



A Study on Understanding the Collision of Technology on Export and Import Trade Operations with Special References to Key Logistics Players in North Chennai

¹Mr.S.Mohamed Afsar

Student, II MBA Logistics, Hindustan Institute of Technology and Science, Chennai.

²Dr.A.Poomagal

Assistant Professor (III), Hindustan Institute of Technology and Science, Chennai.

Abstract

Exports and Imports are evergreen business across world. The logistics operation includes EXIM and vice versa. Any Logistics operations done in an international forum covers EXIM operations and ultimately it leads to evaluate the key performances of EXIM Trade operation for better business growth. By delving deeper, to understand the supports of extended by the technology on EXIM trade operation is most required to understand easiness of the operations. While attempting to understand the collision of technology on EXIM operations, there were no supporting numbers of research on the same. Hence the researchers aimed to conduct this study with following objectives a) To examine the usage of technology in logistics operations. b) To analysis the impact of technology in export and import operations. c) To suggest the ideas to the logistics player in improving their process quality and to software developers to embrace the Logisticians. The study is **Descriptive** in nature which is finding and exploring the real facts. The **sample size** of the study is **10**. The data such as **Primary and Secondary** were used for the study. Primary data was collected using **Interview Schedule** methods. **Convenience Sampling Technique** is adopted. The statistical tools such as **One Sample t-test and Chi Square** were implemented. The study found that technology is imperative in doing the EXIM operations using certain technical tools, it is suggested to the logistic players to use B accuracy software for doing EXIM operations which is effective in terms of Time, Cost and User friendly.

Keywords: Technology, Exports & Imports Operation, Logistics, North Chennai.

1. Introduction

Technology that enables individuals to use scientific knowledge to solve practical problems. It can take on any shape, from a straightforward machine or tool to sophisticated computer systems. The way we live has been transformed by technology. We can now access information and people from all over the world since it has made the world smaller and more linked. It has aided in our ability to generate and exchange ideas, resolve issues, and seize new opportunities. Numerous ways that technology has enhanced our lives continue to do so in the future.

It includes exchange of goods and services between two nations or geographic areas. The exchange of products and services, the transfer of funds, or a mix of the two may be used in this transaction. Through the exchange of commodities and services that cannot be produced within a country's borders, this sort of trade enables nations and regions to become Wealthier. It plays a substantial role in world economy. One of the major exporters in world now is India. Pharmaceuticals, cotton, textiles, IT services, engineering products, chemicals, processed foods, leather and jute products, gems and jewelry, and agricultural products are just a few of the many commodities and services that India exports. India has been exporting too much to the United States, Europe, Japan, and China, among other nations. India's exports have grown dramatically over the past ten years, increasing from US\$274 billion in 2016-17 to US\$331 billion in 2017–18. India is the second-largest exporter of services and one of the top 10 nations in terms of goods exported. India's robust manufacturing sector, which ranks engineering items and services among the top exports, is the key contributor to the country's export growth. The expansion of the IT and IT-enabled services industries has contributed significantly to the rise of India's service exports during the past few years.

1.1 Objective

1. To examine the usage of technology in logistics Operations.
2. To analysis the impact of technology in export and import operations.
3. To suggest the ideas to the logistics player in improving their process quality and to software developers to embrace the Logisticians.

1.2 Scope

1. This study helps to understand the technology used in logistics companies.
2. This research helps in observe the impact of technology in process in export and import operations.

1.3 Limitations

1. This study is limited only to Chennai region.
2. This study is limited to analysis only export and import operations.
3. Time period (5months) from Dec2022-May2023.

2. Literature review

¹This research paper's goal was to look at the risk value connected to Iran's import, export, and economic development between 1962 and 2011. The study emphasizes the significance of taking import and export factors into account when analyzing economic growth, which helps in understanding the dynamics of the interaction between exports and imports and economic development as well as the direct and indirect long-term links. The results of this study show that exports and economic growth are positively correlated, while imports have a long-term negative impact on economic growth.

