Effect of Operational Strategies on Growth of Burundian Coffee Sector: A Case of Office Pour Le Development Du Café Du Burundi

[1]Andrew O. Nyakundi; [2]Eric Habonimana and [3]Cornelius A. Marita

[1,3]Kampala International University, Uganda
[2]International Leadership University, Burundi

ABSTRACT

The coffee sector in Burundi plays a vital role in economic development. It is the major foreign earning source contributing about 80%, supports 600.000 households, and offers employment to 40% of total population of the country. In ODECA, there is a decline trend production hence affecting its growth. In 2019-2020, production was 15084 metric tons while in 2021 was 6490 metric tons. This shows a decrease of 56% over the previous year. The decline can be attributed to ineffective operational strategies. Therefore, the study investigated the effect of operational strategies on growth of Burundian coffee sector. Objectives were to: examine the effect of product strategy, evaluate the effect of process improvement strategy and determine the effect of resource availability strategy on growth of Burundian coffee sector. The study was anchored on resource-based theory and guided by cona ceptual framework. The descriptive research design was adopted and quantitative research approach was employed. Simple random sampling technique was used to select 78 respondents from the population of 97. Data was collected using questionnaire and both validity and reliability (0.888) were tested. The data was analyzed using multiple regression analysis techniques with the help of SPSS (Version 16) .Results indicated that product strategy had statistically insignificant effect on growth of coffee sector (t=1. 900.P=0.062,P>.05), resource availability strategy (t=2.266,P=.027,P<.05) affects coffee growth significantly)while process improvement strategy (t=0.946,P=0.348,P>0.05) had also statistically insignificant effect on growth of coffee sector. The study concluded that both product strategy and process improvement strategy contribute minimally to the growth of coffee sector while resource availability strategy contributes significantly. The study recommends availability of strategic resources to the coffee sector.

Keywords. Product strategy, Resource availability strategy, Product improvement strategy, Growth of coffee sector

INTRODUCTION

Operations strategy is important to any type of enterprise. Operations strategy controls the whole operations of competitive advantage that results from economics that create growth, earnings, and valuation [1-3]. It involves how decisions in an organization are formulated, reformed, and deployed in the use of resources. The main role played by these decisions is to ensure that competitiveness is supported and embraced effectively [4]. If well implemented, it can assist the organization in assessing its effectiveness and efficiency and thread the organization's vision, objectives, strategies, processes, resources, products, and services to the customer [5]. Successful companies have transformed their operations using resources strategically [6]. Organizational success is only likely to result if short-term operation activities are consistent with long-term strategic intentions and make a contribution to competitive advantage [7]. Globally Coffee production in the year 2020/2021 was estimated at 169.50 million bags, representing a 0.3% increase on 168.94 million bags in coffee year 2019/2020. Although world consumption is increasing, it remains 1.4% below world production. Moreover. World coffee exports were 9.68 million bags in October 2021, compared to 10.13 million in October 2020, exports in the first month of the coffee year 2021/22 (October/2021 to September/2022) decreased by 4.4% to 9.68 million bags compared to 10.13 million bags in the same period in 2020/2021. Exports of Arabica totaled 81.29 million bags compared to 79.1 million bags last year; whereas Robusta exports amounted to 47.19 million bags compared to 49.05 million bags [8]. Production of coffee in Africa has remained low and export is in the form of raw green coffee and final product made elsewhere. This can constrain the sector growth which needs to be addressed [9].

In Burundi, the coffee sector provides around 80% of Burundi's foreign exchange, declining production also contributes to current macro-economic difficulties posed by the scarcity of foreign exchange and the rapidly increasing differential between the cash and official bank exchange rates [10]. The Government of Burundi mitigates change in Coffee production through the development of a policy framework executed through the Coffee sector regulator Office de Développement pour le Café du Burundi, ODECA [11]. ODECA is a Burundian company with the business purpose of transforming coffee from farmers to warehouses and selling it locally and satisfy international needs. In Burundi, a lack of capacity and operation strategies are the key hindrances to its growth [12]. The study was underpinned by Resource Based Theory (RBT) which was developed by Barney, in 1991 [13]. The intention was to understand how organizations achieve sustained competitive advantages. The firm is seen as a collection of physical resources, human capital resources, and also organizational resources. The resources which are difficult to purchase and are imitable in nature. Therefore, they are rare, valuable, inimitable, and non-substitutable resources [13, 14].

Relevance of the theory

For the organization to be effective and achieve competitive advantage then critical resources are needed in the implementation of developed operational strategies. Product strategy, resource availability strategy and process improvement strategy, all of them require unique resources that competitors cannot easily imitate. Therefore, the RBT guides firms based on selecting resources to achieve competitive advantage and be successful which is the ultimate goal of firms.

