

Analysis of Vessel Clearance in and Clearance Out Procedures

Anita Afriani^{1✉}, Rudianto²

^{1,2}Department of Maritime Transportation Management, Faculty of Economics
Institut Bisnis dan Multimedia Asmi Jakarta, Indonesia

anitaafriani.aa@gmail.com

Abstract

This study aims to analyze the procedures for ship clearance in and clearance out services at PT Eleanor Pradana Shipping, identify operational bottlenecks, and evaluate strategic efforts to optimize service efficiency. A descriptive qualitative method was employed, utilizing primary data gathered through field observation, semi-structured in-depth interviews with key personnel on General Manager, Head of Operations, and Operational Staff, and administrative documentation. Data analysis followed the interactive model of Miles and Huberman on data reduction, data display, and conclusion drawing, supported by source, technique, and time triangulation. The findings demonstrate that clearance in and clearance out procedures strictly adhere to established Standard Operating Procedures and are fully integrated with the Ministry of Transportation's Inaportnet digital system. Digital single submission has significantly accelerated document processing and enhanced inter-agency transparency with authorities including KSOP, Customs, Immigration, and Quarantine. However, operational challenges persist, primarily driven by severe workload spikes during simultaneous vessel arrivals, sudden revisions in Estimated Time of Arrival, document discrepancies from vessel principals, and occasional system latency. Utilizing Fishbone diagram analysis across six operational dimensions (man, method, material, machine, environment, and management), the study reveals that human resource capacity and operational workload management are the dominant factors affecting service effectiveness. Strategic interventions focus on operational evaluations, clearer task allocation, enhanced inter-agency coordination, operational briefings, and real-time Inaportnet monitoring to ensure timely and efficient shipping agency services.

Keywords: Clearance In, Clearance Out, Ship Agency, Inaportnet, Service Effectiveness.

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1. Introduction

The maritime transportation sector in Indonesia has demonstrated a significant upward trend in recent years, driven by the expanding logistical distribution demands across the archipelagic territory. As a maritime nation, Indonesia relies heavily on sea transport, with over 90% of domestic cargo movement handled via maritime routes. In response to modern supply chain complexities, digital transformation initiatives at ports most notably through the implementation of the Inaportnet system have been systematically deployed to enhance operational efficiency for both vessels and cargo handling [1]. Digitalization has thus emerged as a core paradigm in optimizing port sector performance.

Ports serve as critical strategic nodes within national logistics networks. Port efficiency directly determines the fluidity of cargo flows and vessel turnaround times, thereby exerting a direct influence on national economic competitiveness. Empirical studies indicate that vessel service delays at ports substantially escalate overall logistics costs [2]. Consequently, enhancing port service delivery quality represents an urgent imperative for maritime stakeholders.

Within daily port operations, ship agency companies fulfill a vital function by acting as legal representatives of ship owners or operators in managing

administrative, regulatory, and technical requirements [11]. Shipping agents ensure that vessel handling processes strictly follow established protocols and facilitate multi-agency coordination [3]. This makes shipping agencies the primary bridge connecting vessel officers with port administration systems [12].

A cornerstone of shipping agency services is the vessel port clearance workflow, comprising clearance in (entry authorization) and clearance out (departure authorization) [6]. These mandatory regulatory milestones grant official permission for ships to anchor, dock, conduct cargo operations, and depart [7]. Successful clearance management is paramount to avoiding costly demurrage and maintaining schedules [4]. Nevertheless, port clearance involves high administrative complexity, requiring simultaneous approvals from multiple government authorities, including the Port Authority (KSOP), Customs and Excise, Immigration, and Port Health Quarantine [13].

Despite the nationwide deployment of electronic single-submission platforms like Inaportnet, operational bottlenecks in vessel clearance persist in field agency environments [14]. Issues surrounding service speed, document precision, and sudden schedule shifts frequently trigger departure delays, administrative revisions, and increased operating expenses [15]. PT Eleanor Pradana Shipping, a prominent shipping agency operating in Indonesia,

faces these dynamic operational challenges. This study addresses the research gap regarding how integrated digital platforms interact with field-level agency workflows, evaluating procedures, identifying root bottlenecks, and formulating optimization strategies to achieve seamless vessel turnaround [5].