²The influence of the COVID-19 epidemic on India's trade performance has been thoroughly and in-depth examined in this research. The authors' understanding of the elements influencing the reduction in exports and imports during the pandemic, as well as their

examination of government policy responses, add significantly to the body of knowledge on the effects of pandemics on commerce. The article's scope is constrained because it exclusively examines India's trade performance during the COVID-19 pandemic and does not look at how it affected other areas of the economy. Yet, the paper offers useful information for decision-makers and companies trying to deal with the difficulties brought on by pandemics and other world crises.

³The examination of the linking between trade and monetary growth in the paper highlights both the theoretical and empirical data. The authors contend that an important factor influencing economic growth in developing nations is the mix of exports and imports. They claim that nations with significant import dependence and a high share of primary exports typically have slower rates of economic growth.

⁴The paper "Trade facilitation in developing countries" is an empirical study that examines the influence of trade facilitation on trade movements in developing countries. The writers begin by outlining the significance of trade facilitation for developing nations and emphasizing the contribution of trade to both economic development and the eradication of poverty. The numerous aspects of trade facilitation, such as customs actions, shipping infrastructure, and information and communication technologies, are then covered in the article.

⁵The article focusses on the importance of investing in logistics systems and infrastructure to support trade and economic growth, with broad policy implications. The authors' emphasis on how many aspects of logistics performance are interconnected gives policymakers looking to boost logistics performance in their nations a helpful framework.

⁶Meral, Y. (2018), the research highlights the significance of competent risk management in cross-border trade transactions and has broad practical consequences. Businesses looking to reduce their risk exposure will benefit greatly from the author's overview of the many tools and approaches available for reducing documentary risk.

⁷Marusic, M. (2012), the article highlights the necessity of a clear authorized outline for the use of electronic transportation documentation in international trade, which has substantial policy and practical implications overall. For companies looking to boost the effectiveness and security of their supply chains, the author's study of the advantages and disadvantages of electronic transport documentation is a great resource.

⁸Ji, L. (2021), the research highlights the significance of a comprehensive approach to international trade education and has broad educational implications. Teachers looking to create thorough international commerce curriculum can benefit greatly from the author's research of the correlation between these two courses.

⁹Laryea, E. (2005), the article highlights the need for clear legal frameworks and policies to enable the adoption of paperless transactions in international trade, which has major policy and practical implications overall. Policymakers and companies looking to increase the effectiveness and security of their supply chains will benefit greatly from the author's analysis of the difficulties and opportunities involved with the implementation of paperless transactions.

¹⁰Behar, A. (2009), the paper highlights the need to lower the costs of export documentation in direction to upsurge the efficiency and competitiveness of global trade. Overall, the paper has major policy and practical consequences. For policymakers and enterprises looking to simplify trade processes and save transaction costs, the author's research of the factors influencing the costs of export documentation also offers helpful advice.

3. Research methodology

The study is **Descriptive** in nature where it attempts to find the facts. The researcher collected both **primary and secondary data** for the study. The data was collected from **10 (Sample Size)** Logistics companies which are in North Chennai region. An interview schedule was framed and researchers acted as enumerators to collect the primary data. Various statistical tools such as **Chi Square and One sample test** to test the collected data for fulfilling the framed objectives.

4. Data demonstration & construction

4.1 Chi Square Analysis

Chi square test is implemented to discovery the connection/relation among the variables.

Hypothesis 1

H₀₁: There is no major link among the variables *Business intelligence is helpful in finding out vendors (suppliers) and *Technology is used only for export and import (EXIM) purposes in your company.