Problem Statement

The growth of the Burundian coffee sector has been the most challenging issue for the government and ODECA. In Burundi, the coffee sector plays a big role in economic development. it contributes 60-80 % of foreign earnings [11], supports 600,000 households and employs 40% of the population. In 2020–2021 coffee campaign, the decline in production was so huge amounting to 57% whereby the Project Development Objective (PDO) was to increase coffee productivity and improve its quality among small scale coffee growers in Burundi [12]. In 2019 the production was 15,054 metric tons while in 2021 the production was 6,490 metric tons, a decline of about 56.9%, resulting in negative effect on economic development of Burundi [15]. The decline in production could be attributed to operational strategies such as product strategy, resource availability strategy and process improvement strategy whose effects are inadequately known. If the situation is not addressed, the coffee sector will collapse leading to increased poverty, reduced government revenue in foreign earnings continual weakening of Burundian currency against the dollar and unemployment crisis within the sector. Therefore, the study sought to examine the effect of operational strategies on growth of Burundian coffee sector.

Research Hypotheses

The research hypotheses that guided the study include:

Ho_1: There is no significant effect of product strategy on the growth of the Burundian coffee sector.

Ho_2: There is no significant effect of resource availability strategy on the growth of the Burundian coffee sector.

Ho_3: There is no significant effect of process improvement strategy on the growth of the Burundian coffee sector.

Conceptual Framework

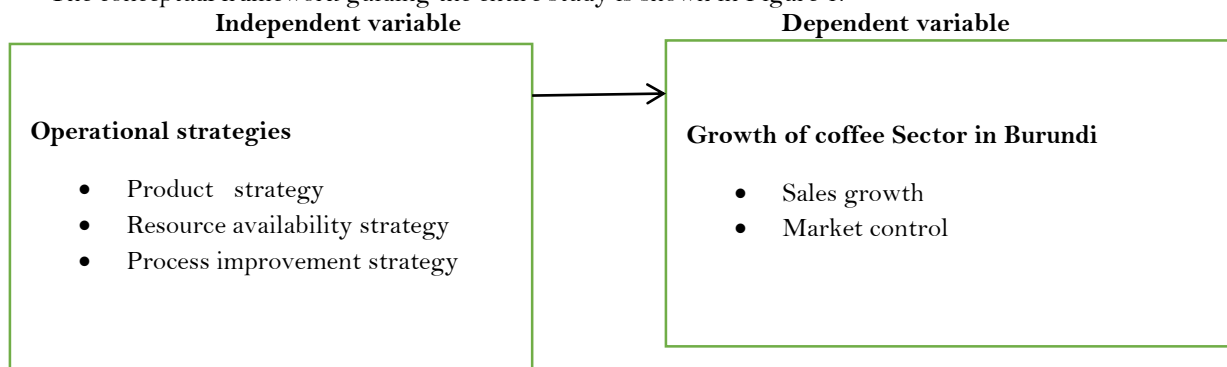The conceptual framework guiding the entire study is shown in Figure 1.

Independent variable   **Dependent variable**

Operational strategies

- Product strategy
- Resource availability strategy
- Process improvement strategy

Growth of coffee Sector in Burundi

- Sales growth
- Market control

Figure 1. Interrelationship between independent and dependent variables

LITERATURE REVIEW

Effect of Product Strategy and Growth of the Coffee Sector in Burundi

[16], explained the concept of product strategy as the focus on the needs of the current customers and the wider customer markets and is related to the level of perception the customer has on the service offered [17]. The strategy can create a competitive advantage in the marketplace and enhance the performance of the organization in

sales and profitability [18]. [19], underlined that coffee product quality is one of the important factors that determine the market price of coffee. Quality is determined by various physical and physico-chemical constituents of the raw beans. Other factors that influence the quality of coffee include coffee variety, conditions of the cultivation site, crop fertilization, harvesting, and processing techniques [20]. Making unique products that stand out in the market and appeal to customers is a crucial ingredient to attaining competitive advantage and may increase a company's profits and customer engagement is also important [21]. Customer feedback has been incorporated by many companies in product development phases such as initiation, development, and launching [22]. [23], conducted a study with 459 coffee consumers in Belo Horizonte, Brazil, their findings indicated that product features, followed by the coffee's taste, type of coffee, and roasting point were the most critical considerations in the consumer buying decision process and could mostly determine the profit of the company. [24], conducted research on product diversification and product development strategies for sales growth of Coffee export in Kenya. The findings indicated that product diversification strategy had a significant influence on the sales growth of coffee (t=2.433, P=0.013, P<.05), equally product development influenced sales growth of coffee significantly (t=3.543, P=0.00, P<0.05) [25], studied the effect of market penetration strategy on sales growth of Coffee export in Kenya. The result revealed that the relationship between market penetration strategy and sales growth of coffee exports was statistically significant (t=6.612, P=.0.001, P<.001). According to [26] product strategy can influence the performance of a company and also is seen as a driver for firm growth [27].

