

Assessing Supply Chain Management Practices on Organizational Performance

A Case of Cetraf Ltd

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Abstract

This research attempted to assess the supply chain management practices on organizational performance of CETRAF Ltd, Musanze, Rwanda which is the general objective of the research. The researcher applied a correlation research design and used primary data where simple random sampling were used and picked 107 respondents from the whole population at CETRAF Ltd, among which 68 people are male and 39 female. Data were collected using a self-constructed likert scale questionnaire range from 1 to 5. The collected data were statistically and analyzed using Statistical Package for Social Science (SPSS) software version 20. The study used descriptive and explanatory research designs. Descriptive statistics such as frequency, percentages, mean and standard deviation were obtained to describe the characteristics of the variables whereas multiple regressions model was used to establish the relationships between the variables. All the analysis was prepared by using SPSS version 20.

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Qualitative data were analyzed through content analysis. The research findings revealed that, level of supply chain management at CETRAF Ltd is very high. Further, the research affirms that the organizational performance at CETRAF is high, supply and demand are well managed, there is a source of raw materials, and the manufacturing is done according to the standards needed on the market, there is a well-set channel of distribution which facilitate to deliver products to the customer. There is direct relationship between supply chain management practices and organizational performance, where supply chain management practices affects organizational performance through its indicators which are supplier partnership, continuous cycle time compression, continuous process flow and information sharing at high level and Furthermore, the research found out that there is a predictive model of organizational performance through its indicators, owner, employees, customers and community from supply chain management practices at CETRAF Ltd.

Keywords: supplier partnership; Continuous cycle time compression; continuous process flow and information sharing.

1. Introduction

A supply chain involves of all the interconnected means and activities required to produce and provide products and services to customers. Supply chain management is the procedure of managing supply and demand, sourcing of raw materials and parts, manufacturing and assembly, all-channel distribution and delivery to the customer [1]. A supply chain is also a set of combined procedures, by which raw materials are converted into finished products and supplied to customers, through warehousing, distribution activities, retail, etc. [2-3].

Thus, in recent years, supply chain management has been proposed as a source of infrastructure for electronic businesses [4]. In this regard, supply chain management highlights the combination of supply chain activities and related information flows through the perfection of current links in the chain to accomplish reliability and continued competitive advantage [5]. The supply chain also embraces all activities linked with the flow and processing of goods from the stage of raw material (extraction) to the distribution to the last consumer [6].

Supply chain management has significantly focused on business as a basic success factor for companies' effectiveness. Whereas in the past SCM was viewed simply as an operational function and limited to material management, it is now valued as an overarching strategic discipline. This change was made necessary by various factors: globalization has increased the competitive space, customers are now more demanding in terms of variety, price and quality of products, the opportunities offered by technology and the global recession [7].

According to Osagie [8], supply chain management is the management of activities, resources and upstream and downstream relationships with suppliers and customers, which is necessary to deliver products or services. In theory, if supply chain management is performed well, it contributes to the growth of the business by giving it a reasonable advantage through differentiation and lower costs. For the supply of raw materials used by manufacturing companies and the supply of manufactured goods by manufacturing companies to be smooth, there must be operative management of the supply chain. Any weakness in supply chain management can seriously affect the production and delivery of products to consumers. This can have negative impacts on the

profitability of manufacturing companies. Lack of knowledge of upcoming technologies, telecommunications, IT barriers and unreliable energy supplies. The production of complete assemblies and rapid replenishment require adequate computer systems to connect the buyer and the supplier. This requires modern and reliable telecommunications infrastructure, and the support of IT professionals.

The same author in the preceding paragraph keep on saying that despite the importance of supply chain practices on organizational performance; there is a lack of studies that link supply chain management practices and organizational performance. As this study seeks to help fill this gap, the SCMP in many developing countries is different from the SCMP in developed countries.

Burt and his colleagues [8] , De Boer and his colleagues [9], Sarkar, A [10] and many others have conducted academic studies on supply chain management and have attempted to address the issue of supply chain management on organizational performance. This study determined that there is a direct link and effects of DCS on PO. Even though some authors have tried to address the impact of MCS on PO, according to Osagie [11], there is a knowledge gap on assessing MCS on PO that needs to be addressed. The objective of this study is to help fill this knowledge gap by aiming on CETRAF Ltd Musanze, Rwanda as a case study.

2. Methods

An exploratory descriptive and explanatory research designs were used in this study to find out whether the influence of Supply Chain Management Practices were effective and whether they really have influence on the Organizational Performance in Rwanda especially in Centraf Ltd. Primary data were gathered using a self-administered questionnaire to 107 respondents from the whole population at CETRAF Ltd. Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 20 and Qualitative data were analyzed through content analysis. Statistical analysis using inferential statistics was used considering p-value 0.05 as the level of significance and 95% Confidence Interval (95% CI).

3. Results and Discussion

The researcher gave the respondents various statement regarding Supply Chain Management Practices in terms of supplier partnership, continuous cycle time compression, continuous process flow and information sharing and Organizational Performance and analyzed their level of agreement.

The positive correlation between the independent variable and dependent variable implies that when the value of independent variable goes up, the value of dependent variable also goes up [12]. This affirmation means that the greater the desire of CETRAF Ltd company to improve OP, the greater the need of CETRAF Ltd to maintain and improve SCMP. CETRAF Ltd should maintain its relationship with its different stakeholders, reduce the unnecessary time consuming procedures during its operations.

CETRAF Ltd should limit breakages during continuous process flow from acquiring raw materials, production, deliveries of its drinks to customers. CETRAF Ltd should keep on maintaining the culture of information sharing among its stakeholders by setting effective communication system. So, the null hypothesis which says

that there is no relationship between supply chain management practices on organizational performance at CETRAF Ltd is *rejected*.

