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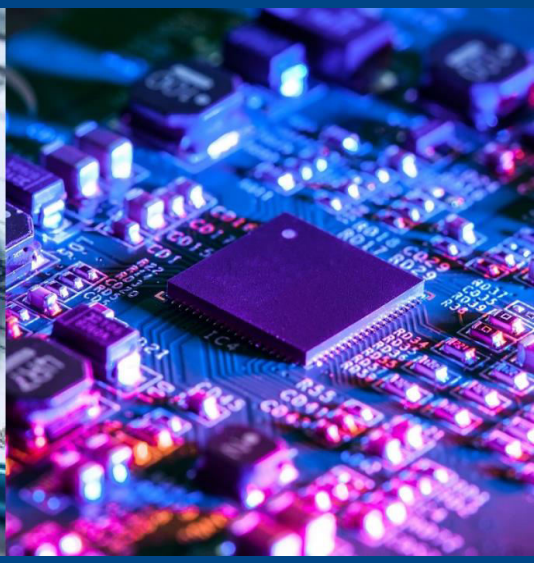

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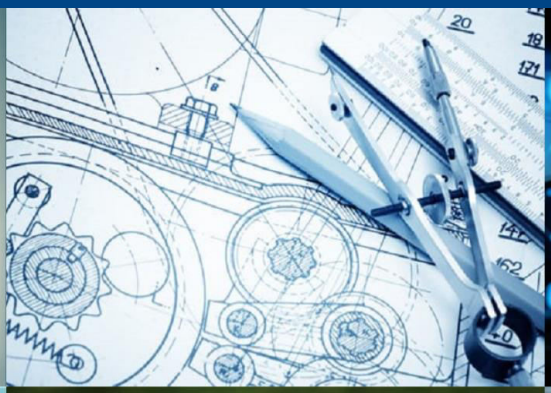

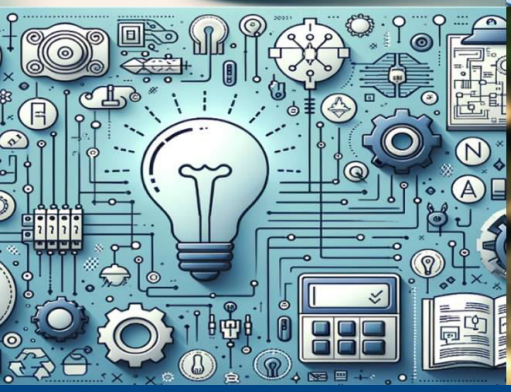

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A Study on Operational Efficiency in Freight Forwarding with Reference to Luxor Logistics Private Limited, Chennai

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ABSTRACT: Freight Logistics is done mainly by companies referred to as freight forwarders. When a company wants to ship their goods, they will contract a freight forwarder who then deals with the shipping logistics. Important duties of the freight forwarder include: determining which mode of transportation to use at which phase of the cargo's journey, negotiating pricing and delivery terms with contracted ocean shipping partners, customs and import compliance management, consolidation of mutual clients' goods to optimize container use, and shipping scheduling. The objective of the study is to analyse on operational efficiency in freight forwarding with reference to Luxor Logistics Private Limited., Chennai. The sample of the study is 150. Descriptive research design and convenience sampling method has been used. Questionnaire has been used as a primary data. Simple percentage analysis, chi-square analysis and correlation statistical tools have been applied to reach the findings of the study. It is found that there is no significant relationship between educational qualification of the respondents and impact of technology integration.

KEYWORDS: Operational Efficiency, Technology Integration, Staff Training and Expertise, Fleet Management and On-time Delivery Rate

I. INTRODUCTION

Freight forwarders use intermodal transportation to maximize shipment efficiency since shipping containers have the distinct benefit of uniform dimensions. One of the primary goals of freight logistics is figuring out which modes of transportation to utilize for the most effective transit, as trucks, trains, barges, and ocean vessels each offer unique benefits. Numerous models have been created to support this optimization using a variety of techniques, such as top-down and bottom-up strategies. Since businesses frequently function as independent entities, the latter addresses each firm as an individual agent, which is far more representative of the actual market than the former, which maximizes the network as a whole and pays less attention to the individuals. Song provides instances of these approaches, which originate from a variety of viewpoints, including those of the freight forwarder, shipper, and port. To try to make the system better overall, each of these models employs a different procedure.

II. STATEMENT OF THE PROBLEM

Issues such as obsolete technology, insufficient personnel training, ineffective fleet management, and missed delivery dates all contribute to poor operational performance. These inefficiencies not only result in financial losses owing to increased operating expenses, but they also harm the company's reputation, customer loyalty, and competitive posture in the market. Furthermore, insufficient coordination across departments, poor route planning, and resource underutilization impede the company's capacity to fulfil the expanding needs of the logistics and supply chain industries. The point of this investigate is to recognize and address the primary issues influencing operational efficiency in goods forwarding organisations.

As a result, the company's financial performance, service quality, and market position will increase. Finally, the research will include suggestions on how businesses may improve their operational efficiency in order to promote overall organisational performance and consumer happiness.