Effect of Resources Availability Strategy and Growth of the Coffee Sector in Burundi

Peasant coffee farmers in rural Kenya organize themselves to acquire resources through collectivism to overcome the highly technical task of growing and selling premium coffee on the world market [28]. [29], in their study showed that the allocation of resources influences the successful execution of management plans. Failure to conveniently employ available resources leads to unnecessarily high operation costs, and an unable to attract and retain experienced and skilled personnel thus affecting the performance of firms. [21], studied competitive advantage which can influence the performance of a firm. The study concluded that the strategy lies in human resource development in areas of social structure, education reforms, entrepreneurship and innovation, and appropriate government support programs. [30], in his study on financial resource strategy found that the resource is affected by the acquisition of funds, use of funds, provision of information to outsiders through the preparation of final accounts, and provision of internal information. [31], conducted a study on coffee producers and small and medium scale value chain actors and concluded that they require access to financial resources which can enable them to fund various strategic investments, such as research and development, digital innovations, infrastructure, and other programmes related to on-farm diversification.

[32], in their study on strategic plans, found that financial and material resources are needed for a successful strategic plan implementation. However, organizations should ensure that there is financial accountability through the use of monitoring, auditing, and accounting mechanisms.

Effect of process improvement strategy on the growth of the coffee sector in Burundi

[33], in his study on process improvement strategy indicated that the process should start immediately after post-harvest of coffee production. The processes involve the selection of optimal mature coffee beans (colored red) and separating them from the green ones which can cause damage to the quality of processed coffee. After the green bean is collected, roasting is done using the machine. The roasting stage is one of the most important stages in maintaining the quality of coffee beans. This process is the stage of forming the aroma and distinctive flavor of the coffee beans with heat treatment. [34], conducted a study on strategies for improving coffee production and processing, He found that the choice of processing method is often influenced by factors such as cost-benefit ratio, the need to comply with environmental legislation, and the desired quality standard for the product. Further, he indicated that the type of process method used in processing determines the profitability of the coffee business and the growth of the coffee sector. [35], investigated the business process in coffee production organization aimed at achieving maximum improvements leading to good performance. The study concluded that coffee production organizations require business process management (BPM) to promote growth and development. Further, process improvement initiatives (PIIs) must explain the needs and goals of conducting process change and management [36]. [37], indicates in his study that packaging design contributes to a good product image and consequently to the performance of the coffee sector.

METHODOLOGY
Research Design and Research Approach

In this study, descriptive research design was used which helped to describe the situation as it existed [38]. The study adopted a quantitative research approach in generating data in quantitative form.

Study Population and Sample Size

[39], refer to the entire group of individuals, objects, items, articles, or things with some common attributes or characteristics. The total population of ODECA was 97(ODECA Report, 2022). A sample size of 78 used in this study was determined by the use of the [40] formula depicted below.

Formula: $n = \dfrac{N}{1+N(e)^2}$

Extrapolating:

n: Sample size

N: Total population

e: Sampling error or level of significance (5%)

N = 97

$n = \dfrac{97}{1+97 \times (0.05)2}$

$n = \dfrac{97}{1,77}$,   n= 78

Sampling and Data Collection Methods

A simple random technique was used to select respondents while the data collection method adopted was a questionnaire. All the research objectives were incorporated into the questionnaire. The quality control of the research instrument (Questionnaire) was checked by conducting content validity and reliability tests. [41], provides the following rules of thumb: >0.9 − Excellent, >0.8 − Good, >0.7 − Acceptable, >0.6 − Questionable, >0.5 − Poor and <0.5 − Unacceptable. [42], suggested that as a rule of thumb, a reliability coefficient value of above 0.70 is statistically reliable and acceptable for a study.

Data Analysis

Multiple regression analysis technique was used in analyzing the data with the help of Statistical Package for Social Science (SPSS version 16) software. The technique is useful when it comes to examining relationships between two or more variables of interest (Bevans, 2020). The regression model equation developed is shown below:

$Y = \beta o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \dots\dots\dots\dots\dots\dots + e$

Where:

Y: Growth of coffee sector,

βo: Constant,

$\beta_1, \beta_2, \beta_3$: Coefficients of independent variables,

X_1: Product strategy

X_2: Resource availability strategy

X_3: Process improvement strategy

e= Error term (.05)

RESULTS AND DISCUSSION

As for the reliability test of the research instrument, the result was 0.884 against the accepted level of 0.70 (Nunnally,1978). Therefore, the research instrument was reliable for utilization in data collection.

