



A STUDY ON SUPPLY CHAIN MANAGEMENT AT MANUFACTURING AND CONSTRUCTION INDUSTRIES HOSUR

VINAY KUMAR.P

2nd Year MBA, The Oxford College of Engineering, Bangalore, India

VINOD FRANKLIN

2nd Year MBA, The Oxford College of Engineering, Bangalore, India

RAJESH KUMAR LK

2nd Year MBA, The Oxford College of Engineering, Bangalore, India

Dr. HARISH N

Assistant Professor, Department of MBA, The Oxford College of Engineering,
Bangalore, India

Article History

Received: 15 Aug 2023

Revised: 28 Sept 2023

Accepted: 29 Oct 2023

CC License

CC-BY-NC-SA 4.0

ABSTRACT

Our goals are to guarantee just-in-time manufacturing, promote transparency, strengthen supplier ties, and cost-effectively optimise logistics. By performing frequent audits and reviews, we carefully choose our suppliers based on their quality, dependability, and cost-effectiveness. On-time delivery, inventory turnover, supplier performance, and cost-to-revenue ratios are some important performance indicators. Continuous progress is ensured via frequent evaluations and benchmarking. Delivering high-quality goods while meeting changing market needs and maintaining accountable, robust supply chain operations is a priority for Micro Tech CNC Pvt Ltd.

Key words: Supply Chain, Logistics, Customer, Service

1. INTRODUCTION

Since 1989, the Micro-Tech group of enterprises have been a proud leader in the manufacture of heavy and medium metal fabrication, sheet metal, and high precision machining. Leading global manufacturing firms from India and beyond are partners of ours. We have a wealth of expertise and are experts in producing precision parts and custom-built machinery for a variety of international industries, including the automotive, industrial, aerospace, and commercial engineering sectors.

Presently, they have 4 factories. Their sales in predominantly within India and other countries. Their production capacity is not adequate to meet the demand in the market. They have a very loyal customer base; they usually supply to retailers directly and there are no middlemen involved in delivery of products to the stores/customers. All the sales for

the company are B2B and their patrons have remained devoted to, the customer base for the company has the clients who they are supplying for over 15-20 years. Good affinity has been introduced between the customers and the retailers. Micro tech CNC Private Limited was founded in 1991 and has 200 employees. We are the only manufacturer of automobile parts, automated components, and automated spare parts in India.

Micro-Tech CNC Private Limited is the parent firm of the MICRO-TECH Group. Over the course of 20 years, the company has successfully sailed. It has developed extensive knowledge in CNC AIDED CRAFTING throughout the years. It has supplied the world's leading OEM manufacturers, including VISTEON Automotive Systems (India) Pvt. Limited, BOSCH Limited, CATERPILLAR Power India, LM Glasfiber India Pvt. Ltd., FAIVELEY Transport India Ltd., TATRA VECTRA MOTORS, BEHR INDIA, PARKER Hannifin-England, COOPER Standard-Australia, and many more in India and abroad. Micro-Tech CNC Private Limited is an ISO/TS 16949: 2002 certified company that employs around 150 people with different backgrounds and skills. It is positioned in a well-developed Industrial Estate with full infrastructure in Hosur, India, close to Bangalore. It is financially sound, with a \$5 million annual revenue. A deep passion for innovation motivates us to look for and deliver higher quality, quantity, and timely service through the work of creating technology. Our innovation in CNC aided manufacturing has offered our clients the best answer for their demands over the years.

2. LITERATURE REVIEW

Prabhu, M. and Srivastava, A.K. (2023) The review results suggest an grow in the number of articles examining the important of leadership in the logistics management. The research contexts of the research studies with the most articles have been developed countries and manufacturing businesses. The leader's role in the supply chain is covered in eight key areas, with various sub-themes forming within each cluster. Finally, the citation regression analysis reveals that the class of the journal is the fundamental factor in earning the highest citation for the articles. Maciel M. Queiroz, Samuel Fosso Wamba, Susana Carla Farias Pereira, Charbel Jose Chiappetta Jabbour (2023) In the O&SCM, the authors discovered significant parallels and contrasts among metaverse adopters and non-adopters. As a result, some benefits and obstacles are foreseen both before and after deployment, but it remains relevant. Others in contrast, hand, modify their significance after execution. Moh. Mukhsin, Tulus Suryanto (2022) The significant implication of this study is for managers to ensure competitiveness in the process of implementing sustainability supply chain to improve company performance, while providing recommendations to the government through Disperindagkop and SMEs in conducting the assistance process to MSMEs. Muhammad Turki Alshurideh, Haitham M. Alzoubi, Bader Obeidat (2022) The research findings also provided expected implications and supported the relevant evidence and literature in this area. It would also contribute to filling existing research knowledge gaps by integrating a new model that included sets of variables which hadn't previously been examined together within a single conceptual framework.

