

A Study on Effectiveness of Erp on Supplychain Management in Team Global Logistics PVT. LTD., Chennai

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ABSTRACT

Today's businesses use technology to better and more quickly manage their work. ERP systems facilitate the integration of various operations, such as purchasing, inventory, and logistics, into a single system. This lessens operational delays and enhances coordination. This study's primary goal is to evaluate ERP's impact on supply chain management at Team Global Logistics Pvt. Ltd. in Chennai. Additionally, the study looks at how ERP helps with cost reduction, lead time improvement, supplier and customer relationship building, and overall customer service enhancement. Convenience sampling and a descriptive research design were employed. This study has a sample size of 150. The main tool for gathering data was a structured questionnaire. Statistical tools for correlation, chi-square analysis, and simple percentage analysis were used. The results show that ERP increased supply chain activity efficiency, improved departmental coordination, decreased operating and ordering costs, and improved inventory management and order processing accuracy. Additionally, ERP enhanced customer and supplier relationships by improving communication and service quality. The study comes to the conclusion that smooth ERP use improves decision-making across supply chain functions and allows the company to react to changes in demand.

Keywords: *ERP, Supply Chain Management, Logistics, Cost Reduction, Lead Time, Customer Service, Inventory Management*

1. INTRODUCTION

The ability to provide an integrated suite of business applications is known as enterprise resource planning, or ERP. ERP tools share a common process and data model, covering broad and deep operational end-to-end processes found in finance, human resources, distribution, manufacturing, service, and the supply chain. Line of business, customer-facing, administrative, and asset management aspects of an enterprise are just a few of the operational and administrative business processes that ERP applications automate and support in a variety of industries. Karl Kapp asserts that a thorough comprehension of an ERP system necessitates looking at it from five angles: as a knowledge management system, as a shared-database architecture, as a manufacturing philosophy, as a business communication tool, and as a data management system. As an integrated information system that manages transactions, keeps records, offers real-time information, and makes planning and control easier, Stephen Harwood further highlights that ERP implementation is essentially about organizational change.

Supply Chain Management (SCM) and ERP integration increases speed, efficiency, and overall customer satisfaction while giving manufacturing and distribution companies a better understanding of all operations. Supply chains' interdepartmental and multi-organizational structure makes it extremely challenging for companies without the necessary technology to manage them effectively. ERP systems are an essential tool for developing and implementing a supply chain process that is more effective.

1.1 Statement of the Problem

There is a lack of empirical data regarding the practical efficacy of ERP across all supply chain dimensions concurrently, especially in the Indian logistics industry, despite the growing adoption of ERP systems in logistics companies. An important case for investigating whether ERP adoption results in quantifiable improvements in cost, lead time, supplier relations, and customer service is Team Global Logistics Pvt. Ltd., Chennai.

1.2 Objectives of the study

- To evaluate ERP's impact on Team Global Logistics Pvt. Ltd.'s supply chain management in Chennai.
- To investigate how ERP lowers ordering and operational expenses.
- To study the impact of ERP on lead time performance and inventory management.
- To evaluate how ERP enhances connections with clients and suppliers.
- To assess how ERP enhances the calibre of customer service.

1.2 Scope and limitations

The study is limited to Chennai's Team Global Logistics Pvt. Ltd. The conclusions may not be entirely applicable to other organizations because they are based on primary data gathered from 150 employees. The study depends on respondents' self-reported opinions, which could be biased. The study may not accurately represent the long-term effects of ERP because it was carried out in a limited time frame. ERP greatly improved coordination among supply chain partners, according to Adaileh and Abu-alganam's (2020) analysis of the function of ERP in supply chain integration. According to Surung et al. (2020), ERP implementation enhanced interdepartmental communication and inventory visibility in Indonesian conventional woven fabric businesses.