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Objectives of The Study

- To examine the impact of technology integration on operational efficiency in freight forwarding in the company
- To assess the staff training and expertise in improving the efficiency and effectiveness of freight forwarding operations in the company
- To analyze the effective fleet management practices and the operational performance of freight forwarding services in the company
- To evaluate the impact of operational practices on the on-time delivery rate in freight forwarding in the company

III. REVIEW OF LITERATURE

Mishra, N. B., Pani, A., Bansal, P., Mohapatra, S. S., & Sahu, P. K. (2024) This study projects the increase in emissions from freight transportation in India's trucking industry until 2050. We estimate the numeral of business vehicles under several scenarios of economic development using the ARIMAX time series model. Distance travelled, Emission factors, and the anticipated numeral of commercial vehicles are used to estimate CO2 emissions. In order to realign with the aims of the 2015 Paris Agreement, We analyze how fleet electrification or auto scrappage programs could lower emissions using the validated forecasting model. If compared to the business-as-usual (BAU) scenario, 10-year and 15-year automobile scrappage programs are expected to reduce freight emissions by 6–11% and 1%, respectively.

Pinyanitikorn, N., Atthirawong, W., & Chanpuypetch, W. (2024). Through the use of online stages intended towards improve functioning efficiency and simplicity, the freight forwarding sector is experiencing a digital transition. Notwithstanding these advantages, consumer concerns and industry-specific difficulties have caused the adoption of these platforms to proceed more slowly than expected. Methods: This study examines the variables impacting business clients in Thailand's desire to make use of and actual usage of online display place for freight forwarding services. The hypothetical framework is a customized Unified hypothesis for receipt and Use of Technology (UTAUT) model that takes supposed risk into account. 400 respondents in higher-level or management roles engaged in freight shipping provided survey data. A structural equation model (SEM) was used to analyze Thai businesses.

IV. METHODOLOGY

The study has covered the study on operational efficiency in freight forwarding with reference to Luxor Logistics Private Limited, Chennai. The total number of sample drawn for the study is 150 respondents. Sampling unit is Luxor Logistics Private Limited, Chennai. Questionnaire has been framed and used to collect the data in order to analyse the objectives of the study. Descriptive research design and convenience sampling method has been used. Questionnaire has been used as a primary data. Simple percentage analysis, chi-square analysis and correlation statistical tools have been applied to reach the findings of the study

V. DATA ANALYSIS AND INTERPRETATION

	Categories	Frequency	Percentage
Age of the respondents	Below 30	51	34.0
	30-35	43	28.7
	36-40	21	14.0
	41-45	19	12.7
	Above 45	16	10.7
Educational qualification of the respondents	UG	38	25.3
	PG	45	30.0
	Diploma	31	20.7
	Professional	21	14.0
	Others	15	10.0

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Year of service	Below 1 Year	30	20.0
	1-3 Years	41	27.3
	4- 6 years	54	36.0
	Above 6 years	25	16.7
Monthly salary of the respondents	Upto Rs.1,00,000	41	27.3
	Rs.1,00,000-2,00,000	61	40.7
	Rs.2,00,001-3,00,000	21	14.0
	Above Rs. 3,00,000	27	18.0

The above shows that the majority **(**34.0%**)** of the respondents are in the age group of below 30, the majority (30.0%) of the respondents have completed PG, the majority of the respondents (36.0%) have 4-6 years service and the majority(40.7%) of the respondents have Rs.1,00,000-2,00,000 as their monthly salary.

IMPACT OF TECHNOLOGY INTEGRATION

	Strongly agree	**Agree**	**Neither agree nor Disagree**	**Disagree**	**Strongly disagree**
The use of tracking software significantly enhances operational efficiency in the organization.	68 (45.3%)	39 (26.0%)	15 (10.0%)	11 (7.3%)	17 (11.3%)
Automated systems are regularly used to manage shipments and deliveries.	32 (21.3%)	55 (36.7%)	40 (26.7%)	15 (10.0%)	8 (5.3%)
Technology is integrated across all departments to ensure smooth logistics operations.	44 (29.3%)	57 (38.0%)	24 (38.0%)	14 (9.3%)	11 (7.3%)
The implementation of technology solutions has reduced human error in the logistics process.	53 (35.3%)	39 (26.0%)	13 (8.7%)	15 (10.0%)	30 (20.0%)
The company regularly updates its technology systems to stay competitive in the freight forwarding industry.	35 (23.3%)	49 (32.7%)	38 (25.3%)	18 (12.0%)	10 (6.7%)

The above table shows that the majority (45.3%) of the respondents are strongly agree towards the use of tracking software significantly enhances operational efficiency in the organization, the majority (36.7%) of the respondents are agree towards the automated systems are regularly used to manage shipments and deliveries, the majority (38.0%) of the respondents are agree towards the technology is integrated across all departments to ensure smooth logistics operations, the majority (35.3%) of the respondents are strongly agree towards the implementation of technology solutions has reduced human error in the logistics process and the majority (32.7%) of the respondents are agree towards the company regularly updates its technology systems to stay competitive in the freight forwarding industry.

