

## Improving the Import LCL/LCL Sea Freight Forwarding Process: Evidence from a Qualitative Case Study at Tiep Van Thuc Company, Vietnam

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**Abstract:** Less-than-container-load (LCL/LCL) sea freight forwarding plays an essential role in international logistics, particularly for shippers with small and medium shipment volumes. Despite its operational importance, the LCL/LCL import process is often characterized by procedural complexity, intensive documentation requirements, and a high degree of coordination among multiple actors. In emerging market contexts, these challenges are further intensified by fragmented procedures and reliance on manual processing. This study examines the import LCL/LCL sea freight forwarding process at Tiep Van Thuc Company, a Vietnamese logistics enterprise. Adopting a qualitative single-case study design, the research draws on internal operational documents, direct observation, and practical insights collected during the period 2022–2024. The findings indicate that the forwarding process is constrained by several interrelated limitations, including prolonged processing time, heavy dependence on manual documentation, and coordination difficulties across sequential operational stages. By providing context-specific qualitative evidence, the study contributes to the logistics process improvement literature and offers practical insights for logistics enterprises in emerging markets seeking to enhance the efficiency and reliability of LCL/LCL import operations through process standardization.

**Keywords:** LCL/LCL Import, Sea Freight Forwarding, Qualitative Case Study, Logistics Process, Emerging Markets.

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## 1. INTRODUCTION

In the context of expanding global trade, less-than-container-load (LCL/LCL) sea freight forwarding has become an increasingly important logistics solution for enterprises that do not generate sufficient cargo volume to utilize full container loads. By consolidating shipments from multiple shippers into a single container, LCL/LCL services allow firms to reduce transportation costs while maintaining access to international markets. However, this mode

of transportation also introduces significant operational complexity, particularly in import procedures that involve extensive documentation, customs clearance, and coordination across multiple stakeholders. For logistics service providers, the effectiveness of the LCL/LCL import process directly influences service quality, processing time, and customer satisfaction. Delays or inaccuracies at any stage of the process may propagate downstream, resulting in increased operational costs, cargo

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congestion, and heightened risk exposure. These challenges are especially pronounced in emerging markets, where logistics enterprises often face limitations related to infrastructure, digitalization, and standardized operating procedures.

In Vietnam, the rapid growth of international trade and the increasing participation of small and medium-sized enterprises in import activities have intensified demand for LCL/LCL forwarding services. At the same time, logistics firms are under pressure to improve operational efficiency while complying with complex regulatory and documentation requirements. Despite these pressures, many enterprises continue to rely on labor-intensive processes and fragmented coordination mechanisms in handling LCL/LCL shipments. Tiep Van Thuc Company represents a typical logistics enterprise operating in this context. The company provides LCL/LCL import forwarding services for a wide range of customers and shipment types. While its operations support growing trade volumes, the forwarding process remains subject to several practical constraints that limit efficiency and consistency. These constraints reflect broader challenges faced by Vietnamese logistics firms engaged in LCL/LCL import operations.

Against this background, the present study aims to examine the import LCL/LCL sea freight forwarding process at Tiep Van Thuc Company through a qualitative case study approach. Specifically, the study seeks to (1) analyze how the LCL/LCL import process is conducted in practice, (2) identify key process-level limitations embedded in the current forwarding system, and (3) provide empirically grounded insights that may inform process standardization efforts in similar logistics enterprises.

## 2. LITERATURE BACKGROUND

### 2.1 LCL/LCL Sea Freight Forwarding in International Logistics

Less-than-container-load (LCL/LCL) sea freight forwarding constitutes an essential component of international logistics systems, particularly for shippers whose cargo volumes are insufficient to justify full container loads. By consolidating multiple shipments into a single container, LCL/LCL forwarding enables cost sharing and improves container utilization efficiency. However, this operational advantage comes at the cost of increased procedural complexity, especially in import operations that require extensive documentation, customs clearance, and coordination among multiple actors.