2. REVIEW OF LITERATURE

Adaileh and Abu-alganam (2020) examined the role of ERP in supply chain integration and found that ERP significantly enhanced coordination among supply chain partners. Surung et al. (2020) demonstrated that ERP implementation in conventional woven fabric businesses in Indonesia improved inventory visibility and inter-departmental communication. Qureshi et al. (2022) evaluated ERP implementation for sustainable SCM and reported positive effects on process standardization and waste reduction. Bentaleb and Taki (2022) conducted a comparative study between agricultural and industrial sectors, confirming ERP's role in enhancing supply chain responsiveness. Saravanapriyan and Nirmala (2023) studied VRL Logistics Limited and found that effective ERP adoption positively influenced employee perception of supply chain performance.

Harianto et al. (2024) used quantitative PLS-SEM methodology with 99 respondents to study ERP effects on internal and external supply chain integration in Indonesian manufacturing. Their findings confirmed that ERP positively influenced SCM integration and supply chain flexibility, which in turn enhanced overall business performance. Qureshi et al. (2024) investigated ERP's impact on vendor performance optimization in U.S. supply chains, concluding that ERP supports standardization of performance measures, shorter lead times, and better supplier collaboration.

Hartono (2025) conducted a qualitative case study on an Indonesian automotive component manufacturer and found that ERP positively influenced information flows, coordination, and operational responsiveness, with success contingent on leadership support, training, and organizational readiness. Sree Martine and Amudha (2025) conducted a systematic literature review concluding that ERP remains foundational to SCM effectiveness, with successful implementation dependent on integration quality and organizational preparedness.

2.1 Research gap

Prior research has mostly concentrated on the technical aspects of ERP adoption, the benefits of cost reduction, system integration, and organizational efficiency separately. Within a single logistics company, especially in the Indian context, there is still a dearth of thorough empirical assessments of ERP effectiveness across all supply chain dimensions concurrently, including cost reduction, lead time, supplier relations, and customer service. That gap is filled by this study.

3. RESEARCH METHODOLOGY

3.1 Research design

The study uses a descriptive research design, which aids in describing the current state of affairs and features of ERP in supply chain management. In terms of ERP effectiveness, descriptive research helps to understand what has happened and is happening in the organization.

3.2 Sources of data

Both primary and secondary data are used in the study. Employees of Team Global Logistics Pvt. Ltd., Chennai. Provided primary data. Secondary data was gathered from company records, journals, magazines, websites, and published literature on ERP and supply chain management.

3.3 Sampling

Team Global Logistics Pvt. Ltd., located in Chennai, is the sampling unit. Because of the larger population size, convenience sampling was used. 150 responders make up the study's final sample size.

3.4 Statistical Tools

The following statistical tools were used to process, categorize, tabulate, and analyze the collected data:

- Simple Percentage Analysis: This method is used to determine each survey item's percentage frequency of responses.
- Chi-Square Test: Used to determine whether there is a significant correlation between categorical variables, particularly between gender and the reduction of manual handling costs
- Pearson Correlation: Used to assess how strongly and in which direction gender and effective lead time reduction are related.

4. DATA ANALYSIS AND INTERPRETATION

4.1 Demographic Profile of Respondents

Table 1: Age Distribution of Respondents

Particulars	No. of Respondents	Percentage (%)
Below 20 years	18	12.0
21–30 years	33	22.0
31–40 years	70	46.7
41–50 years	17	11.3
Above 50 years	12	8.0
Total	150	100.0

Source: Primary Data

The above table shows that 46.7% of the respondents belong to the age group of 31–40 years, making it the dominant group, followed by 22.0% in the 21–30 age group.

Table 2: Gender Distribution

Particulars	No. of Respondents	Percentage (%)
Male	107	71.3
Female	43	28.7
Total	150	100.0

Source: Primary Data

71.3% of the respondents are male and 28.7% are female, indicating a predominantly male workforce in the organization.