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STAFF TRAINING AND EXPERTISE

	Strongly agree	Agree	Neither agree nor Disagree	Disagree	Strongly disagree
The company provides regular training to employees on the latest logistics practices.	51 (34.0%)	47 (31.3%)	19 (12.7%)	12 (8.0%)	21 (14.0%)
Staff are regularly updated on industry best practices to improve operational performance.	55 (36.7%)	42 (28.0%)	20 (13.3%)	18 (12.0%)	15 (10.0%)
The company invests in developing the technical skills of its workforce.	54 (36.0%)	37 (24.7%)	29 (19.3%)	19 (12.7%)	11 (7.3%)
Employees demonstrate a high level of competency in managing freight forwarding tasks.	42 (28.0%)	46 (30.7%)	27 (18.0%)	21 (14.0%)	14 (9.3%)
The company regularly conducts workshops or seminars to enhance staff knowledge and expertise.	46 (30.7%)	44 (29.3%)	25 (16.7%)	21 (14.0%)	14 (9.3%)

The above table shows that the majority (34.0%) of the respondents are strongly agree towards the company provides regular training to employees on the latest logistics practices, the majority (36.7%) of the respondents are strongly agree towards the staff are regularly updated on industry best practices to improve operational performance, the majority (36.0%) of the respondents are strongly agree towards the company invests in developing the technical skills of its workforce, the majority (30.7%) of the respondents are agree towards the employees demonstrate a high level of competency in managing freight forwarding tasks and majority (30.7%) of the respondents are strongly agree towards the company regularly conducts workshops or seminars to enhance staff knowledge and expertise.

VI. CHI-SQUARE ANALYSIS- RELATIONSHIP BETWEEN EDUCATIONAL QUALIFICATION OF THE RESPONDENTS AND IMPACT OF TECHNOLOGY INTEGRATION

Null hypothesis (Ho):
There is no significant relationship between educational qualification of the respondents and impact of technology integration.
Alternative hypothesis (H1):
There is some significant relationship between educational qualification of the respondents and impact of technology integration.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.538[a]	16	.706
Likelihood Ratio	14.609	16	.553

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Linear-by-Linear Association	.439	1	.507
N of Valid Cases	150		

a. 11 cells (44.0%) have expected count less than 5. The minimum expected count is 1.70.

INTERPRETATION:

As per the above table, it is inferred that the P value is 0.706; it is not significant to 5% (0.05) significant level. The minimum expected count is 1.70. Thus null hypothesis is accepted and it is finding that there is no significant relationship between educational qualification of the respondents and impact of technology integration.

VII. CORRELATION ANALYSIS- RELATIONSHIP BETWEEN YEAR OF SERVICE OF THE RESPONDENTS AND STAFF TRAINING AND EXPERTISE

Correlations

		YEAR OF SERVICE	STAFF TRAINING AND EXPERTISE
YEAR OF SERVICE	Pearson Correlation	1	-.030
	Sig. (2-tailed)		.713
	N	150	150
STAFF TRAINING AND EXPERTISE	Pearson Correlation	-.030	1
	Sig. (2-tailed)	.713	
	N	150	150

INTERPRETATION:

The Above table indicates that out of 150 respondents, co-efficient of correlation between year of service of the respondents and staff training and expertise conducted is -0.030. It is below 1. So there is negative relationship between year of service of the respondents and staff training and expertise.

VIII. SUGGESTIONS

- To improve operational efficiency and real-time monitoring, the business must invest in cutting-edge tracking software.
- For efficient cargo management, the business should make sure automated systems are updated and smoothly linked.
- To enhance logistical coordination, the organization must give cross-departmental technology integration top priority.
- The business must use AI-powered technological solutions to reduce human error in logistics even further.
- The business should regularly evaluate and improve its technological systems in order to be competitive in the freight forwarding industry.
- The business must regularly train staff members on the newest developments in logistics.
- To keep employees abreast of industry best practices, the organization should implement continuous learning initiatives.

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IX. CONCLUSION

Businesses may increase overall efficiency and reduce mistakes in logistics operations by integrating automated tracking systems, investing in staff training, and routinely upgrading their technology infrastructure. Maintaining cost-effectiveness and guaranteeing efficient transportation procedures depend heavily on competent fleet management, which includes vehicle monitoring, fuel efficiency tracking, and regulatory compliance. Reducing delays and enhancing service reliability are also facilitated by efficient inventory management, optimal warehouse usage, and safety precautions. Additionally, it is determined that timely shipments and customer satisfaction depend on proactive route planning, real-time delivery monitoring, and ongoing enhancements to transportation techniques. Businesses may improve their competitive edge in the freight forwarding sector by emphasizing on-time delivery, implementing AI-driven technologies, and fostering close cooperation across logistics teams. In the ever-changing logistics market, consistent efficiency, cost-effectiveness, and long-term company success will be ensured by regular evaluations of operational strategies and investments in technology-driven solutions.

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