend fully on its current product of sugar to meet its objectives. New product development has influenced adoption of improvement technology and procedures in production and offering of services by NSC. From the findings modification of existing products was evident. From the interviews it confirmed that modifications were observed through packaging and bagging.

The findings concurred with Goedhuys and Veugelers (2008) who established that adoption of innovation strategies particularly internal technology creation and external technology acquisition, and could impact on successful process and product improvements by manufacturing firms in Brazil. In addition, the study results supported Cusumano and Nobeoka (1991) who found out that Japanese automakers had achieved the best levels of development productivity as well as overall sales growth, and have done so through the employment of certain structures and methods.

The findings above imply that there is need for the NSC to adopt the right product development strategies so that they will be able to achieve better performance. It is evident that the company must adopt the new technology edge to enhance its production cycle.

In order to test the research hypothesis, Pearson Correlation analysis was done. The research hypothesis was HO_1: There is no significant influence of product development strategy on performance of NSC. The finding is shown in Table 2.

Table 2: Testing Hypothesis between Product Development and Performance

		Product Development	Performance
Product Development	Pearson Correlation	1	.379**
	Sig. (2-tailed)		.000
	N	87	87
Performance	Pearson Correlation	.379**	1
	Sig. (2-tailed)	.000	
	N	87	87

**. Correlation is significant at the 0.01 level (2-tailed).

The finding in Table 2 shows that Correlation Coefficient was r = .379 at a significant value less than 0.05. Since the p-value was less than 0.05, the null hypothesis was rejected. Therefore, the study concluded that there was a significant influence of product development strategy on performance of NSC.

6. CONCLUSION AND RECOMMENDATION

There exists a necessity to allocate resources towards the establishment, assessment, and management of implementation, evaluation, and control procedures. Hence, the successful implementation necessitates the mobilization of resources and active engagement of pertinent parties. Based on the aforementioned facts, it can be inferred that the product development exerted a significant influence on the performance of Nzoia Sugar Company in Kenya. NPD strategies are formulated with the objective of addressing evolving client needs and optimizing overall performance. The NSC's management should prioritize the adoption of suitable product development strategies to optimize organizational performance through the effective utilization of existing staff expertise and production systems. NSC and other sugar millers should consider incorporating innovative technologies into their manufacturing processes in order to enhance the quality of sugar through fortification. Fortified sugar possesses supplementary nutritional advantages that are favored by a significant number of consumers. However, it is noteworthy that there is currently no sugar miller in Kenya engaged in the fortification of sugar.

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