The literature consistently highlights that LCL/LCL forwarding differs fundamentally from full-

container-load operations in terms of process structure. In addition to standard transport activities, LCL/LCL shipments require cargo consolidation at origin, deconsolidation at destination, and handling at container freight stations. These additional stages increase the number of operational interfaces and amplify the importance of accurate documentation and timely information exchange. As a result, LCL/LCL forwarding processes are particularly sensitive to procedural inefficiencies and coordination failures.

In import contexts, LCL/LCL forwarding further involves close interaction with customs authorities, shipping lines, port operators, and inland transport providers. Any delay or error at the documentation or clearance stage may propagate downstream, leading to extended dwell time, congestion at ports, and higher logistics costs. These characteristics make LCL/LCL import forwarding a critical yet challenging area for logistics process management.

### 2.2 Process-Oriented Perspectives on Logistics Operations

Process-oriented perspectives emphasize that logistics performance is shaped not only by physical infrastructure and transport capacity but also by the design, sequencing, and coordination of operational activities. From this viewpoint, logistics operations are understood as interconnected processes that transform information flows and physical movements into service outcomes.

The literature suggests that standardized procedures and consistent information flows are essential for managing complex logistics processes. Standardization reduces variability, enhances predictability, and facilitates coordination across organizational boundaries. In contrast, processes that rely heavily on informal practices or individual experience tend to exhibit higher error rates and longer processing times.

Within freight forwarding operations, process orientation is particularly relevant due to the high level of documentation intensity and regulatory compliance involved. Studies indicate that when documentation handling and process sequencing are not clearly standardized, logistics firms become increasingly dependent on manual intervention and ad hoc problem-solving. While such practices may provide short-term flexibility, they often undermine operational efficiency and scalability in the long run.

### 2.3 Documentation and Coordination Challenges in LCL/LCL Import Operations

Documentation management represents one of the most critical challenges in LCL/LCL import

forwarding. Import shipments typically require multiple documents, including bills of lading, commercial invoices, packing lists, delivery orders, and customs declarations. The accuracy and consistency of these documents are crucial for ensuring smooth customs clearance and cargo release.

The literature indicates that LCL/LCL import forwarding is particularly vulnerable to documentation-related delays, as shipments often involve multiple consignors and consignees. Inconsistent or incomplete information provided by customers frequently necessitates repeated verification and adjustment by freight forwarders. This process increases handling time and places additional pressure on operational staff.

Coordination challenges further compound documentation issues. LCL/LCL import forwarding requires synchronization across sequential stages, including document preparation, customs declaration, cargo handling, and inland transportation. Delays in earlier stages often disrupt subsequent activities, highlighting the interdependent nature of the forwarding process. Effective coordination mechanisms are therefore essential for maintaining process continuity and service reliability.

## **2.4 Logistics Process Management in Emerging Market Contexts**

Emerging market logistics systems are often characterized by rapid growth in trade volumes, institutional variability, and uneven adoption of digital technologies. In such environments, logistics enterprises frequently operate under conditions of limited information system integration and high reliance on human expertise.

The literature suggests that logistics firms in emerging markets often prioritize operational flexibility and responsiveness over formal process standardization. While this approach may help firms cope with regulatory uncertainty and customer variability, it also increases dependence on manual processes and individual judgment. Over time, these characteristics may constrain firms' ability to systematically monitor performance and implement continuous process improvement.

Vietnam's logistics sector exemplifies many of these challenges. Despite significant growth in import and export activities, many logistics enterprises continue to rely on labor-intensive procedures for handling documentation and coordinating operations. This context underscores the importance of qualitative research that examines

how logistics processes are enacted in practice within Vietnamese firms.

## **2.5 Research Gap and Positioning of the Study**

Although the logistics literature provides extensive discussions on freight forwarding and supply chain efficiency, relatively few studies offer in-depth qualitative analyses of LCL/LCL import forwarding processes, particularly in emerging market contexts. Existing research often emphasizes optimization models, cost analysis, or network design, with limited attention to day-to-day operational routines and process-level coordination challenges.