2. Research Method

This study adopts a descriptive qualitative research methodology to gain a comprehensive, contextual understanding of ship clearance in and clearance out procedures at PT Eleanor Pradana Shipping. Qualitative inquiry is uniquely suited for examining complex administrative interactions, human decisions, and organizational workflows in natural settings [7]. The research subjects comprised key organizational actors possessing direct operational experience and specialized knowledge regarding vessel clearance services. Informants were selected using purposive sampling based on job function, administrative authority, and active involvement in clearance handling [8] [9]. Next List of Key Research Informants at PT Eleanor Pradana Shipping on Table 1.

Table 1. List of Key Research Informants at PT Eleanor Pradana Shipping

No	Informant Name	Role/Position in Company
1	M. Syaiful	General Manager (Strategic Policy & Oversight)
2	A. Choirul Niam	Head of Operations (Operational Coordination & Supervisor)
3	Dimas Adi S.	Operational Staff (Inaportnet Input & Document Verification)
4	Ari Apriliyanto	Operational Staff (Field Coordination & KSOP Liaison)
5	Anjas Giyantoro	Operational Staff (Inaportnet Monitoring & Customer Service)

Data triangulation was established using three complementary collection techniques Field Observation: Non-participatory observation of daily agency activities, document checking, data entry into Inaportnet, inter-agency liaisons, and vessel status monitoring. In-Depth Interviews: Semi-structured interviews using flexible interview guides with all five informants to capture operational nuances, bottlenecks, and management solutions. Documentation: Examination of Standard Operating Procedures (SOPs), vessel particulars, crew lists, cargo manifests, Port Clearance certificates, Sailing Approval Permits (SPB), and Inaportnet submission records.

Data was analyzed using the interactive model of [10], encompassing three continuous streams: Data Condensation (selecting, focusing, and simplifying field notes and interview transcripts), Data Display (organizing findings into structured matrices, procedural narrative flows, and analytical tables), and Conclusion Drawing and Verification. Data validity was rigorously maintained through source triangulation (cross-verifying data across multiple organizational tiers), methodological triangulation (cross-checking observations against interview disclosures and official archives), and temporal triangulation. The empirical

study was conducted at the operational headquarters of PT Eleanor Pradana Shipping from March 2026 to June 2026, encompassing proposal formulation, field data collection, analytical synthesis, and report finalization.

3. Result and Discussion

PT Eleanor Pradana Shipping is a specialized maritime shipping agency that manages end-to-end vessel servicing, document handling, port clearance, and logistics coordination [16]. Operating in a highly regulated environment, the agency serves as the legal bridge between vessel owners (principals) and port government entities, including KSOP, Customs, Immigration, and Quarantine. Standard Clearance In Procedure Workflow. Clearance in represents the mandatory entry protocol granting a vessel legal permission to enter port waters, berth, and initiate cargo or passenger operations [17]. At PT Eleanor Pradana Shipping, this procedure spans seven distinct operational phases: Receipt of Vessel Arrival Information: Operative staff receive initial arrival notices from vessel principals, detailing Vessel Name, IMO Number, Flag, Port of Origin, Estimated Time of Arrival (ETA), Cargo Manifest, and Crew List. Digital Arrival Request Submission: Operational staff log into the Ministry of Transportation's Inaportnet system to submit the Vessel Arrival Notice (PKK). Document Verification and Assembly: Staff perform rigorous pre-submission audits on all required certificates to prevent data discrepancies. Multi-Agency Verification: Inaportnet automatically distributes digital submissions to government authorities according to jurisdiction (KSOP for seaworthiness, Customs for cargo, Immigration for crew, Quarantine for health clearance). Administrative Requirement Compliance: Any flagged data errors or missing endorsements notified by the system are resolved through rapid consultation with principals. Inbound Vessel Approval & Berthing Coordination: Upon multi-agency digital endorsement, berthing plans, pilotage, tugboat services, and stevedoring schedules are synchronized with terminal operators. Berthing and Operational Execution: The vessel safely berths at the designated quay, completing the clearance in process. Next Key Administrative Documents Required for Vessel Clearance In on Table 2.

