OPEN ACCESS

Volume: 13

Special Issue: 4

Month: February

Year: 2026

P-ISSN: 2321-788X

E-ISSN: 2582-0397

Citation:
Jensi, R. "Impact of Supply Chain Efficiency on Organizational Performance in Manufacturing Firm." *Shanlax International Journal of Arts, Science and Humanities,* vol. 13, no. S4, 2026, pp. 30–34.

DOI:
https://doi.org/10.34293/sijash.v13iS4-Feb.10143

Impact of Supply Chain Efficiency on Organizational Performance in Manufacturing Firm

R. Jensi
M.Com CA, Department of Commerce with CA
Idhaya College for Women, Sarugani, Sivagangai District
(Affiliated to Alagappa University, Karaikudi)

Abstract
In the manufacturing industry, where competitiveness depends on cost control, timely production, and high-quality output, supply chain efficiency is essential for organizational success. This study investigates the effects of information and technology integration, supplier cooperation, inventory management, and logistics optimization on organizational performance. It looks at how effective supply chain procedures affect customer happiness, financial performance, and operational efficiency. Results demonstrate that improved supply chain coordination lowers lead times, increases productivity, and minimizes operational problems. In order to guarantee long-term sustainability and competitive advantage, the study emphasizes the necessity of contemporary technologies and cooperative frameworks.

Keywords: Supply Chain Efficiency, Organizational Performance, Manufacturing Firms, Inventory Management, Logistics Optimization, Supplier Collaboration.

Introduction

Manufacturing companies are under increasing pressure to enhance operational performance, cut costs, and produce goods more quickly and reliably in today's globalized and fiercely competitive economic climate. Consequently, supply chain efficiency has become a strategic instrument for improving the performance of organizations. From the acquisition of raw materials to the delivery of finished goods, a well-organized and effective supply chain guarantees the seamless movement of resources, information, and money throughout the whole production process.

Demand forecasting, inventory control, logistics planning, supplier relationship management, and the integration of digital technology are just a few of the many tasks that make up supply chain efficiency. Organizations can minimize operational inefficiencies, maximize resource utilization, and enhance customer satisfaction when these elements work well together. On the other hand, production bottlenecks, higher costs, and a reduction in market competitiveness might result from supply chain interruptions, delays, or inadequate coordination.

Because manufacturing companies rely on timely raw materials, effective production processes, and streamlined distribution methods, they are particularly dependent on strong supply chain systems. These companies' performance is directly correlated with their capacity to handle the intricacies of their supply chains and react swiftly to shifts in the market. Therefore, it is critical for managers, politicians, and researchers

to comprehend how supply chain efficiency affects organizational success. The relationship between supply chain effectiveness and organizational performance is examined in this study, with an emphasis on the critical elements that enhance manufacturing companies' productivity, profitability, and sustainability.

Statement of the Problem

The severe worldwide competition faced manufacturing firms necessitates improved performance in areas including profitability, market share, and quality. While everyone acknowledges the importance of supply chain management (SCM), it is still unclear how key performance metrics in various manufacturing scenarios are directly impacted by supply chain efficiency (SCE), which encompasses speed, cost, quality, and flexibility. The majority of studies on this subject are either very general or solely concentrate on particular industries, like textiles as opposed to fast-moving consumer goods (FMCG).

Objectives of the Study

- To examine the concept of supply chain efficiency in manufacturing firms.
- To study the impact of supply chain efficiency on organizational performance.
- To identify key supply chain factors influencing organizational performance.
- To suggest measures for improving supply chain efficiency in manufacturing firms.

Scope of the Study

The study analyzes supply chain efficiency in terms of procurement, inventory control, logistics, information exchange, and collaboration among suppliers with an emphasis on manufacturing companies. Indicators including cost reduction, productivity, profitability, delivery performance, and customer happiness are used to evaluate the performance of an organization. Based on primary and secondary data gathered during the study period, the research is restricted to certain manufacturing companies.