Qualitative case studies are therefore well positioned to address this gap by capturing the organizational and procedural dynamics that shape logistics operations in practice. By focusing on a single logistics enterprise, this study seeks to provide a detailed examination of how the LCL/LCL import forwarding process is organized, where operational constraints arise, and how these constraints affect overall process performance.

Accordingly, this research positions itself as a qualitative case-based study of the LCL/LCL import forwarding process at Tiep Van Thuc Company, aiming to contribute context-specific insights to the logistics process management literature and to inform future efforts toward process standardization in similar organizational settings.

# **3. METHODOLOGY**

## **3.1 Research Design**

This study adopts a qualitative single-case study design to examine the import LCL/LCL sea freight forwarding process at Tiep Van Thuc Company. The case study approach is particularly appropriate for investigating logistics processes that are operationally complex, sequential in nature, and embedded within specific organizational contexts. Rather than isolating variables or testing predefined hypotheses, the research seeks to develop an in-depth understanding of how the LCL/LCL import forwarding process is conducted in practice and how process-level limitations emerge.

A single-case design was selected due to the exploratory and practice-oriented objectives of the study. Tiep Van Thuc Company represents a typical Vietnamese logistics enterprise specializing in LCL/LCL import forwarding, operating under conditions commonly observed in emerging markets, such as intensive documentation requirements, reliance on manual processing, and coordination with multiple external actors. As such, the case provides a suitable empirical setting for examining process

management challenges associated with LCL/LCL import operations.

### **3.2 Case Context**

Tiep Van Thuc Company operates as a logistics service provider offering sea freight forwarding services, with a significant proportion of its business devoted to LCL/LCL import shipments. The company serves a diverse customer base, including small and medium-sized importers that rely on consolidated shipments to manage logistics costs.

The LCL/LCL import forwarding process at the company consists of several interdependent stages, including the receipt and verification of import documentation, customs declaration, coordination with shipping lines for delivery orders, cargo handling at ports and container freight stations, and arrangement of inland transportation to final destinations. Each stage requires timely execution and accurate information exchange to ensure smooth cargo flow.

Operational activities examined in this study reflect routine LCL/LCL import shipments handled by the company during the period 2022–2024. This time frame allows the study to capture recurring process patterns rather than isolated operational incidents.

### **3.3 Data Collection**

Data were collected from multiple qualitative sources to enhance the credibility and depth of the analysis. Primary data consisted of internal operational documents related to LCL/LCL import forwarding, including procedural guidelines, import documentation records, customs declaration forms, and delivery order handling documents. These materials provided insight into both formal procedures and actual operational practices.

In addition to document analysis, direct observation was conducted during routine handling of LCL/LCL import shipments. Observational data focused on documentation processing activities, coordination with customs authorities and shipping lines, and internal communication among operational staff during different stages of the forwarding process.

Qualitative insights were further obtained through informal discussions with employees involved in LCL/LCL forwarding operations. These discussions were practice-oriented and aimed at clarifying process flows, identifying recurrent operational challenges, and understanding how staff respond to documentation discrepancies or coordination issues. Secondary sources, including

company reports and industry-related materials, were used to contextualize the empirical findings.

### **3.4 Data Analysis**

Data analysis followed an interpretive qualitative content analysis approach. Collected materials were reviewed repeatedly to gain familiarity with the overall structure and sequencing of the LCL/LCL import forwarding process.

The analysis proceeded in several stages. First, empirical data were coded according to broad thematic categories aligned with the research objectives, including documentation handling, coordination across process stages, and process monitoring. Second, coded data were examined to identify recurring patterns and operational bottlenecks within the forwarding process. Third, comparisons were made across data sources to identify consistencies and discrepancies between documented procedures and observed practices.