3. STATEMENT OF THE PROBLEM

The research problem the study's purpose is to understand the Business logistics management in Micro-tech CNC that encompasses all the activities relating to the flow and transformation of goods from raw materials stages to end users. The examination's requirement was to assess the sufficiency of logistics administration in the Supply Chain of the Future. The organisation also requires relevant information about how it may improve its administration arrangements to be able to boost its future share price.

4. OBJECTIVES OF THE STUDY

- To learn supply chain management at micro-tech CNC.
- To study production process.
- To learn about CRM at Future Supply Chain
- To gain an understanding of the overall leadership and association of the Future supply chain.

5. SCOPE OF THE STUDY

The performance of a company's assets determines its progress or success. Supply chain management is the most essential assets that directly and indirectly contribute to the growth of any company or organization. As a result, organizations have a significant burden in maintaining their most important asset (supply chain management). As a result, this influence is higher for supply chain researchers who operate in a Group. As a result, the scope of this inquiry is significant. To learn about the company functions and how policies are developed, executed, and communicated to the supply chain, I visited many divisions inside the corporation. It provides essential information to fill gaps in logistics management in order to have better and more seamless control over logistics; so, this subject has a lot of promise because it can help the firm.

- Analyze all types of logistics difficulties in the firm.
- Understand and appraise the logistics process.
- Recognized the significance of the organization's delivery of goods and services to its consumers.
- Evaluate the speed and reliability of product distribution

6. RESEARCH METHODOLOGY

A research procedure is a technique of dealing with an investigation problem. It provides various advancements that the expert can use to focus his examination concerns. It integrates the investigation along with considers the explanation for such tactics. The research strategy handles the destinations of an investigation consider, the technique for characterizing the investigation issue, the type of theory stated, the type of information acquired, tactics used for gathering and breaking down the information, and so on. This type of demand necessitates a significant investment of time, money, and energy. Keeping in mind the final goal of

determining the reasonableness of logistics organizations in the upcoming supply chain, we must collect data solely from participants in the logistics division. In contrast to traditional supply chain books, which frequently adopts a manufacturer perspective and views supply chains as a way of reaching specific market segments, we have adopted a retail perspective throughout this thesis and looked at how supply chains and the merchant's value propositions are interdependent. As a result, I used a survey to measure how the many people in our workplace felt. So, I organized a poll to find out how many of our staff felt. As a result, I can state unequivocally whether Future Supply Chain management is appropriate. Customer relationship management is one of the primary business operations.

7. SOURCE OF DATA

PRIMARY DATA: This data will be mainly gathered through various questionnaires being distributed by interacting with officials at different levels.

SECONDARY DATA: Second-hand data are those that have already been gathered and stored. easily get those secondary data from records, journals, annual reports of the company etc. this project is based on secondary data collected through five annual report of the company, supported by various books and internal sides. The information collection was aimed at study of the business logistics management of the company.

8. HYPOTHESIS:

- **Hypothesis 1(correlation)**

Null hypothesis (Ho): there is no significance between age and the company effectively utilizes technology for supply chain operation.

Alternative hypothesis (H1): there is a significance suggestion between age and the company effectively utilizes technology for supply chain operation.

- **Hypothesis 2 (ANOVA)**

Null hypothesis (Ho): there is no significance between year of experience and logistics management system in future supply chain

Alternative hypothesis (H1): there is a significance suggestion year of experience and logistics management system in future supply chain.

- **Hypothesis 3(CHI SQUARE)**

Null hypothesis (Ho): there is no significance between age and overall organisation culture at micro CNC pvt ltd.

Alternative hypothesis (H1): there is a significance suggestion between age and overall organisation culture at micro CNC pvt ltd.

9. RESULTS AND DISCUSSION

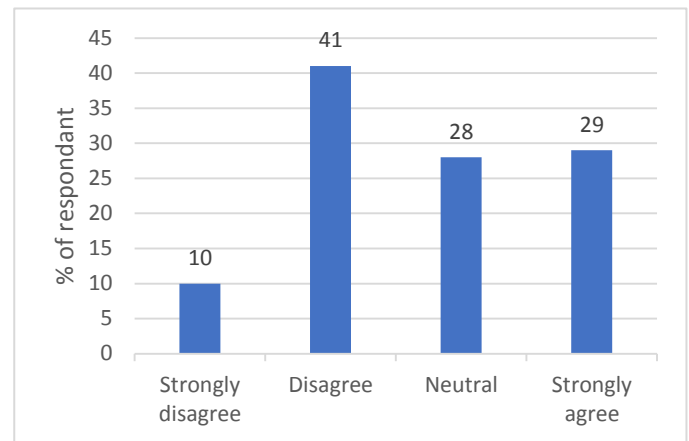
Table :9.1

The company effectively utilizes technology for supply chain operation.