Table No: 4.1.1 Chi Square

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	13.750 ^a	9	.132
Likelihood Ratio	13.827	9	.129
Linear-by-Linear Association	5.452	1	.020
N of Valid Cases	10		

Inference

It is witnessed from the above table, Chi Square value is 13.750, the significant P value is found to be $0.132 > 0.05$, hence it is concluded to accept the null hypothesis. Therefore, it is interpreted that, there is no likeliness between Business Intelligence is helpful in finding the vendors and Technology is used only for EXIM operations.

Hypothesis 2

H₀₂: There is no important connotation between the variables *Business intelligence or artificial intelligence is helpful in finding out vendors (suppliers) and *Technology is user friendly.

Table No: 4.1.2 Chi Square

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	12.500 ^a	9	.187
Likelihood Ratio	12.781	9	.173
Linear-by-Linear Association	5.008	1	.025
N of Valid Cases	10		

Inference

It is perceived from the above table, Chi Square value is 12.500, the major P value is found to be $0.187 > 0.05$, hence it is concluded to accept the null hypothesis. Therefore, it is interpreted that, there is no significant between Business Intelligence is helpful in finding the vendors and Technology is user friendly in operations.

Hypothesis 3

H₀₃: There is no major relationship between the variables *Business intelligence or artificial intelligence technology is effective in outbound and *quick decision making.

Table No: 4.1.3 Chi Square

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.667 ^a	12	.473
Likelihood Ratio	13.460	12	.336
Linear-by-Linear Association	4.657	1	.031
N of Valid Cases	10		

Inference

It is detected from the above table, Chi Square value is 11.667, the substantial P value is found to be $0.473 > 0.05$, hence it is concluded to accept the null hypothesis. Therefore, it is

interpreted that, there is no affiliation between Business intelligence or artificial intelligence technology is effective in outbound and quick decision making.

4.2 t-Test Analysis

t -Test analysis is executed to find the mean differences between the variables.

Hypothesis 1

H₀₁: There is no substantial variance in the mean of *Business intelligence is helpful in finding out vendors (suppliers) and *Technology is used only for export and import (EXIM) purposes in your company.

Table No: 4.2.1. One-Sample Test

T		df	Significance		Mean Difference
			One-Sided p	Two-Sided p	
Technology (Business intelligence or Artificial Intelligence) is used only for export and import (EXIM) Purposes in your company	9.000	9	<.001	<.001	3.900
Business intelligence or artificial intelligence is helpful in finding out vendors (suppliers)	9.775	9	<.001	<.001	3.800

Inference

The sample size for the aforementioned t test was 10, and the p value of 0.001 shows that there is a statistically substantial transformation between Business Intelligence is helpful in finding the vendors and Technology is used only for EXIM operations.

Hypothesis 2

H₀₂: There is no major dissimilarity in the mean of *Business intelligence or artificial intelligence is helpful in finding out vendors (suppliers) and *Technology is user friendly.

Table No: 4.2.2. One-Sample Test

	t	d f	Significance		Mean Difference
			One-Sided p	Two-Sided p	
Business intelligence or artificial intelligence is helpful in finding out vendors (suppliers)	9.775	9	<.001	<.001	3.800
Business intelligence or artificial intelligence is user friendly	7.520	9	<.001	<.001	3.400

Inference

The sample size for the aforementioned t test was 10, and the p value of 0.001 directs that there is a statistically important alteration between Business Intelligence is helpful in finding the vendors and Technology is user friendly in operations.

Hypothesis 3

H₀₃: There is no substantial modification in the mean of *Business intelligence or artificial intelligence technology is effective in outbound and *quick decision making.

Table No: 4.2.3. One-Sample Test

	t	df	Significance		Mean Difference
			One-Sided p	Two-Sided p	
Business intelligence or artificial intelligence used is effective in making quick decisions	7.802	9	<.001	<.001	3.300
Business intelligence or artificial intelligence technology is effective in outbound	7.686	9	<.001	<.001	3.200

Inference

The sample size for the aforementioned t test was 10, and the p value of 0.001 specifies that there is a statistically substantial alteration between Business intelligence or artificial intelligence technology is effective in outbound and quick decision making.