Throughout the analysis, attention was placed on process-level dynamics rather than individual performance outcomes. This approach enabled the identification of structural limitations embedded in the forwarding process and facilitated a deeper understanding of how these limitations affect operational efficiency.

### **3.5 Research Rigor and Trustworthiness**

Several measures were taken to enhance the rigor and trustworthiness of the qualitative findings. First, data triangulation was employed by combining internal documents, direct observation, and qualitative insights from operational staff. This approach helped reduce reliance on a single data source and increased the credibility of the analysis.

Second, the study emphasized descriptive and interpretive accuracy. Findings were grounded in empirical materials, and interpretations were carefully aligned with observed practices and documented procedures.

Third, the single-case study design allows for analytical rather than statistical generalization. While the findings are not intended to be generalized across all logistics enterprises, they provide contextually rich insights that may be relevant to firms operating under similar LCL/LCL import forwarding conditions in emerging markets.

### **3.6 Ethical Considerations**

The study was conducted with due consideration for confidentiality and organizational sensitivity. Internal operational documents were used solely for research purposes, and no commercially sensitive information is disclosed.

References to individual employees are omitted to ensure anonymity, and the analysis focuses on organizational processes rather than individual performance.

## 4. FINDINGS

The qualitative analysis reveals that the import LCL/LCL sea freight forwarding process at Tiep Van Thuc Company is structured as a sequence of interdependent operational stages. While this process enables the company to handle a diverse range of import shipments, it is constrained by several process-level limitations that affect efficiency, coordination, and consistency. Four interrelated themes emerge from the analysis: intensive reliance on manual documentation, process delays arising from documentation discrepancies, coordination challenges across sequential stages, and limited systematic process monitoring.

### 4.1 Heavy Reliance on Manual Documentation

The first key finding concerns the extensive reliance on manual documentation throughout the LCL/LCL import forwarding process. Import shipments handled by Tiep Van Thuc Company typically require multiple documents, including bills of lading, commercial invoices, packing lists, delivery orders, and customs declaration forms. These documents are often received from customers in varying formats and levels of completeness.

Operational evidence indicates that a significant amount of staff time is devoted to verifying, correcting, and reconciling documentation before customs declaration can proceed. When discrepancies arise between documents, forwarding staff must repeatedly communicate with customers or overseas agents to obtain clarification or revised information. This reliance on manual handling increases processing time and places pressure on operational staff, particularly during periods of high shipment volume.

### 4.2 Process Delays Caused by Documentation Inconsistencies

A second finding relates to delays that originate from documentation inconsistencies. In many cases, information contained in commercial invoices, packing lists, and bills of lading is not fully aligned, requiring additional checks and adjustments prior to customs submission.

These inconsistencies often result in delays at the customs declaration stage, which subsequently affect downstream activities such as cargo release and inland transportation scheduling. The findings indicate that even minor documentation issues can propagate through the forwarding process, extending

overall handling time and increasing the risk of congestion at ports or container freight stations.

### 4.3 Coordination Challenges across Sequential Forwarding Stages

The third major finding highlights coordination challenges across the sequential stages of the LCL/LCL import forwarding process. The process involves multiple actors, including internal forwarding staff, customs authorities, shipping lines, port operators, and inland transport providers. Each stage is closely linked to the timely completion of preceding activities.

Empirical observations show that delays or uncertainties at early stages—such as late receipt of delivery orders or pending customs clearance—often disrupt subsequent stages. Limited real-time information sharing constrains the company's ability to proactively coordinate activities across actors, resulting in reactive rather than anticipatory problem-solving.

This coordination challenge is particularly evident in situations where multiple shipments are consolidated within a single container, as delays affecting one shipment may impact the handling of others.

### 4.4 Limited Use of Systematic Process Monitoring

A fourth finding concerns the absence of systematic process monitoring mechanisms. While operational staff are able to identify and address immediate issues during shipment handling, there is no formal system for tracking processing time, identifying recurring bottlenecks, or comparing performance across shipments.