Table 3: Educational Qualification

Particulars	No. of Respondents	Percentage (%)
SSLC/HSC	42	28.0
Diploma	24	16.0

Particulars	No. of Respondents	Percentage (%)
Graduate	58	38.7
Post Graduate	26	17.3
Total	150	100.0

Source: Primary Data

38.7% of the respondents are graduates, forming the majority, followed by SSLC/HSC holders at 28.0%.

4.2 ERP Effectiveness – Cost Reduction

Table 4: Reduces Ordering Cost

Particulars	No. of Respondents	Percentage (%)
Strongly Agree	27	18.0
Agree	47	31.3
Neither Agree nor Disagree	36	24.0
Disagree	25	16.7
Strongly Disagree	15	10.0
Total	150	100.0

Source: Primary Data

31.3% of respondents agreed that the ERP system reduces ordering cost, making 'Agree' the majority response. This indicates a moderate-to-positive perception of ERP's role in cost containment.

Table 5: Reduces Inventory Space

Particulars	No. of Respondents	Percentage (%)
Strongly Agree	57	38.0
Agree	29	19.3
Neither Agree nor Disagree	22	14.7
Disagree	25	16.7
Strongly Disagree	17	11.3
Total	150	100.0

Source: Primary Data

38.0% strongly agreed that ERP reduces inventory space, indicating strong positive perception of ERP-enabled lean inventory management.

4.3 ERP Effectiveness – Lead Time Performance

Table 6: Effective Demand Forecasting and Lean Inventory

Particulars	No. of Respondents	Percentage (%)
Strongly Agree	57	38.0
Agree	39	26.0
Neither Agree nor Disagree	19	12.7
Disagree	25	16.7
Strongly Disagree	10	6.7

Particulars	No. of Respondents	Percentage (%)
Total	150	100.0

Source: Primary Data

38.0% of respondents strongly agreed that ERP enables effective demand forecasting and lean inventory management. Combined with 26.0% who agreed, 64.0% held a positive view.

Table 7: Automated Tracking of Costs, Time, and Order Completion

Particulars	No. of Respondents	Percentage (%)
Strongly Agree	28	18.7
Agree	55	36.7
Neither Agree nor Disagree	29	19.3
Disagree	20	13.3
Strongly Disagree	18	12.0
Total	150	100.0

Source: Primary Data

36.7% agreed that ERP enables automated tracking of costs, time, and order completion, representing the majority. This highlights ERP's operational monitoring capability.

4.4 ERP Effectiveness – Supplier and Customer Relationships

Table 8: Improves Communication with Suppliers and Vendors

Particulars	No. of Respondents	Percentage (%)
Strongly Agree	21	14.0
Agree	47	31.3
Neither Agree nor Disagree	30	20.0
Disagree	21	14.0
Strongly Disagree	31	20.7
Total	150	100.0

Source: Primary Data

31.3% of respondents agreed that ERP improves communication with suppliers and vendors. This reflects a moderate level of satisfaction with ERP-facilitated supplier communication.

Table 9: Controls over Entire Suppliers and Distributors

Particulars	No. of Respondents	Percentage (%)
Strongly Agree	85	56.7
Agree	19	12.7
Neither Agree nor Disagree	12	8.0
Disagree	26	17.3
Strongly Disagree	8	5.3
Total	150	100.0

Source: Primary Data

A strong 56.7% of respondents strongly agreed that ERP provides effective control over the entire supplier and distributor network, indicating a key strength of the system.

4.5 ERP Effectiveness – Customer Service

Table 10: Enables Faster Response Times

Particulars	No. of Respondents	Percentage (%)
Strongly Agree	56	37.3
Agree	24	16.0
Neither Agree nor Disagree	23	15.3
Disagree	30	20.0
Strongly Disagree	17	11.3
Total	150	100.0

Source: Primary Data

37.3% strongly agreed that ERP enables faster response times. This is one of the strongest positive responses in the customer service dimension.

