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## **EFFECT OF SUPPLY CHAIN DYNAMIC CAPABILITIES ON OPERATIONAL PERFORMANCE CASE STUDY OF INYAGE INDUSTRIES**

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**Abstract:** Despite the advantages associated with supply chain capabilities, many manufacturing industries in Rwanda including Inyange industries have not fully achieved their desired performance levels. This ever-changing business environment prevents enterprises from sustaining their competitive positions as well as from allowing for the time necessary to diagnose changes in the business environment, discover opportunities and risks, and to deal with them in a timely manner. The purpose of the study is to examine the influence of supply chain dynamic capabilities on the operational performance in manufacturing industries in Rwanda with a focus on 210 employees of Inyange industries. The study was undertaken by the following objectives: To identify the effects of collaboration capability on operational performance; to determine the influence of integration capability on operational performance; to analyze the contributions of agility capability on operational performance; and to determine the responsiveness capability on operational performance. The study was relied on the resource-based view (RBV), core competency theory as theories. The study will utilize document review, questionnaires, for data collection. Quantitative data will be analyzed using descriptive statistics. The frequencies; mean and standard deviations will be applied for the study objectives. Statistical Package for Social Sciences (SPSS) that generated frequencies, percentages, means and standard deviation was used. In conclusion, the 67.5% of total respondents strongly agree that Inyange industries forecast updates throughout the operations. 23.1% of total respondents agree with the statement that Inyange industries forecast updates throughout the operations, 9.4% disagreed with the statement that Inyange industries forecast updates throughout the operations with a mean of 4.58 and standard deviation of 0.660. From the findings in table 8, most of respondents disagreed with the statement relate to that fact supply chain dynamics capabilities of effects operational performance in Inyange industries in Rwanda with a focus on the Inyange industries.

**Key words:** *Supply Chain Dynamic Capabilities Operational Performance*

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## Introduction

A health check on operations performance in East Africa's shadow manufacturing industries shows the crisis in the industry is far from over. In a dynamic environment where uncertainty is high, it is difficult for traditional efficiency-oriented supply chains to respond to changes in the business environment. From the dynamic capabilities' standpoint, organizations need to improve supply chain performance. The enhancement of supply chain dynamic capabilities, which enables the organization to adapt to changes, is very important to successfully sustaining the organization's competitive positions and long-term profitability (Peterson, 2019).

East Africa from 2017-2021 have registered a lot of operations failures leading to (losses) due to the competitive position and operational performance of an organization and other distresses or liquidity. Many manufacturing institutions depend on its supply chain capability. This integration effectively links activities performed by suppliers, distributors, and Inyange industries outside the organization, promoting the improvement of operational performance and competitiveness. Supply chain management allows organizations to concentrate on core competency, affects future competitiveness, and changes competition between supply chains rather than between organizations. Radical reforms which have made it easier for businesses to get credit, pay taxes, and start a business have boosted Rwanda's ratings in the World Bank's 'Doing Business Report'. Rwanda is the most improved economy worldwide since 2019 (World Bank Doing Business Report 2019). It came in 32<sup>nd</sup> out 189 countries as per 2014 World Bank Doing Business Report. In 2012, Rwanda introduced reforms to ease doing business in the country. It now takes 6 working hours to register your business. In 2013, the World Bank Doing Business report reflects Rwanda as the second easiest to do business in Africa after Mauritius. Rwanda is the easiest country to do business in East Africa. Being among the developing nations of the world and growing at quite an adequate pace, Rwanda has been able to change from an agriculture-dependent economy to an industrial-based economy over the past few years (Funikishi, 2019). However, the Rwandan manufacturing sector has had its challenges. Recently, the Rwanda manufacturing firms have been observed to face an imminent challenge from the regional competitors in the neighboring countries such as Kenya, Uganda etc. (Ondiek and Odera, 2012). However, with most players in the Rwandan manufacturing sector committing their resources on production technology advancement, the Rwandan manufacturing sector today is more efficient and equally effective (Ondiek and Odera, 2012). The manufacturing sector's contributions to Gross Domestic Product (GDP) are about 10 percent (Economic Survey Report, 2021). In the year 2022, the manufacturing sector recorded a growth of 3.4 percent compared to a growth of 5.6 percent in 2013 (Economic Survey Report, 2019). Research studies both local

and international have been conducted and majorly in the manufacturing sector. Target population for this research was 620 employees of Inyange industries. It is from this population that a sample for the purpose of this study will be drawn. A sample size of 210 respondents used for this study. The technique of simple random sampling was applied to draw the sample from the population. Purposive sampling was also applied to get key informants for the interviews.

