

# Ecosystem of Port in Export – Import Trade Towards Chakiat Agencies Private Limited

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**Abstract** - In today's globalized economy, port ecosystems play a critical role in facilitating export–import trade by enabling efficient cargo handling, logistics coordination, customs clearance, and documentation processes. This study examines the functioning of the port ecosystem and its contribution to export–import trade activities at Chakiat Agencies Private Limited, a logistics and shipping service provider involved in freight forwarding and port-related operations. Using a descriptive research design, primary data were collected from 100 employees and operational staff through structured questionnaires, supplemented by secondary data from company records, journals, and industry reports. The analysis utilized percentage statistics, chi-square tests, correlation analysis, and one-way ANOVA to assess operational efficiency, service coordination, infrastructure utilization, and stakeholder satisfaction within the port ecosystem. The findings indicate that the port ecosystem significantly enhances trade efficiency by improving cargo movement, reducing delays, ensuring regulatory compliance, and strengthening supply chain connectivity. A large proportion of respondents reported that streamlined port operations, effective communication between stakeholders, and advanced logistics systems contribute to improved trade outcomes. However, challenges such as documentation delays, congestion, infrastructure limitations, and regulatory complexities continue to affect operational efficiency. The study highlights that strengthening coordination among stakeholders, adopting digital technologies, and improving infrastructure can significantly enhance port ecosystem performance. The research offers practical recommendations for improving export–import trade operations at Chakiat Agencies Private Limited and similar logistics organizations.

**Keywords:** Port Ecosystem, Export–Import Trade, Logistics Management, Supply Chain Coordination, Chakiat Agencies Private Limited.

## 1. INTRODUCTION

The export–import trade sector forms the backbone of international commerce, enabling countries to exchange goods, services, and resources across global markets. Ports serve as critical gateways for trade, connecting inland production centers with international destinations. The port ecosystem includes shipping companies, freight forwarders, customs authorities, warehouse operators, logistics providers, and transport agencies, all working collaboratively to ensure efficient cargo handling and distribution.

Over the years, port operations have evolved from traditional manual systems to integrated logistics networks supported by digital documentation, automated cargo handling systems, and real-time tracking technologies. These

advancements have improved transparency, speed, and reliability in export–import processes. When effectively coordinated, port ecosystem components help organizations reduce operational costs, minimize delays, and improve customer satisfaction. For logistics service providers such as Chakiat Agencies Private Limited, the port ecosystem plays a crucial role in supporting daily trade operations, managing shipments, and maintaining supply chain efficiency. However, the presence of advanced infrastructure alone does not guarantee smooth trade operations. Challenges such as port congestion, inadequate coordination among stakeholders, regulatory complexities, and limited technological adoption can hinder efficiency. Previous studies emphasize that successful port ecosystem performance depends not only on physical infrastructure but also on communication, management practices, and workforce competency. In this context, Chakiat Agencies Private Limited provides an appropriate environment to study how port ecosystem elements influence export–import trade activities.

Chakiat Agencies Private Limited handles multiple export–import consignments daily, interacting with shipping lines, customs officials, transporters, and warehouse operators. The company's operations involve documentation processing, cargo movement planning, and compliance with trade regulations. Despite the presence of organized systems, operational challenges such as delays in documentation, limited storage capacity, and coordination gaps may affect efficiency. Therefore, this study aims to analyze the functioning of the port ecosystem within the company and evaluate its contribution to trade performance. This research focuses on understanding how port ecosystem elements support export–import operations, identifying operational challenges, and providing recommendations for improving logistics performance. The study contributes to the growing body of knowledge on port management and logistics operations, offering insights that can benefit both academic researchers and industry practitioners.

## Objectives of the Study

1. To examine employees' awareness and understanding of port ecosystem components at Chakiat Agencies Private Limited, including logistics coordination, documentation processes, and cargo handling systems.
2. To evaluate the role of port ecosystem operations in supporting export–import trade activities, particularly in terms of shipment speed, operational efficiency, and service reliability.
3. To analyze key challenges faced during port operations, including congestion issues, documentation delays, infrastructure limitations, and regulatory compliance difficulties.