Graph :9.1

The company effectively utilizes technology for supply chain operation.

Sl. No	Options	No. of Respondents
1	Strongly disagree	10
2	Disagree	41
3	Neutral	28
4	Strongly agree	29
	Total	108



These individuals strongly believe that the company does not effectively utilize technology for its supply chain operations. 41 respondents (38.0%) selected this option. Have a negative perception and believe that the company's use of technology for supply chain operations is not effective. 28 respondents (25.9%) selected this option. These individuals are neither positive nor negative about the company's technology utilization for supply chain operations. They have a neutral stance. 29 respondents (26.9%) selected this option. These individuals strongly believe that the company effectively utilizes technology for its supply chain operations. This represents the percentage of respondents whose answers fall at or below a particular response option.

Alternative hypothesis (H1): there is a significance suggestion between age and the company effectively utilizes technology for supply chain operation.

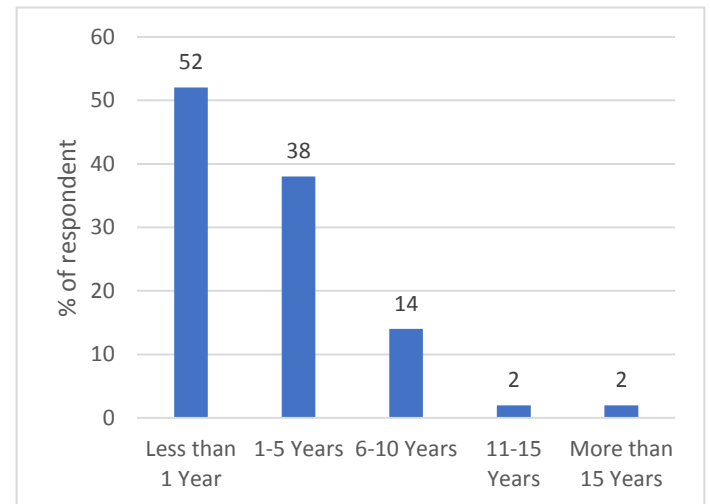
Table: 9.2 Correlation output

Correlations			
		Please choose your age group	The company effectively utilizes technology for supply chain operation.
Please choose your age group	Pearson Correlation	1	-.213*
	Sig. (2-tailed)		0.027
	N	108	108
The company effectively utilizes technology for supply chain operation.	Pearson Correlation	-.213*	1
	Sig. (2-tailed)	0.027	
	N	108	108
*. Correlation is significant at the 0.05 level (2-tailed).			

The above table demonstration Alternative hypothesis (H1) accepted as p, value is more than 0.05 and null hypothesis (ho) is rejected. Hence there is significant relationship between age and the company effectively utilizes technology for supply chain operation.

Table :9.3 Years of experience in supply chain management.	Graph :9.3 Years of experience in supply chain management.
---	---

Sl. No	Options	No of respondents
1	Less than 1 Year	52
2	1-5 Years	38
3	6-10 Years	14
4	11-15 Years	2
5	More than 15 Years	2
	Total	108



The data represents the years of experience in supply chain management for a group of individuals. The table shows the frequency and percentage distribution of their years of experience. 52 individuals, which accounts for 48.1% of the respondents, have less than 1 year of experience in supply chain management. 38 individuals, which makes up 35.2% of the total respondents, have 1 to 5 years of experience in supply chain management. 14 individuals, comprising 13.0% of the total respondents, have 6 to 10 years of experience in supply chain management. 2 individuals, representing 1.9% of the respondents, have 11 to 15 years of experience in supply chain management. 2 individuals, also accounting for 1.9% of the total respondents, have more than 15 years of experience in supply chain management.

Alternative hypothesis (H1): there is a significance suggestion year of experience and logistics management system in future supply chain.

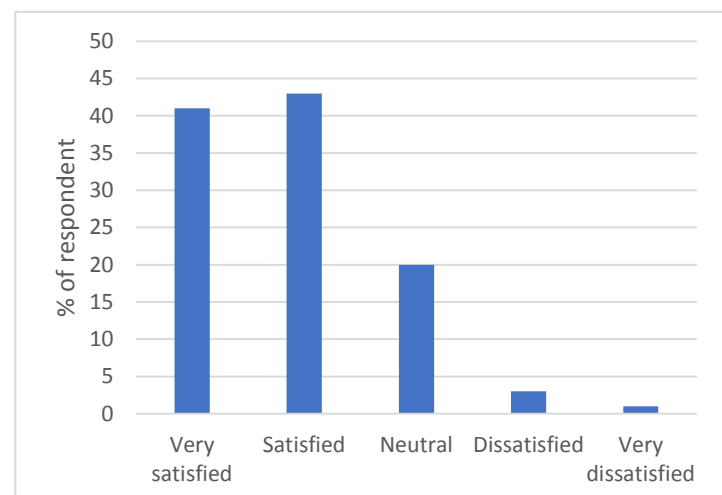
Table 9.4 ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1.455	4	.364	.319	.865
Within Groups	109.555	96	1.141		
Total	111.010	100			