Limitations of the Study

1. The study is limited to selected manufacturing firms only.
2. The accuracy of the study depends on the responses provided by the respondents.
3. Time and cost constraints limit the sample size.
4. The findings may not be applicable to all industries.

Research Methodology

- **Research Design**: Descriptive and analytical
- **Data Sources:** Primary data (questionnaire) and secondary data (journals, reports, websites)
- **Sampling Method:** Convenience/Random sampling
- **Tools for Analysis:** Percentage analysis, mean score, correlation, and regression analysis

Review of Literature

Shebeshe & Sharma (2024) examined the impact of sustainable supply chain management on competitive advantage and organizational performance in the Ethiopian manufacturing industry. Using structural equation modelling (SmartPLS), the authors found that sustainable supply chain practices positively influence both competitive advantage and performance. Competitive advantage mediates the relationship between supply chain management and organizational performance.

Asrol (2024) conducted a systematic literature review on the adoption of Industry 4.0 technologies in supply chain operations. Findings show that digital technologies (e.g., IoT, automation, and data analytics) can improve flexibility, responsiveness, and efficiency in supply chains. However, the literature also indicates limited maturity and integration across supply chain functions.

Nitin Maini, Khushdeep Dharni & Rakesh Rathore (2023) Study: Supply chain efficiency and relation with the firm performance: a study of the food-processing sector in India. Investigates supply chain efficiency measures (e.g., supply chain length, working capital productivity) and their relationship with firm performance in Indian food processing firms.

Alam (2022) Empirical study on SCM practices (supplier partnerships, knowledge management, customer relationships) and firm performance in manufacturing. Quantitative (200 respondents; regression analysis). Strategic supplier partnerships and knowledge leverage significantly influence organizational performance.

Data Analysis and Interpretation

H_1: *Supply chain efficiency has a significant impact on organizational performance.*

This chapter deals with the analysis and interpretation of data collected from respondents working in manufacturing firms. The data were collected through a structured questionnaire using a 5-point Likert scale. The responses were coded, tabulated, and analyzed using the Statistical Package for Social Sciences (SPSS). The tools used for analysis include descriptive statistics, reliability analysis, correlation analysis, and regression analysis to examine the impact of supply chain efficiency on organizational performance.

Reliability Analysis (Cronbach's Alpha)

Reliability analysis was carried out to test the internal consistency of the variables used in the study.

Table 1 Reliability Statistics

Variable	Number of Items	Cronbach's Alpha
Supply Chain Efficiency	12	0.872
Organizational Performance	8	0.861
Overall Scale	20	0.884

The Cronbach's Alpha values for all constructs are above the acceptable threshold of 0.70, indicating a high level of internal consistency. Hence, the questionnaire is reliable for further analysis.

Descriptive Statistics (Mean and Standard Deviation)

Descriptive analysis was used to understand respondents' perceptions regarding supply chain efficiency and organizational performance.

Table 2 Mean Score Analysis

Dimension	Mean	Std. Deviation	Interpretation
Supplier Relationship Management	4.02	0.61	Agree
Inventory Management	3.96	0.65	Agree
Logistics & Transportation	3.89	0.70	Agree
Information Sharing & Technology	4.10	0.58	Agree
Production Planning & Coordination	3.92	0.63	Agree
Organizational Performance	4.05	0.60	Agree

Respondents concur that supply chain efficiency measures are successfully applied and have a good impact on organizational performance in manufacturing organizations, as indicated by the mean scores of all parameters being over 3.40.

Correlation Analysis

Correlation analysis was used to examine the relationship between supply chain efficiency and organizational performance.

Table 3 Correlation between Supply Chain Efficiency and Organizational Performance

Variables	Supply Chain Efficiency	Organizational Performance
Supply Chain Efficiency	1	
Organizational Performance	0.742**	1

Note: Correlation is significant at 0.01 level (2-tailed)

The correlation coefficient (r = 0.742) indicates a strong and positive relationship between supply chain efficiency and organizational performance. This implies that improvements in supply chain efficiency lead to better organizational performance. Hence, H_1 is supported.