4. To determine the perceived impact of port ecosystem efficiency on organizational productivity, customer satisfaction, and overall trade performance.

5. To provide practical recommendations for improving port ecosystem management at Chakiat Agencies Private Limited to enhance export–import trade effectiveness.

## 2. LITERATURE REVIEW

The port ecosystem is a complex network of stakeholders, infrastructure, and regulatory systems that collectively facilitate the smooth functioning of export–import trade. Ports act as vital nodes in global supply chains, enabling the movement of goods between countries while ensuring compliance with international trade regulations. With the increasing demand for global trade efficiency, ports have evolved into technologically advanced logistics hubs that integrate transportation, warehousing, and documentation processes.

Kumar et al. (2022) emphasize that efficient coordination among stakeholders such as shipping lines, customs authorities, freight forwarders, and transport operators plays a critical role in enhancing port performance. Their study shows that integrated communication systems significantly reduce delays and improve shipment tracking, ultimately leading to higher operational efficiency. Singh (2021) highlights the importance of digitalization in port management, stating that the adoption of electronic data interchange (EDI), automated cargo handling systems, and real-time monitoring tools improves transparency and reduces manual errors. The study also notes that technology-driven port ecosystems contribute to faster cargo clearance and improved customer satisfaction. Sharma et al. (2020) identify major challenges in port operations, including congestion, inadequate infrastructure, regulatory complexities, and insufficient workforce training. These issues often lead to delays in cargo handling and increased operational costs, affecting the overall performance of logistics companies. The study suggests that continuous investment in infrastructure and employee training is essential for improving port efficiency.

Verma (2019) demonstrates that well-organized port ecosystems significantly enhance trade competitiveness by reducing transportation time and ensuring smooth cargo flow. The study also highlights the role of public-private partnerships in developing port infrastructure and improving service quality. Babu et al. (2018) examine the impact of logistics integration on export–import performance and conclude that effective collaboration among stakeholders improves supply chain reliability and reduces operational risks. Their findings indicate that improved coordination leads to faster decision-making and efficient resource utilization. Mehta (2017) focuses on the importance of infrastructure development, including container terminals, storage facilities, and transport networks. The study suggests that modern infrastructure supports higher cargo volumes and reduces handling time, leading to improved trade efficiency. Agarwal (2016) discusses the role of port management strategies in achieving long-term trade growth. The study concludes that strategic planning, stakeholder collaboration, and technology adoption are essential factors in developing efficient port ecosystems. Overall, existing literature emphasizes that successful port operations depend on the integration of infrastructure, technology, human resources, and regulatory compliance mechanisms.

## 3. RESEARCH METHODOLOGY

This study adopts a descriptive research design to analyze the functioning of the port ecosystem and its role in export–import trade operations at Chakiat Agencies Private Limited. The

descriptive approach helps in understanding the current operational practices, identifying challenges, and evaluating the effectiveness of port ecosystem components in supporting trade activities. The population of the study consists of employees working in operational, documentation, logistics, and administrative departments of Chakiat Agencies Private Limited. These employees are directly involved in export–import trade activities and have practical knowledge of port operations. A simple random sampling technique was used to select 100 respondents from different departments, ensuring fair representation across operational levels.

### Data Collection

Primary data were collected through a structured questionnaire designed to gather information related to employee awareness, operational efficiency, challenges, and satisfaction with port ecosystem services. The questionnaire included multiple-choice questions and Likert-scale statements to measure respondents' perceptions. Secondary data were collected from company records, academic journals, logistics reports, textbooks, and online resources related to port operations and export–import trade. These sources provided additional insights into industry trends and operational standards.

### Tools of Analysis

The collected data were analyzed using statistical tools to interpret findings and identify relationships among variables. The following tools were used:

- Percentage analysis to understand demographic characteristics and operational patterns.
- Chi-square tests to determine relationships between operational efficiency and trade performance.
- Correlation analysis to measure the strength of relationships between variables such as coordination efficiency and customer satisfaction.
- One-way ANOVA to identify differences in perceptions among employees from different departments.