These results were supported by Imam Baihaqi & Amrik S. Sohal (2013), who say that information sharing has been cited as one of the major means to enhance supply chain performance. It allows companies to better coordinate their activities with their supply chain partners that lead to increased performance.

Table1: Relationship between Supply Chain Management Practices and Organizational Performance

Relationship between Supply Chain Management Practices and Organizational Performance

			Supply Chain Management Practices	Organizational Performance
Supply Chain Management Practices	Pearson Correlation		1	.419**
	Sig. (2-tailed)			.000
	N		107	107
Organizational Performance	Pearson Correlation		.419**	1
	Sig. (2-tailed)		.000	
	N		107	107

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

Table2: Predictors of Organizational Performance

Model	R	Adjusted R Square	Std. Error of Estimate	Change Statistics	Sig. F Change
1	.390 ^a	.152	6.51	.152	18.78
2	.460 ^b	.197	6.30	.060	7.93

a. Predictors: (Constant), Information Sharing

b. Predictors: (Constant), Information Sharing, Continuous Cycle Time Compression

c. Dependent Variable: Organizational Performance

The Same model summary is verified by the significance level of information sharing which is demonstrated by P value = .000. The second model is also not significant P values = .003; .006. According to Stephen A., Sweet& Karen Grace- Martin, (2015), the model summary table reports the strength of the relationship between the model and the dependent variable. R Square, the multiple correlation coefficient, is the linear correlation between the observed and model-predicted values of the dependent variable. Its large value indicates a strong relationship. R Square, the coefficient of determination, is the squared value of the multiple correlation

coefficient.

Table3: Predictors of Organizational Performance

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
1 (Constant)	70.571	5.575		12.66	.000
Information Sharing	1.206	0.278	.390	4.33	.000
2 (Constant)	56.378	7.386		7.63	.000
Information Sharing	.891	0.292	.288	3.05	.003
Continuous Cycle Time Compression	.898	0.319	.265	2.82	.006

a. Dependent Variable: Organizational Performance

The model is given by the following formula $Y = 70.571 + 1.206 X + \epsilon$

Where:

Y is organizational performance,

X is information sharing,

ϵ is error term.

In the same context, the ANOVA table confirms the prediction of organizational performance of CETRAF Ltd by using information sharing F (df, (1, 105= 18.78, P = 000)). Further, the same ANOVA test accepts the second model composed by information sharing and continuous cycle time compression F (df, (2, 104 = 13.98, P = .000)).

Table 4: ANOVA Test

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	795.75	1	795.75	18.78	.000 ^b
	Residual	4448.32	105	42.36		
	Total	5244.07	106			
2	Regression	1110.92	2	555.46	13.98	.000 ^c
	Residual	4133.15	104	39.74		
	Total	5244.07	106			

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- a. Dependent Variable: Organizational Performance
 - b. Predictors: (Constant), Information Sharing
 - c. Predictors: (Constant), Information Sharing, Continuous Cycle Time Compression

4. Conclusions

This research provides empirical justification for a framed research that identifies four key dimensions of SCM practices and describes the relationship among SCM practices, competitive advantage, and organizational performance. It examines four research questions: What is the status of supply chain management practices at CETRAF Ltd, What is the status of organizational performance at CETRAF Ltd, What is the relationship between supply chain management practices and organizational performance at CETRAF Ltd, What is the predictive model of organizational performance considering the supply chain management practices of CETRAF Ltd.

For the purpose of investigating these issues a comprehensive, valid, and reliable instrument for assessing SCM practices was developed. The instrument was tested using rigorous statistical tests including, reliability, and the validation. This research provides empirical evidence to support conceptual and prescriptive statements in the literature regarding the impact of SCM practices.

The research in the domain of supply chain management is not yet developed here in Rwanda. Some big companies like CETRAF LTD consider that in order to perform its job it must take into consideration the supply chain management and this is a good approach. But it would also be interesting to expand this research to other industry in the region and in other manufacturing industries other than banana breweries industry. In addition, there is need to research additional factors in an organization culture that influence supply chain management. For example, it would be interesting to research the effect of research place cooperation in management of supply chain

5. Recommendations for Policy Implication

From the findings as described in chapter four, the SCMP on OP at CETRAF Ltd were assessed in details, the researcher recommends the following measures to be taken:

5.1. To CETRAF Ltd

- CETRAF Ltd should maintain its relationship with its different stakeholders;
- CETRAF Ltd should reduce the unnecessary time consuming procedures during its operations;
- CETRAF Ltd should limit breakages during continuous process flow from acquiring raw materials, production, deliveries of its drinks to customers;
- CETRAF Ltd should keep in maintaining the culture of information sharing among its stakeholders by setting effective communication system. For example having an active website;
- CETRAF LTD must place great importance to the management of supply chain so as to reduce

- inventory, to increase the speed of transactions and to reduce cost;
- CETRAF ITD should invest more on the development and training of its employees through seminars, researchshops and short research courses for effectiveness and efficiency in the performance of operations;
 - CETRAF Ltd researchers should act as its primary stakeholders rather than acting as employees only because they represent one primary source of the prosperity of CETRAF Ltd;
 - CETRAF Ltd should set up warehouses in different places to facilitate clients to access its products.

5.2. To future researchers

To orient other researches in the domain of supply chain management by focusing on:

- Assessing the supply chain management practices on financial organizational performance
- Influence of strategic human resources management on organizational performance
- Carry out in-depth research regarding the supply chain management and organizational performance in Rwanda
- To sensitize other companies to do research in the domain of supply chain management to improve the efficiency.
- To deliver trainings to different companies regarding the supply chain management and organizational performance.

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