Process-related information is largely retained at the individual or departmental level, rather than being consolidated into an organizational knowledge base. As a result, lessons learned from previous shipments are not consistently documented or used to inform process improvements. This limitation reduces the company's ability to move from reactive problem-solving toward proactive process optimization.

### 4.5 Overall Characteristics of the LCL/LCL Import Forwarding Process

Taken together, the findings indicate that the LCL/LCL import forwarding process at Tiep Van Thuc Company is characterized by a combination of formal procedural requirements and informal operational practices. While the process enables the company to manage complex import shipments under challenging conditions, it remains highly dependent on human intervention and experiential judgment.



The absence of standardized documentation handling, integrated coordination mechanisms, and systematic process monitoring constrains efficiency and limits scalability. These characteristics suggest that the forwarding process functions primarily as an experience-driven operational routine rather than as a formally structured and continuously optimized process.

## 5. DISCUSSION

The findings of this study provide insight into how the import LCL/LCL sea freight forwarding process is enacted in practice at Tiep Van Thuc Company, a logistics enterprise operating in an emerging market context. Rather than reflecting a fully standardized and technology-driven process, the forwarding operation emerges as a routine shaped by documentation intensity, sequential dependencies, and reliance on human coordination. This section discusses the findings in relation to existing logistics literature and highlights their broader implications.

### 5.1 Manual Documentation as a Structural Constraint in LCL/LCL Import Operations

The heavy reliance on manual documentation identified in the findings aligns with prior research emphasizing the documentation-intensive nature of LCL/LCL forwarding. While documentation requirements are inherent to import logistics, the findings suggest that manual handling amplifies operational vulnerability when information provided by customers or overseas agents is incomplete or inconsistent.

From a process-oriented perspective, manual documentation increases process variability and extends handling time, particularly at critical stages such as customs declaration. The findings indicate that documentation discrepancies not only delay individual shipments but also disrupt the sequencing of downstream activities. This observation reinforces the literature's emphasis on standardized documentation procedures as a prerequisite for improving process efficiency in complex logistics operations.

### 5.2 Sequential Interdependence and Coordination Challenges

A second important theme emerging from the discussion concerns the sequential interdependence of forwarding stages. Consistent with logistics process literature, the findings demonstrate that delays at early stages—such as document verification or delivery order receipt—often propagate through subsequent stages, including cargo release and inland transportation.

The findings suggest that coordination challenges are intensified in LCL/LCL operations due to the presence of multiple consignments within a single container. In such cases, the forwarding process becomes particularly sensitive to disruptions affecting any individual shipment. This observation supports existing arguments that effective coordination mechanisms and information visibility are critical for managing interdependent logistics processes, especially in consolidation-based transport models.

### 5.3 Reactive Problem-Solving and Limited Process Learning

The absence of systematic process monitoring identified in the findings highlights a broader issue related to organizational learning. While operational staff at Tiep Van Thuc Company demonstrate strong problem-solving capabilities in addressing immediate issues, these responses remain largely reactive and situation-specific.

Without formal mechanisms for tracking processing time or documenting recurring bottlenecks, the organization's ability to learn from past operations is constrained. This finding echoes prior studies suggesting that logistics firms in emerging markets often rely on experiential knowledge rather than data-driven process evaluation. As a result, opportunities for continuous improvement may remain underexploited despite accumulated operational experience.

### 5.4 Implications for Process Standardization in Emerging Market Logistics

Taken together, the findings and discussion suggest that process inefficiencies in LCL/LCL import forwarding are not solely the result of external constraints but are also shaped by internal process design and coordination practices. While emerging market logistics firms may face limitations related to infrastructure and digitalization, the case evidence indicates that clearer process structuring and documentation standardization could mitigate some operational challenges.

