

A Study On Customs Procedures

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***Abstract:** Customs procedures are at the heart of international trade, and getting them right can make or break supply chain performance. This study takes a close look at how FTWZ — a Free Trade Warehousing Zone (FTWZ) operator based in Sriperumbudur, Chennai — manages its customs clearance processes in practice. Using a descriptive research design, we surveyed 60 employees across five departments through a 30-question structured questionnaire. The results paint an encouraging but nuanced picture: 76.67% of staff are well-versed in import and export documentation, and nearly three-quarters confirmed that import clearances are typically wrapped up within 48 hours. That said, 70% acknowledged that documentation errors do slow things down at least occasionally. While digital tools like EDI and WMS have been widely embraced, system downtime and uneven training continue to create friction. The study concludes that customs efficiency at FTWZ is driven by the interplay of accurate documentation, smart technology use, regulatory awareness, and good coordination between teams — and offers practical recommendations to sharpen performance across each of these dimensions.*

***Keywords:** Customs Procedure, FTWZ, VMI, SMI, ICEGATE, EDI, Duty Deferment, Documentation Accuracy, Trade Facilitation*

1. Introduction

Customs House Agents (CHAs) and logistics companies specialising in customs work as essential go-betweens, connecting importers, exporters, shipping lines, port authorities, and customs officials to keep goods moving smoothly across borders. In India, this entire ecosystem is overseen by the Central Board of Indirect Taxes and Customs (CBIC), which sets the rules around documentation, duty assessment, and

compliance. As global trade has expanded, the ability to navigate customs efficiently has become a genuine competitive advantage — not just a back-office necessity.

The import and export clearance process involves filing Bills of Entry and Shipping Bills, classifying goods using Harmonized System (HS) codes, paying customs duties and GST, managing cargo examinations, and liaising with port and terminal operators. A single error anywhere in this chain can trigger shipment delays, financial penalties, and wider supply chain disruptions. Platforms like ICEGATE have helped transform this landscape by enabling paperless submissions, real-time tracking, and greater transparency throughout the process.

FTWZ, founded in 2014, runs a 145,000 sq. ft. facility in Sriperumbudur, Chennai. It provides a broad suite of integrated logistics services — freight forwarding, warehousing, customs clearance, Vendor Managed Inventory (VMI), Supplier Managed Inventory (SMI), and duty deferment solutions. This study uses FTWZ as a case study to explore how customs procedures actually perform on the ground, how digital platforms support compliance, and where improvements can be made. The findings draw on responses from 60 employees directly involved in customs operations, giving the study both academic and practitioner relevance.

2. Objectives of the Study

- To examine how customs procedures contribute to smooth import and export clearance at FTWZ.
- To analyse the documentation and clearance workflows followed in FTWZ import and export operations.
- To evaluate how efficiently clearance activities are carried out in terms of time, accuracy, and regulatory compliance.
- To identify the main operational challenges encountered during the customs clearance process at FTWZ.
- To suggest practical strategies for improving the efficiency of import and export clearance services.

3. Review of Literature

A 2019 study on customs clearance in international trade found that most delays trace back to three root causes: inadequate documentation, incorrect product classification, and poor communication among stakeholders. The researchers called for greater automation and digital adoption to cut processing times (ResearchGate, 2019).

Work published in 2020 established that embracing technology across warehousing, transport planning, and customs clearance can meaningfully lower operating costs while improving service quality (IJERT, 2020). A 2021 study reinforced this, showing that automation — particularly electronic documents and online payments — speeds up customs clearance considerably at the point of entry (ScienceDirect, 2021).

Awashreh, Hamid, Mohamed, and Farsi (2024) examined how logistics management shapes service performance in the maritime industry, arguing that automation and advanced data analysis will define the sector's future. Andrei, Scarlat, and Ioanid (2024) explored how sustainable practices and autonomous transportation solutions are reshaping e-commerce logistics, stressing the importance of building operational resilience.