Table 11: ERP Contributes to Higher Customer Satisfaction

Particulars	No. of Respondents	Percentage (%)
Strongly Agree	49	32.7
Agree	23	15.3
Neither Agree nor Disagree	24	16.0
Disagree	28	18.7
Strongly Disagree	26	17.3
Total	150	100.0

Source: Primary Data

32.7% of respondents strongly agreed that ERP contributes to higher customer satisfaction by ensuring consistency in service delivery.

4.6 Chi-Square Analysis: Gender vs. Manual Handling Cost Reduction

H₀: There is no significant relationship between the gender of the respondents and manual handling cost reduction. H₁:

There is a significant relationship between the gender of the respondents and manual handling cost reduction.

Test	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.771	4	.005
Likelihood Ratio	16.394	4	.003
Linear-by-Linear Association	9.096	1	.003
N of Valid Cases	150		

Source: Primary Data

The p-value is 0.005, which is less than the 0.05 significance level. The minimum expected count is 4.87. Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. There is a statistically significant relationship between the gender of the respondents and manual handling cost reduction through ERP.

4.7 Correlation Analysis: Gender vs. Lead Time Reduction

H₀: There is no significant relationship between gender and lead time reduction. H₁: There is a significant relationship between gender and lead time reduction.

	Gender of Respondents	Leads to Effective Lead Time Reduction
Pearson Correlation	1	.121
Sig. (2-tailed)	—	.141
N	150	150

Source: Primary Data

The Pearson correlation coefficient is 0.121, which is positive but weak. This indicates a slight positive relationship between the gender of respondents and their perception of lead time reduction through ERP. The p-value of 0.141 suggests this relationship is not statistically significant at the 5% level.

5. FINDINGS

5.1 Simple Percentage Analysis – Key Findings

- 46.7% of the respondents belong to the 31–40 years age group.
- 71.3% of the respondents are male and 71.3% are married.
- 38.7% of the respondents are graduates and belong to the Production department.
- 31.3% of respondents agreed that ERP reduces ordering costs.
- 38.0% strongly agreed that ERP reduces inventory space to the business.
- 38.0% strongly agreed that ERP enables effective demand forecasting and lean inventory management.
- 36.7% agreed that ERP enables automated tracking of costs, time, and order completion.
- 37.3% strongly agreed that ERP enables faster response times to customers.

5.2 Chi-Square Analysis

- There is a statistically significant relationship between the gender of the respondents and the reduction of manual handling cost ($p = 0.005$).

5.3 Correlation Analysis

- There is a positive relationship ($r = 0.121$) between the gender of respondents and lead time reduction through ERP, though the relationship is weak.

6. SUGGESTIONS

- The company should continuously optimize ERP modules to further streamline order processing and reduce ordering costs.
- ERP data analytics should be leveraged to maintain optimal inventory levels and prevent storage waste.
- Automated ERP procedures should be maximized to reduce manual handling activities and associated costs.
- ERP forecasting tools should be used proactively to improve inventory planning and minimize overstock or stockouts.
- The company should improve ERP integration with supplier portals to enhance communication and cooperation.
- ERP CRM modules should be used to monitor customer interactions and enhance relationship management.

7. CONCLUSION

The ERP system at Team Global Logistics Pvt. Ltd., Chennai, has significantly improved supply chain management efficiency, according to the study's findings. Better departmental coordination, lower operating and ordering costs, more accurate order processing, and streamlined inventory management are all made possible by the ERP system. ERP's real-time data and automated tracking features have improved lead time reduction, production scheduling, and overall operational performance.

The study also finds that ERP has improved customer service quality, supplier performance benchmarking, and communication, all of which have improved relationships with suppliers and customers. Personalized service delivery and customer retention have been facilitated by the system. The results indicate that the benefits of ERP can be maintained and improved through continuous optimization and strategic utilization of its features, thereby increasing efficiency, customer satisfaction, and competitiveness in supply chain operations.

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