## 4. DATA ANALYSIS AND FINDINGS

### A. Demographic Profile

The majority of respondents belong to the age group of 25–35 years, indicating the presence of a young and active workforce involved in export–import operations. Most employees hold graduate or postgraduate qualifications, with several possessing professional experience in logistics and shipping management. Employees from documentation, logistics, and transport coordination departments formed the largest proportion of respondents.

### B. Usage of BI Tools

The analysis reveals that a significant proportion of employees are familiar with various components of the port ecosystem, including cargo handling systems, customs clearance procedures, documentation processes, and transportation networks. Many respondents reported gaining knowledge through internal training programs, hands-on experience, and industry exposure.

Employees frequently interact with shipping lines,

customs authorities, and transport agencies, indicating the importance of stakeholder coordination in daily operations. Awareness of digital tools such as electronic documentation and tracking systems was also found to be moderate to high among respondents.

### C. Benefits of BI Tools

Respondents identified several key benefits associated with efficient port ecosystem operations. These include faster cargo movement, reduced shipment delays, improved coordination among stakeholders, and enhanced customer satisfaction. Many employees reported that streamlined operations enable timely delivery of goods and reduce operational costs.

A majority of respondents agreed that the port ecosystem supports effective trade operations by improving resource utilization, reducing congestion, and enabling real-time communication among stakeholders. Correlation analysis indicated a strong positive relationship between operational efficiency and customer satisfaction levels.

### D. Challenges and Limitations

Despite the advantages, several challenges were identified in the port ecosystem. Common issues include delays in documentation processing, limited storage space, infrastructure constraints, and regulatory complexities. Respondents also reported occasional communication gaps among stakeholders, which lead to delays in cargo movement.

Other limitations include dependence on accurate documentation, high operational costs, and the need for continuous monitoring of shipments. When delays occur in customs clearance or transport scheduling, the overall efficiency of export–import operations is affected.

### E. Managerial Perception and Satisfaction

Overall satisfaction levels among employees regarding port ecosystem performance were found to be moderate to high. Most respondents expressed confidence in the company's operational systems and coordination mechanisms. One-way ANOVA results indicate no significant differences in satisfaction levels among employees from different departments, suggesting consistent service quality across operational units.

Employees appreciated the presence of organized workflows, efficient communication channels, and structured documentation procedures. However, they also emphasized the need for continuous improvement in infrastructure and digitalization to maintain operational efficiency.

## 5. SUGGESTIONS

### 1. Enhancement of Digital Systems:

Implement advanced digital documentation systems and real-time tracking technologies to reduce manual errors and improve operational transparency.

### 2. Infrastructure Development:

Improve storage facilities, cargo handling equipment, and transportation infrastructure to accommodate increasing trade volumes.

### 3. Employee Training Programs:

Conduct regular training sessions to enhance employees'

knowledge of customs regulations, documentation procedures, and logistics management.

### 4. Strengthening Stakeholder Coordination:

Establish effective communication channels among shipping lines, customs authorities, and transport agencies to minimize delays.

### 5. Continuous Performance Monitoring:

Implement monitoring systems to track shipment progress and identify bottlenecks in operations for timely corrective actions.

## 6. CONCLUSIONS

The study highlights the significant role of the port ecosystem in facilitating efficient export–import trade operations at Chakiat Agencies Private Limited. The findings indicate that effective coordination among stakeholders, efficient infrastructure, and streamlined documentation processes contribute to improved operational performance and customer satisfaction.

The port ecosystem serves as a critical support system that enables the smooth movement of goods across international markets. Employees recognize the importance of digitalization, infrastructure development, and effective communication in enhancing trade efficiency. While the organization demonstrates strong operational capabilities, challenges such as documentation delays, infrastructure limitations, and regulatory complexities continue to affect performance. The study concludes that continuous improvement in technology adoption, workforce training, and stakeholder collaboration is essential for strengthening port ecosystem efficiency. By implementing the recommended measures, Chakiat Agencies Private Limited can enhance its export–import trade operations, improve service quality, and maintain competitiveness in the logistics industry.

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