Results of Research Hypotheses

The multiple regression analysis results are shown in table .1a, 1b, 1c below.

Table 1a. Model Summary

Model	R	R^2	Adjusted R^2	Standard Error of the estimate
1	.732a	.683	.661	.22081

Source. Field data,2022

a.Predictors: (Constant), Product strategy, resource availability strategy, Process improvement strategy

The R measures the quality of the prediction of the dependent variable (Growth of Coffee Sector). A value of 0.732 indicates a good level of prediction. The R^2 (0.683) shows the fraction of variance in the dependent variable that can be explained by the independent variables. Therefore, the regression model above was responsible for 68.3% of the variability in the dependent variable while other factors accounted for 31.7%.

Table 1b. ANOVAa

Model	Sum of squares	Df	Mean Square	F	Sig.
1					
Regression	8.288	2	4.144	11.5	0.00b
Residual	20.958	58	.361		
Total	29.246	60			

Source: Field data,2022

    a.   Dependent variable (Growth of Coffee Sector)

    b.   Predictors:(Constant), Product strategy, resource availability strategy, process improvement strategy

The F-ratio in the ANOVA table tests whether the overall regression model was a good fit for the data. The result shows that the independent variables statistically significantly predicted the dependent variable {$F_{.05}$ (2,58) = 11.5, P < .05}. Therefore, a regression model was a good fit for the data.

Table 1c. Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig
Model	B	Std Error	Beta		
1(Constant)	1.070	.749		1.429	.158
Product strategy	.319	.168	.243	1.900	.062
Resource availability strategy	.312	.138	.298	2.266	.027
Process improvement strategy	.143	.151	.127	.946	.348

Source. Field data, 2022

a. Dependent Variable: Growth of Coffee Sector

From Table 1c above, the general model equation to predict the growth of the Burundian coffee sector from Product strategy, Resource availability strategy, and Process improvement strategy is given below:

$$Y= 1.070 + 0.319X_1 + 0.312X_2 + 0.143X_3 \text{--}_1$$

Ho1: There is no significant effect of product strategy on the growth of the Burundian coffee sector.

The findings revealed that product strategy had an insignificant effect statistically on the growth of the Burundian coffee sector (t=1.900, P=0.062, P > 0.05). Consequently, the null hypothesis was accepted. An increase in one unit of product strategy can influence the growth of the Burundian coffee sector positively by 0.319 units but not statistically significant. The result differs from the finding of [24] who reported that product diversification strategy influences significantly sales growth of coffee export (t=2.433, p=0.013, p<.05) and also product development strategy statistically influences significantly sales growth of coffee export (t=3.543, p=0.000,p<.05).

Ho2: There is no significant effect of resource availability strategy on the growth of the Burundian coffee sector

The results indicated that the resource availability strategy had a statistically significant effect on the growth of the Burundian coffee sector (t=2.266, p=0.027, p < 0.05). Therefore, the null hypothesis was rejected in favour of the alternative hypothesis. An increase in one unit of resources availability strategy affects significantly the growth of the Burundian coffee sectors by 0.312 units. The result is supported by [43], who reported that resource allocation influences the success of execution of management plans. Also, the findings are in agreement with [44] who reported that financial resources are required by Coffee producers and small and medium value chain actors.

Ho3: There is no significant effect of process improvement strategy on the growth of the Burundian coffee sector

The results revealed that process improvement strategy had a statistically insignificant effect on the growth of the Burundian coffee sector (t=.946, p=0. 348, p > 0.05). Therefore, the null hypothesis was upheld. An increase in one unit of process improvement strategy increases the growth of the coffee sector insignificantly by 0.143 units. The findings contradict the report of [34] who reported that process strategy can affect the profitability of the coffee business and growth. Also, the result differs from [37], who indicated that package design leads to good performance in the coffee sector.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The study concluded that product strategy (t=1.900, p=0.062, p>0.05) and process improvement strategy (t=0.946, p=0.348, p>0.05) had a statistically insignificant effect on the growth of the Coffee sector while resource availability strategy(t=2.266, p=0.027,p<0.05) had a statistically significant effect on the growth of Coffee sector.

Recommendations

The study recommends the following:
- The board of management should rationally reduce budget allocation to product strategy and process improvement strategies
- The resource availability includes human capital, finance, and physical assets. They should be budgeted for and made readily available
- The board of management (ODECA) should innovatively make the needed resources available as per the requirements

- The Government should deliberately develop a policy framework on resource allocation and budget allocations

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