

LOGISTICS MATRIX ON SMOOTH EXPORT OPERATION

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ABSTRACT

Freight forwarding is a highly coordinated operation that depends on the seamless integration of documentation, personnel, technology, and timing. This study examines how the logistics matrix functions within a freight forwarding company in India. The findings indicate that transportation management and cost control practices are performing effectively; however, challenges remain in areas such as documentation accuracy, digital integration, and communication flow between departments. Based on survey responses collected from 63 logistics professionals, the study highlights the key strengths and weaknesses of current logistics operations and provides practical. **Keywords:** Freight Forwarding, Logistics Matrix, Transportation Management, Operational Efficiency, Digital Integration, Cost Control, Supply Chain Management, Indian Logistics Industry.

1. INTRODUCTION

Logistics has long been perceived as the dark side of business – an indispensable element but not worth considering by people outside the logistics industry since it lacked glamour. This is no longer the case; a firm's logistics plan has become as vital as its product India presents itself as a fascinating test case in this regard. India possesses one of the most extensive road and rail networks in the world, alongside a coastline spanning 7,500 kilometres. In addition to this, the Indian logistics industry has seen a transformation in light of government initiatives like 'Make in India' and the National Logistics Policy. Nevertheless, logistical challenges persist within the nation, characterized by relatively high cost structures and low technological penetration. It is freight forwarding firms that play an integral role in all of this. They are the firms that mediate between the exporter, customs authorities, shipping companies, bankers, and their counterparts abroad. When they do their job effectively, everything moves smoothly; when they fail, costs escalate and the clients' confidence diminishes. In this paper, the author analyzes the performance of such a mediation process using survey responses obtained from 63 logistics personnel within one such organization.

2. LOGISTICS MATRIX

The logistics matrix may appear like another corporate term; however, it is a concrete concept representing the intricate network of processes that work together to make a single exportation possible.

Imagine the whole process of exportation from India. There are many different things involved such as completing all required documents, storing goods appropriately, satisfying customs officers, booking carriers, and transporting cargo to the port. All these things happen only because their predecessors have been completed successfully and each step of the process directly affects the next one. The matrix breaks down into six core areas:

- **Transportation management** — choosing routes, selecting carriers, coordinating how goods move across different modes
- **Documentation and compliance** — shipping bills, invoices, bills of lading, certificates of origin, and export incentive paperwork
- **Customs clearance** — meeting regulatory requirements, managing duties, handling physical inspections
- **Warehousing and inventory** — storing goods correctly, fulfilling orders, managing handling
- **Information flow** — real-time tracking, communication between teams, keeping stakeholders in the loop
- **Cost management** — freight pricing, vendor negotiations, keeping operational costs in check.

3. RESEARCH METHODOLOGY

A simple method was adopted for this study that involved using a structured questionnaire with 63 participants who held positions within the logistics sector and freight forwarding companies. Respondents scored their perceptions regarding 20 statements regarding export operations on a Likert scale of five points ranging from strongly disagree to strongly agree. Data analysis was done to determine areas of good performance and weaknesses.

Secondary data sources such as industry journals, logistics management studies, and scholarly articles on the freight forwarding industry in India were used as references for comparison and benchmarking purposes. This offers an understanding of how the company measures up to industry standards.

4. RESEARCH DESIGN

Transportation In the survey, transportation emerged as the strongest domain. Around half of the respondents (49.2%) found that transportation delays are insignificant, and 55.5% opined that costs related to transportation were being managed well. This was the best score in terms of positive responses recorded in the whole survey.

There were several reasons for such a result. As road transport dominates the Indian scenario in pre-carriage domestically, there are choices for the company along with good flexibility. Negotiations for lower rates appear to be paying off for the company.

However, route planning emerges as a matter of concern. Only 39.6% of the respondents believed that routes are being planned well in terms of costs and time savings, while 28.6% were not happy with current practices. Poor route planning cannot be compensated by better performance on the roads.

Documentation

Whereas transportation may be seen as a positive, this is where documentation fails:

- 38.1% stated that errors in documentation do occur on occasion
- 36.5% believe that errors exist in preparing export documentation
- 33.3% mentioned that documentation procedures are not timely completed

Documentation errors are costly when it comes to exports logistics because the bill of the ship needs to correlate with the commercial invoice; the latter should conform to the packing list, which, in turn, should agree with the bill of lading. Even one inconsistency leads to inquiry from customs or bank refusal or holds in the port.

Customs Clearance

Customs clearance emerged as the most prominent category with responses falling under neutral category at 39.7%. Just 33.3% were satisfied, while another 26.9% indicated that they experienced delays.