Paladin, Bauk, Mujalovic, Kapidani, and Luksic (2024) looked at blockchain's role in managing big data within maritime supply chains — findings with direct relevance to the data integrity of systems like FTWZ EDI and WMS platforms. Wu, Wu, and Xu (2022) similarly argued that digitalisation and green practices are no longer optional for modern logistics companies.

A 2022 study flagged persistent compliance gaps, documentation errors, and inspection delays as industry-wide pain points, recommending targeted staff training and better inter-agency collaboration (Springer, 2022). A 2023 study confirmed that faster customs clearance directly shortens delivery times and strengthens supply chain performance, with digital systems at the centre of that improvement (Wiley, 2023). A 2024 study demonstrated that data analytics, AI, and automated workflows reduce costs and accelerate customs throughput (MDPI, 2024).

Across this body of literature, a consistent theme emerges: documentation accuracy, technology integration, inter-agency coordination, and well-trained personnel are the building blocks of effective customs operations — all areas this study examines directly.

Research Gap:

Most existing research focuses on large-scale international logistics or broad supply chain frameworks. Company-specific studies examining the day-to-day customs challenges within Indian FTWZ environments are notably scarce. No comprehensive research has yet been conducted on FTWZ customs operations, VMI/SMI documentation workflows, duty deferment practices, or ex-bond clearance efficiency. This study fills that gap.

4. Research Methodology

This study uses a descriptive research design — the goal being to observe and document how customs clearance actually works at FTWZ without introducing any artificial conditions or interventions. The research covered 60 employees involved in customs and logistics operations across five departments: Operations & Warehousing (40%), Freight Forwarding & Customs (26.67%), FTWZ Services (16.67%), Administration & HR (10%), and Sales & Business Development (6.67%).

Given the setting, convenience sampling was the practical choice. Data was collected within FTWZ facility at Sriperumbudur during the 2024–2025 financial year. A structured 30-question survey was delivered via Google Forms and WhatsApp, covering customs documentation, FTWZ-specific workflows, technology

use, inter-departmental coordination, and overall clearance efficiency. Responses were captured on a five-point Likert scale. The survey achieved a Cronbach's Alpha of 0.82, indicating good internal reliability. Secondary data was drawn from academic textbooks, research journals, CBIC's Customs Manual 2023, ICEGATE documentation, the DGFT Foreign Trade Policy 2023, SEZ Act provisions, and relevant industry reports. Quantitative analysis was carried out in Microsoft Excel using percentage analysis, descriptive statistics, and tabular interpretation, with SPSS used to support the reliability analysis.

5. Data Analysis & Findings

Respondent Profile:

The survey sample was 65% male and 35% female, reflecting reasonable gender diversity. The dominant age group was 31–40 years (46.67%), with healthy representation from the 21–30 bracket (30%). Over three-quarters of respondents (76.66%) hold graduate or postgraduate qualifications, supporting the workforce's capacity to handle complex customs documentation. In terms of experience, 36.67% have been in the field for 3–5 years and 33.33% for six years or more — a stable mix that ensures both fresh perspective and institutional knowledge.

Documentation & Awareness:

A strong 76.67% of employees showed solid awareness of import and export documentation requirements — a positive reflection on training programmes. The Bill of Entry and Shipping Bill were flagged as the most critical clearance documents by 53.33% of respondents. However, 70% reported that documentation errors affect clearance timelines at least sometimes, with 30% saying this happens 'often' or 'very often.' On the positive side, 73.33% confirmed that import clearances are typically completed within 48 hours; the remaining 26.67% attributed longer timelines to documentation discrepancies and CBIC examination orders.

FTWZ & VMI/SMI:

71.67% of respondents confirmed that duty deferment benefits are being effectively used in FTWZ operations. VMI documentation process efficiency was rated positively by 65%, and SMI by 61.67%. The slightly lower satisfaction rate for SMI, along with a higher share of neutral responses, suggests that staff could benefit from more targeted training on Notification 60/2010 compliance workflows. Overall, 68.33% reported that clients are satisfied with FTWZ customs services.

