

**INFLUENCE OF SUPPLY CHAIN INTEGRATION ON THE OPERATIONAL  
PERFORMANCE OF FORMAL MANUFACTURING FIRMS IN MOMBASA  
COUNTY**

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**2024**

## DECLARATION

This thesis is my original work and has not been presented for award of a degree in any other university.

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## **DEDICATION**

I dedicate this thesis to my parents, colleagues and lecturers. Their support and encouragement contributed immensely to the success of this thesis.

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## LIST OF ABBREVIATIONS

<b>CEO</b>	Chief Executive Officer
<b>CRM</b>	Customer Relationship Management
<b>ERP</b>	Enterprise Resource Planning
<b>GDP</b>	Gross Domestic Product
<b>ICT</b>	Information Communication Technology
<b>KMA</b>	Kenya Association of Manufacturers
<b>RBV</b>	Resource Based View
<b>RFID</b>	Radio Frequency Identification
<b>SCM</b>	Supply Chain Management
<b>SPSS</b>	Statistical Package for Social Sciences
<b>TCE</b>	Transaction Cost Economics
<b>UNIDO</b>	United Nations Industrial Development Organization
<b>NACOSTI</b>	National Commission for Science, Technology and Innovation
<b>VIF</b>	Variance Inflation Factor
<b>KMO</b>	Kaiser-Meyer-Olkin
<b>OLS</b>	Ordinary Least Squares
<b>BP</b>	Breusch- Pagan
<b>DW</b>	Durbin Watson
<b>ANOVA</b>	Analysis of Variance
<b>PLC</b>	Product Life Cycle Theory

## DEFINITION OF TERMS

<b>Customer Integration:</b>	The level of engagement, interaction, and collaboration between the manufacturing firm and its customers, encompassing feedback, customization, and customer-centric practices (Bryd & Turner, 2019).
<b>Operational Performance</b>	The overall efficiency, productivity, profitability, and competitiveness of firms (Ngatia, 2019).
<b>Process Integration:</b>	The seamless alignment and coordination of internal processes, workflows, and operations within the manufacturing firm to enhance efficiency and effectiveness (Edvardson, 2018).
<b>Product Integration:</b>	The integration of various aspects related to the product, including design, features, quality, and market fit, into the manufacturing processes and strategies of the firm (Byrd & Turner, 2019).
<b>Technology Integration:</b>	Technology integration refers to the strategic amalgamation of advanced technological solutions, tools, and systems into various aspects of a company's operations and processes, with the ultimate aim of enhancing efficiency, productivity, and overall performance (Li & Lin, 2019).
<b>Supply Chain Integration</b>	Refers to the collaborative and coordinated efforts among different entities within a supply chain network to share information, align goals, and synchronize activities (Cao et al., 2020).
<b>Supply Chain</b>	A supply chain is the network of all the individuals, organizations, resources, and activities involved in

producing and delivering a product or service to the final consumer.

## **Manufacturing**

The process of converting raw materials into finished products on a large-scale industrial level, holds significant importance in Mombasa County (Awino, 2019).

## ABSTRACT

The study was guided by the following specific objectives; to determine the influence of technology integration on operational performance of formal manufacturing firms in Mombasa County, to establish the influence of customer integration on operational performance of formal manufacturing firms in Mombasa County, to determine the influence of product integration on operational performance of formal manufacturing firms in Mombasa County and to determine the influence of process integration on operational performance of formal manufacturing firms in Mombasa County. The study was anchored by the following theories; Innovation Diffusion Theory, Stakeholder Theory, Product Life Cycle theory and Transaction Cost Economics Theory. The target population of the study consisted of 100 general operation managers 50 Head of Procurement Section and 100 warehouse managers in the 50 selected manufacturing firms in Mombasa County. The sample size was determined using Yamane allocation sample formulae to obtain 152 respondents. The researcher used questionnaires as a tool for data collection. The questionnaires contained close ended questions that solicited respondents' views. Data analysis involved sorting, coding and transforming data into statistical information for the purpose of analysis and interpretation by use of SPSS. This study used quantitative data specifically descriptive statistics. Regression analysis was used. The findings were presented in the form of tables and percentages. Normality testing involved examining whether the residuals of the regression model followed a normal distribution, with normal QQ plots revealing a close alignment between observed and expected data points, indicating normal distribution. Additionally, the Shapiro-Wilk test confirmed normality for all variables. Multicollinearity was assessed using variance inflation factor (VIF), with values indicating no issues. Heteroscedasticity was checked using Breusch-Pagan and Koenker tests, which showed no significant problems. Autocorrelation was tested using the Durbin-Watson statistic, with results indicating no autocorrelation. Finally, linearity was assessed through Sig. linearity and Sig. deviation from linearity tests, confirming the presence of a linear relationship between variables. The findings revealed that technology integration significantly enhances operational performance by improving operational efficiency and effectiveness. Customer integration practices were found to have a strong positive influence on operational performance by fostering customer relationships and meeting their needs. However, product integration had a limited influence on operational performance, suggesting a need for organizations to realign their product strategies. Process integration emerged as a significant determinant of operational performance, highlighting the importance of optimizing processes and fostering collaboration across departments. The study concluded that technology integration positively influences operational performance for Formal Manufacturing firms in Mombasa County. Customer integration practices were found to significantly enhance operational performance. Process integration was identified as crucial for improving operational efficiency and productivity by optimizing workflows and promoting collaboration across departments. The study recommended that firms invest in technology, prioritize customer relationships, reassess product strategies, and streamline processes to enhance overall performance. Further research is needed to explore the influence of supply chain integration on operational performance across different industries and regions in Kenya.