This indicates that the performance of customs clearance services was unpredictable – sometimes it was efficient and other times inefficient. In this regard, the unpredictability makes exports very risky for people working on letters of credit or with tight schedules.

In addition, compliance with regulatory standards also displayed a similar pattern, with 39.6% indicating that the regulations were always adhered to, while 34.9% indicated their concerns. Given the multiple government agencies involved in exporting goods, it is reasonable to believe that it would be difficult to ensure consistent compliance.

Information Flow

This is where the data becomes most compelling. Almost half of all participants – 49.2% – were opposed to the idea that export-related information is exchanged in a timely fashion. Only 28.5% found satisfaction in the information flow within the company.

The inefficiency of information exchange is not only a problem by itself; it exacerbates any other problems present in the matrix. An error in documentation identified close to the deadline is more harmful than an error identified earlier on. A question from customs that goes unanswered for a couple of hours turns into a detention fine. Failing to make arrangements for transportation due to lack of communication between two departments leads to a rolled vessel.

Interdepartmental collaboration was similarly problematic, with 33.3% claiming that the communication among procurement, warehouse, and logistics departments was inadequate.

Digital Systems

ERP & EDI systems were expected to form the core of logistics management in the current age. However, the survey revealed an interesting observation: 33.3% of the respondents felt neutral about the impact of digital systems in terms of improving documentation efficiency; almost half were split between being in favor and against it.

It seems that while technology may exist within firms, it is not deeply integrated into their operations. Incomplete integration can have worse results compared to total digitalization or complete manual operations – for it introduces inconsistencies, redundant information, and ambiguity about what to believe. A common occurrence in India's

logistics industry, where the pace of technological development has been rapidly increasing, but implementation depths

5. RESULTS

This research reveals a compelling narrative. The tangible elements of logistics—transportation of goods and management of freight expenses—are functioning at an acceptable level of performance. The weak links in the logistics chain lie elsewhere—in the transfer of information, documentation, and digital integration across all operations. Think about the steps involved in a standard export process. The documentation staff prepares the necessary documentation. The warehousing department ships and labels the cargo. A customs officer completes the documentation process. A freight forwarder coordinates space reservation and pre-carriage activities. The cargo is then shipped to the port for clearance and loading and departs for its destination. Each of these steps involves the exchange of relevant information. From the survey results, we can deduce that these critical junctures pose the biggest risk to this company—and many others like it. There is also the financial perspective to consider. Contemporary international purchasers require shipment visibility, regular updates, and dependable delivery dates. When almost half of all logistics personnel in an organization report that information is not being transferred promptly, this constitutes a direct danger to customer retention—more than just a minor operational challenge.

Discussion

Build a Documentation Quality Framework

Ensure standardisation of document forms, including mandatory validation fields. Adopt a two-tier checking process, wherein a system check is followed by a manual check before submitting any document for custom clearance or showing it to the banks. Documentation errors should be a key performance indicator, which gets reviewed every month.

Move Toward Genuine Digital Integration

Just adopting ERP at the surface level is not good enough. It is imperative that we have one common platform for all our documentation, customs declaration, warehousing, and transportation booking, where everyone is using the same data source. Until we have parity between the paper-based system and the digital system, information inequality is inevitable.

Communication Protocols Between Teams

Every shift between each stage of the exporting process requires that there is a clear time schedule and escalation trigger. Procurement to the warehouse, from the warehouse to logistics, from logistics to customs — all must be scheduled according to the Service Level Agreements. Creating a dashboard that provides information regarding shipments to everybody will reduce unofficial lines of communication.

Avoid responding to any inquiries posed by the customs agency. Ensure that your documentation has been pre-reviewed against the requirements set forth by customs authorities prior to submission. Assign compliance officers to oversee cargo which tends to cause problems with customs agents. Establish a good relationship with customs agents and know what makes them pose questions.

Invest in People, Not Just Systems

Technological advancement alone cannot replace people who know what they are doing. Develop training programs internally regarding document processing and use of digital tools among others. Form partnerships with logistics management bodies wherever possible. This not only helps minimize errors but also increases efficiency and boosts customer confidence.

6. CONCLUSION

The logistics matrix is not an abstraction; it is the route all exports must take. And every vulnerability in it carries a price tag in one of three currencies: money, relationships, or reputation.

What is striking about this survey is that while its results may be neither comforting nor startling, it does clearly point to a set of challenges – and thus a set of opportunities.

There is no doubt that India's logistics industry stands at the cusp of change. Investments are pouring into infrastructure development, and the policy framework is improving. Yet the last frontier that needs to be conquered is operational depth.

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