Technology & Digital Systems:

68.33% confirmed that the EDI system integrates well with customs clearance, and 65% found the WMS user-friendly for inventory tracking. However, only 45% agreed that downtime rarely disrupts operations — meaning over half the workforce (55%) experiences some level of disruption from EDI, ICEGATE, or WMS outages. Digital system training was considered adequate by 55% of respondents. Notably, 75%

expressed confidence that automation and AI could further improve documentation accuracy, signalling strong institutional readiness for the next phase of digital transformation.

Process Efficiency & Coordination:

61.67% affirmed that coordination between \customs team and CBIC authorities is working well. 65% rated overall customs procedures as efficient, while 68.33% simultaneously agreed that there is room for improvement — a constructive and realistic assessment reflecting an organisation that is performing well but isn’t complacent about the gaps.

Table 1: Key Findings Summary

Key Finding	Agree %
Documentation awareness (import & export)	76.67%
Bill of Entry / Shipping Bill — most critical doc	53.33%
Documentation errors affect clearance (sometimes–very often)	70.00%
Import clearances within 48 hours	73.33%
Duty deferment effectively utilised	71.67%
VMI documentation process efficient	65.00%
SMI documentation process efficient	61.67%
EDI integration effective	68.33%
WMS user-friendly	65.00%
System downtime rarely affects operations	45.00%
AI/Automation improves documentation accuracy	75.00%
Coordination with CBIC effective	61.67%
Overall customs procedures efficient	65.00%
Customs procedures need improvement	68.33%

ANOVA analysis across experience groups shows broadly consistent views on digital documentation value and customs efficiency — suggesting upskilling initiatives will benefit all staff equally, regardless of tenure. Chi-Square analysis across departments reveals statistically meaningful differences in awareness of FTWZ-specific procedures (VMI, SMI, ex-bond), pointing to the FTWZ Services and Freight Forwarding teams as priority candidates for specialist training.

6. Industry Profile

India's logistics and freight forwarding market was valued at USD 349.4 billion in 2025 and is on track to reach USD 545.6 billion by 2030, growing at a CAGR of 9.32%. Within this, the CHA and customs logistics segment was valued at USD 18.4 billion in 2025 and is expected to reach USD 24.9 billion by 2030 (CAGR of 6.2%). This growth is being driven by expanding trade volumes, greater containerisation, infrastructure investment under the PM Gati Shakti Master Plan, and the government's broader digital trade facilitation agenda.

FTWZ sits squarely within this growth story. Founded in 2014 and headquartered at Sriperumbudur — about 45 km from Chennai — the company offers a comprehensive range of services: sea freight (FCL/LCL), air freight, inland transport, customs clearance, warehousing across 145,000 sq. ft., temperature-controlled storage (2–8°C and 18–22°C), and value-added logistics solutions. Its FTWZ operations span VMI, SMI, duty deferment, just-in-time inventory, consolidation hub services, and re-export facilitation — making it a key partner for clients in the automotive, electronics, pharmaceutical, and engineering sectors.

7. Suggestion

This study makes one thing clear: effective customs clearance at ftwz doesn't come down to any single factor. It's the combined result of accurate documentation, thoughtful technology adoption, strong inter-departmental coordination, well-trained staff, and disciplined FTWZ compliance management — all working in tandem. Documentation errors and system downtime stand out as the two most pressing operational risks, but crucially, both are fixable.

Recommended actions include: implementing an advanced digital documentation validation system with pre-submission error detection (est. ₹8 lakhs); deploying a centralised communication and tracking platform linking EDI, WMS, and ICEGATE (est. ₹5 lakhs); conducting structured training on FTWZ procedures, VMI/SMI workflows, and CBIC regulatory updates (est. ₹4 lakhs/year); upgrading to real-time cargo tracking with IoT integration (est. ₹10 lakhs); formalising Standard Operating Procedures for all FTWZ customs workflows (est. ₹3 lakhs); and establishing a compliance monitoring and regulatory intelligence framework (est. ₹6 lakhs). Together, these investments would substantially reduce clearance delays, enhance client satisfaction, and reinforce FTWZ as a dependable FTWZ partner in India's international trade ecosystem.

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