### **Materials and Methods:**

This study applied the descriptive and cross-sectional research design. It is systematic towards the facts and characteristics of a given population or area of interest, factually and accurately. Basically, the aim of the study is to obtain complete and accurate information on the factors that affect supply chain dynamics capabilities on operational performance in Rwanda. The study utilized qualitative research approaches was applied. Descriptive analysis was analyzed to access the perceptions of the respondent.

### **Results:**

The study utilized a descriptive-correlational design, a quantitative research in which patterns of correlations were analyzed. Specifically, approach determined whether a significant relationship exist between internal control system and operational risk management. Therefore, the procedures enabled the researcher to make inferences about the relationship between two or more variables considering the moderators (Creswell, 2003). Prior to final data gathering a pilot study was conducted in one of the five institutions considering 100 respondents. The aim of the study aimed to examine the effects of supply chain dynamic capabilities on operational performance with emphasis on Inyange industries. The researcher analysed data considering the relationship of research problem and research questions. Questionnaires collected from Inyange industries, interviews made with the project employee and various reports collected from different stakeholders were analysed and compared with research questions/objectives to find out if there is any effect of supply chain dynamics capabilities on the operational performance in Inyange industries in Rwanda. During the research, a sample of 310 respondents was chosen from employees of Inyange industries. from the period ranging between 2020 to 2022. It is worth mentioning, however, that 190 questionnaires were returned as mentioned.

### **Discussion:**

Position is equally every important variable in a given social situation which is variably affected by any social or economic phenomenon. Hence the variable position was investigated for this study. As presented in table 4.6, it is quite clear that out of the 190 respondents investigated for this study, overwhelming majority 101 out of 190 (53.1%) of them were procurement officers whereas 35 out of 190 of them (18%) were managers. And 15 out of 190 (7.9%) were at others and 39 out of 190 (20.5%) were others. In the field findings, the statement on whether Inyange industries motivates employees to manage proposed activities, 44.4% of total respondents strongly agreed with the statement that Inyange industry has a good relationship with partners, 41.1% agreed with the statement that Inyange industry has a good relationship with partners and 14.5% disagreed with the statement that Inyange industry has a good relationship with partners. The mean on whether Inyange industry has a good relationship with partners was 4.30 with a

standard deviation of 0.710. The main objective of this research was mainly to analyse the factors that examine the effects of supply chain dynamics capabilities on the operational performance in Inyange industries in Rwanda with a focus on the Inyange industries.

Considering the effectiveness, time delivery, responsiveness capability and operational performance of Inyange industries to specifically examine the effects of supply chain dynamics capabilities on the operational performance in Inyange industries in Rwanda with a focus on the Inyange industries.

And clearly show the factors that influence the performance of the Inyange industries research followed survey research designs, questionnaire was used to collect the data while SPSS was used to analyse the data. The results show that all the independent variables are the best predictors of lead time. However, integration capability and time delivery are positively very significant factors at .054 and 0.054 level of significance respectively, while supply chain dynamics capabilities and lead time are negatively significant at 0.000 and 0.004 level of significance respectively.

### **Conclusions:**

Based on the findings of the research, researchers conclude that Inyange industries should create an avenue of investing heavily in the operational performance based on that fact that the big number of respondents agreed with the statements related to supply chain dynamics capabilities of operational performance and it is indicated also by the factor that hypothesis of this research was confirmed. To examine the effect of supply chain dynamics capabilities on the operational performance in Inyange industries in Rwanda. More to that, most of respondents disagreed with the statement related to that fact that supply chain dynamics capabilities affect operational performance in Inyange industries in Rwanda with a focus on the Inyange industries, the researcher recommends that the Inyange industries should put much emphasis on operational performance since it has a direct effect on the operational performance of Inyange industries in Rwanda. To Assess Effect of Integration Capability on the Operational Performance Inyange industries in Rwanda. It is also important to note that most of respondents agree with the statement related to integration capability of supply chain dynamics capabilities affects the operational performance in Inyange industries in Rwanda with a focus on the Inyange industries and this is supported by the fact that all means of their responses are at very high range which indicate integration capability of operational performance affects the operational performance in Inyange industries in Rwanda with a focus on the Inyange industries, therefore the researcher fully recommends that Inyange industries should put in place and ensure implementation of project assessments since it has a huge effect on operational performance of Inyange industries in Rwanda.

### **Suggestion on Further Research:**

A review of literature indicated that there has been limited amount of research on operational performance in manufacturing sectors. Thus, the findings of this study serve as a basis for future studies on factors influencing organisational performance considering the fact that supply chain dynamics capabilities, had not been widely studied which presented gaps in African and Rwandan contexts. The study has therefore contributed to knowledge by establishing that supply chain dynamics capabilities in Inyange industries in Rwanda which needs further research to complete this research.

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