The discussion therefore supports the literature's call for incremental process standardization approaches that are sensitive to organizational context. Rather than implementing comprehensive digital systems, logistics enterprises like Tiep Van Thuc Company may benefit from gradual improvements in documentation consistency, information sharing, and basic performance tracking. Such measures could enhance process transparency and reduce reliance on ad hoc problem-solving.

### 5.5 Contributions to Logistics Process Research

From a theoretical perspective, this study contributes to logistics process research by providing context-specific qualitative evidence on LCL/LCL import forwarding operations. While much of the existing literature focuses on optimization models or cost efficiency, the present findings highlight the organizational and procedural dynamics that shape logistics performance in practice.

Methodologically, the study demonstrates the value of qualitative case-based research in uncovering process-level constraints that may not be visible through quantitative performance indicators alone. By documenting how forwarding processes are enacted and coordinated on a day-to-day basis, the study complements existing research and deepens understanding of logistics operations in emerging market contexts.

## 6. CONCLUSION AND IMPLICATIONS

### 6.1 Conclusion

This study examined the import LCL/LCL sea freight forwarding process at Tiep Van Thuc Company through a qualitative single-case study approach. By focusing on day-to-day operational practices rather than abstract models, the research provides a detailed account of how LCL/LCL import forwarding is conducted in practice and where process-level limitations arise.

The findings indicate that the forwarding process is constrained by heavy reliance on manual documentation, strong sequential interdependence across operational stages, coordination challenges involving multiple internal and external actors, and the absence of systematic process monitoring. While these practices enable the company to manage complex import shipments under challenging conditions, they also limit efficiency, transparency, and scalability.

Taken together, the results suggest that the LCL/LCL import forwarding process at Tiep Van Thuc Company functions primarily as an experience-driven operational routine rather than a formally structured and continuously optimized process. This orientation reflects broader characteristics of logistics operations in emerging market contexts, where flexibility and problem-solving capacity often take precedence over standardized process management.

### 6.2 Theoretical Implications

From a theoretical perspective, this study contributes to the logistics and freight forwarding literature by offering context-specific qualitative insights into LCL/LCL import operations. Existing research frequently emphasizes optimization, cost

efficiency, or network design, often assuming relatively standardized and data-driven processes. The present findings challenge this assumption by demonstrating how logistics processes are shaped by documentation intensity, coordination dependencies, and organizational routines.

By conceptualizing LCL/LCL forwarding as a sequential and interdependent process rather than a set of isolated activities, the study reinforces process-oriented perspectives in logistics research. Moreover, the findings highlight the importance of qualitative case-based approaches in uncovering operational dynamics that may not be captured through quantitative performance indicators alone.

### 6.3 Managerial Implications

The findings of this study also offer several implications for managerial practice in logistics enterprises operating in emerging markets. First, the heavy reliance on manual documentation suggests the need for greater standardization of document formats and verification procedures. Even incremental improvements in documentation consistency may reduce handling time and lower the risk of errors during customs clearance.

Second, the coordination challenges observed across sequential forwarding stages highlight the importance of clearer process structuring and information sharing mechanisms. Establishing clearer handover points between stages and improving internal communication may help mitigate the propagation of delays throughout the process.

Third, the absence of systematic process monitoring underscores the potential value of basic performance tracking tools. By recording processing times and identifying recurring bottlenecks, logistics enterprises can move beyond reactive problem-solving toward more proactive process improvement.

### 6.4 Limitations and Directions for Future Research

As a qualitative single-case study, this research is subject to certain limitations. The findings are context-specific and are not intended to be statistically generalizable. Instead, they provide analytical insights that may be relevant to logistics enterprises operating under similar LCL/LCL import forwarding conditions in emerging markets.

Future research may extend this study by conducting comparative case analyses across multiple logistics firms or by integrating qualitative process analysis with quantitative performance data. Such approaches could deepen understanding of how

process standardization and digitalization initiatives influence LCL/LCL forwarding efficiency over time.

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