The above table exhibit null hypothesis (H0) accepted as than P, value is more than 0.05 and alternative hypothesis is rejected. Consequently, there is no significant difference between monthly income and this organization is offering opportunity for ongoing training and skill development of its employees.

Table :9.5 How satisfied are you with the overall organizational culture at Micro CNC Pvt Ltd	Graph :9.5 How satisfied are you with the overall organizational culture at Micro CNC Pvt Ltd
--	--

Sl. No	Options	No of respondents
1	Very satisfied	41
2	Satisfied	43
3	Neutral	20
4	Dissatisfied	3
5	Very dissatisfied	1
	Total	108



Overall, the majority of respondents seem to have positive feelings about the organizational culture at Micro CNC Pvt Ltd, with a significant proportion being satisfied or very satisfied. However, it's worth noting that there is still room for improvement, as a portion of respondents have neutral or negative opinions. Organizations should take this feedback into account and work on addressing any concerns to create a more positive and engaging work culture.

Alternative hypothesis (H1): there is a significance suggestion between age and overall organisation culture at micro-CNC pvt ltd.

Table 9.6 Chi-square output

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	22.311 ^a	12	0.034
Likelihood Ratio	17.095	12	0.146
Linear-by-Linear Association	5.174	1	0.023
N of Valid Cases	108		
a. 14 cells (70.0%) have expected count less than 5. The minimum expected count is .03.			

The above table demonstration Alternative hypothesis (H1) accepted as p, value is less than 0.05 and null hypothesis (h1) is rejected. Henceforth there is significant relationship between age and overall organisation culture at micro-CNC pvt ltd.

10. CONCLUSION

- The Business logistics for the micro tech company has been examined in this study, and the main issues and possibilities for improvement include noted.
- Considering the research of internal and external factors, the report has suggested an array of recommendations to increase the strategic fit between the competitive strategy and logistics management of micro tech organization.
- The micro tech company can improve its long-term financial performance, lower expenses, and customer happiness by putting these ideas into practice.
- From the point of origin to consumption, raw materials, inventories, and finished goods must be transported and stored. logistics management to ensure that every step of the procedure is effective and efficient, and that all parties in the supply chain cooperate well.
- Effective logistics management calls for management of capabilities and strengths of internal resources and alignment with the competitive strategy of the organization. logistics management keeps the mechanisms of supply and demand operating smoothly and adds value for customers and society.
- By enhancing stocks, adjusting to consumer needs, and preserving connections with distributors and vendors, it can cut expenses.
- By optimizing the development of goods and services along the complete supply chain, in addition by utilizing demand forecasts, integrated logistics, production techniques, and product innovation methods, efficiency can be increased.
- By providing high-quality goods and services on schedule and in response to client feedback and requests, it can increase customer happiness.

- By adding value for customers and society, as well as by lowering supply chain risks and uncertainties, it can give businesses a competitive edge.

11. REFERENCES

- Mukhsin, M., & Suryanto, T. (2022). The effect of sustainable supply chain management on company performance mediated by competitive advantage. *Sustainability*, 14(2), 818.
- Alshurideh, M. T., Obeidat, B. Y., Victoria, V., Alzoubi, H. M., Fatima, A., Ilyas, A., & Rustam, I. (2022, October). A Systematic Literature Review of Security in 5G based Social Networks. In *2022 International Conference on Cyber Resilience (ICCR)* (pp. 1-5). IEEE.
- Prabhu, M., & Srivastava, A. K. (2023). Leadership and supply chain management: a systematic literature review. *Journal of Modelling in Management*, 18(2), 524-548.
- Queiroz, M. M., Fosso Wamba, S., Pereira, S. C. F., & Chiappetta Jabbour, C. J. (2023). The metaverse as a breakthrough for operations and supply chain management: Implications and call for action. *International Journal of Operations & Production Management*.
- Kot, S., Haque, A. U., & Baloch, A. (2020). Supply chain management in SMEs: Global perspective. *Montenegrin Journal of Economics*, 16(1), 87-104.
- Narimissa, O., Kangarani- Farahani, A., & Molla- Alizadeh- Zavardehi, S. (2020). Evaluation of sustainable supply chain management performance: Dimensions and aspects. *Sustainable Development*, 28(1), 1-12.