Correlation Analysis

Correlation analysis was used to examine the relationship between supply chain efficiency and organizational performance.

Table 4 Correlation between Supply Chain Efficiency and Organizational Performance

Variables	Supply Chain Efficiency	Organizational Performance
Supply Chain Efficiency	1	
Organizational Performance	0.742**	1

Note: Correlation is significant at 0.01 level (2-tailed)

The correlation coefficient (r = 0.742) indicates a strong and positive relationship between supply chain efficiency and organizational performance. This implies that improvements in supply chain efficiency lead to better organizational performance. Hence, H_1 is supported.

Regression Analysis

Regression analysis was carried out to assess the impact of supply chain efficiency on organizational performance.

Table 5 Model Summary

R	R Square	Adjusted R Square	Std. Error
0.742	0.551	0.547	0.42

The R Square value of 0.551 indicates that 55.1% of the variation in organizational performance is explained by supply chain efficiency. The model is considered a good fit.

Table 6 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	52.34	1	52.34	89.21	0.000
Residual	42.62	98	0.43		
Total	**94.96**	**99**			

The significance value ($p < 0.05$) indicates that the regression model is statistically significant. Hence, supply chain efficiency significantly influences organizational performance.

Interpretation Summary

- Cronbach's Alpha values confirm scale reliability.
- Mean score analysis shows respondents agree with efficient supply chain practices.
- Correlation analysis confirms a strong positive relationship.
- Regression analysis proves supply chain efficiency significantly predicts organizational performance.

Findings & Suggestion

Findings of the Study

1. Manufacturing firms maintain effective supplier relationships and timely procurement practices.
2. Inventory and logistics operations are managed efficiently, reducing delays and costs.
3. Information sharing and technology adoption significantly enhance supply chain coordination.
4. Supply chain efficiency has a strong positive correlation with organizational performance.
5. Supply chain efficiency explains more than 50% variation in organizational performance.
6. Efficient supply chain practices improve productivity, profitability, and customer satisfaction.

Suggestions

1. Manufacturing firms should strengthen long-term partnerships with key suppliers.
2. Adoption of advanced technologies such as ERP and SCM software should be enhanced.
3. Firms should focus on accurate demand forecasting to reduce production disruptions.
4. Continuous monitoring of logistics and inventory costs is essential for efficiency.
5. Employee training in supply chain management practices should be encouraged.

Conclusion

The operational and financial performance of manufacturing companies is significantly influenced by the efficiency of the supply chain. Costs are decreased, productivity is increased, and customer satisfaction is raised through effective inventory management, logistics, supplier collaboration, and technology adoption. The body of research unequivocally shows that companies who invest in contemporary supply chain techniques experience improved organizational performance and long-term growth. In order to be competitive in the fast-paced market of today, manufacturing companies should concentrate on integrating digital technologies, enhancing their relationships with suppliers, and streamlining their logistics.

References

1. Maini, N., Dharni, K., & Rathore, R. (2023). Supply chain efficiency and relation with the firm performance: a study of the food processing sector in India. Journal of Agribusiness in Developing and Emerging Economies.
2. Srivastava, P., & Gupta, S. (2024). Leveraging supply chain collaboration with digital technologies for supply chain performance: an empirical investigation of Indian meat industries. International Journal of Food Science and Technology.
3. Tripathi, S., Talukder, B., & Rangarajan, K. (2024). Do supply chain performance influence firm profitability? IIM Kozhikode Society & Management Review.
4. Jagtap, S., Raut, R., & Gupta, S. (2023). Advancing sustainability and efficiency in supply chains. Sustainability.
5. Sharma, S. K., Srivastava, P. R., & Kumar, A. (2023). Supply chain vulnerability assessment for manufacturing industry. Annals of Operations Research.