5. Findings and discussion

The study aimed to examine the understanding of collision of technology on the export and import trade operations among the logistics players in North Chennai. Various factors and variables relating to trade operations were circulated to understand the effects of technology in building better operational procedures. The different tests under statistical category were executed to find the in-depth of the study such as Chi square and t-test. **I. Findings of Chi square:** The result of Chi square analysis revealed that there is no significant connection/relationship between a) Business Intelligence is helpful in finding the vendors and Technology is used only for EXIM operations, b) Business Intelligence is helpful in finding the vendors and Technology is user friendly in operations, c) Business intelligence technology is effective in outbound and quick decision making. **II. Findings of t-Test:** The results of t-Test exposed that, there is statistically important changes between a) Business Intelligence is helpful in finding the vendors and Technology is used only for EXIM operations, b) Business Intelligence is helpful in finding the vendors and Technology is user friendly in operations, c) Business intelligence or artificial intelligence technology is effective in outbound and quick decision making.

Conclusion

The researcher undergone this research in understanding the effects of technology used in logistics business on the EXIM trade operations in the north Chennai region. The study found that the technologies used by the traders are useful in EXIM procedures only and it is not aligned with the other variable i.e technology is used to find the vendors. Also the research observed that, technology which is user friendly not helpful in finding the vendors and there is no connectivity between the effectiveness of BI in outbound is not on par to the effectiveness of quick decision making internally. Therefore, the technology is found to be individually effective for some functions and it is user friendly for some operations, but it is not supporting the entire operations of the logistics companies. It is suggested to companies to use the software called B accuracy which is seemed to be helpful in handling all the operations in a single window system such as vendor finding, financial management, Inventory management, outbound operations and quick decision making. It is also suggested to software companies to bring out better software and technologies that will embrace the logistics operations in EXIM trade operations.

Reference

1. Taghavi, M., Goudarzi, M., Masoudi, E., & Gashti, H. P. (2012). Study on the impact of export and import on economic growth in Iran. *Journal of Basic and Applied Scientific Research*, 2(12), 12787–12794.

2. Dhinakaran, D. D. P., & Kesavan, N. (2020). Exports and imports stagnation in India during COVID-19-A Review. *GIS-Business (ISSN.1430–3663 Vol-15-Issue-4-April-2020)*.
3. Carrasco, C. A., & Tovar-García, E. D. (2021). Trade and growth in developing countries: The role of export composition, import composition and export diversification. *Economic Change and Restructuring*, 54(4), 919–941. <https://doi.org/10.1007/s10644-020-09291-8>
4. Milner, C., Morrissey, O., & Zgou, E. (2008). Trade facilitation in developing countries, 08/05 [CREDIT research paper].
5. Hausman, W. H., Lee, H. L., & Subramanian, U. (2013). The impact of logistics performance on trade. *Production and Operations Management*, 22(2), 236–252. <https://doi.org/10.1111/j.1937-5956.2011.01312.x>
6. Meral, Y. (2018). Documentary risk in international trade. In *Strategic design and innovative thinking in business operations: The role of business culture and risk management* (pp. 413–431). https://doi.org/10.1007/978-3-319-77622-4_21
7. Marusic, M. (2012). *A gateway to electronic transport documentation in international trade: The Rotterdam rules in perspective*.
8. Ji, L. (2021). Correlation analysis on final exam grades of international trade practice course and international trade documentation course based on statistical regression method. *International Journal of Education and Management*, 2, 59–62.
9. Laryea, E. (2005). Facilitating paperless international trade: A survey of Law and Policy in Asia. *International Review of Law, Computers and Technology*, 19(2), 121–142. <https://doi.org/10.1080/13600860500131200>
10. Behar, A. (2009). DebonusvetusOLS: Approximating the international trade-cost effects of export documentation. In *Forum for Research in Empirical International Trade Working [Paper]*, 37.