Table 2. Key Administrative Documents Required for Vessel Clearance In

Document	Administrative Function and	Issuing
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Name	Description	Authority	Document Name	Purpose and Description in Departure Workflow	Verifying Agency
Crew List	Detailed identity manifest of all active ship crew members	Ship Master / Owner	Updated Crew List	Must account for any sign-on or sign-off crew during port stay	Immigration / Agent
Cargo Manifest	Complete inventory of onboard cargo, weights, and bill of lading data	Shipping Principal	Outbound Cargo Manifest	Final tally of loaded/discharged cargo signed by master and terminal	Customs & Excise
Ship Particulars	Technical dimensions, tonnage (GT/NT), engine power, and vessel specifications	Flag State / Registry	Port Dues Clearance	Receipts confirming payment of pilotage, towage, and berth hire charges	Pelindo / Terminal
Certificate of Registry	Official document certifying vessel nationality and ownership legal status	Flag Administration	Customs Export Permit	Official customs release document authorizing vessel departure with cargo	Customs Authority
Safety Certificates	Statutory certificates confirming compliance with SOLAS & MARPOL standards	Class Society / KSOP	Quarantine Clearance	Health clearance certifying vessel sanitation and absence of contagions	Port Health Quarantine
Maritime Health Declaration	Health status attestation of crew and sanitary inspection report	Port Health Quarantine	Last Port Clearance	Clearance certificate issued by origin port presented for verification	KSOP Harbourmaster
Protection & Indemnity (P&I)	Proof of mandatory marine third-party liability insurance coverage	P&I Club / Insurer	Sailing Approval Permit (SPB)	Final statutory permit legalizing vessel departure from Indonesian waters	KSOP Harbourmaster

Standard Clearance Out Procedure Workflow. Clearance out is the final legal clearance authorizing a ship to depart port following completion of cargo operations, bunkering, and administrative settlements [18]. The standard workflow follows seven execution steps: Completion of Cargo & Operational Activities: Verification that stevedoring, bunkering, provisioning, and crew changes are fully finalized. Digital Clearance Out Submission: Submission of Departure Notice (PKK Keluar) via Inaportnet containing ETD, updated crew list, and final cargo manifest. Departure Document Verification: Rigorous checking of port fee receipts, customs outbound clearance, quarantine sign-off, and pilotage booking. Inter-Agency Review: KSOP conducts final safety audits while Customs and Immigration confirm departure clearances. Settlement of Financial & Port Dues: Ensuring all harbour dues, pilotage fees, and agency service invoices are fully settled. Issuance of Sailing Approval Permit (SPB): KSOP issues the official Surat Persetujuan Berlayar (SPB), legal prerequisite for departure. Vessel Unberthing & Port Departure: Pilotage and tugboats assist vessel unberthing and navigation out of port channels. Next Administrative Requirements for Vessel Clearance Out and SPB Issuance on Table 3.

Table 3. Administrative Requirements for Vessel Clearance Out and SPB Issuance

Analysis of Inaportnet Application Integration. Inaportnet operates under Ministry of Transportation Regulation No. PM 8/2022, serving as a single submission gateway that connects shipping agencies, port operators, KSOP, Customs, Immigration, and Quarantine. In field agency operations at PT Eleanor Pradana Shipping, Inaportnet has eliminated manual paper drop-offs, introduced real-time verification status tracking, and enhanced transparency [19]. Operational staff routinely utilize electronic modules for PKK Masuk, PKK Keluar, Berthing Requests, and SPB digital printing [20]. System latency or server maintenance occasions brief delays, but empirical analysis reveals that human resource workload peaks exert a significantly higher influence on service delays than technical platform glitches.

Fishbone Cause-and-Effect Analysis of Operational Bottlenecks. To systematically evaluate factors hindering optimal clearance performance, a Fishbone Diagram framework was deployed across six core dimensions: Human Factor (Man): Operational staff experience acute administrative task accumulation when multiple vessels arrive concurrently. Staff must simultaneously execute document checks, data entry, agency liaisons, and field vessel monitoring, leading to cognitive overload and heightened error risk during peak volume periods. Method Factor: While formal SOPs exist, task prioritization mechanisms during severe schedule compressions require greater flexibility to prevent lower-urgency tasks from delaying urgent departures. Material / Document Factor: Discrepancies between initial principal-provided documents and official vessel certificates necessitate iterative confirmation cycles, extending verification lead times. Machine / System Factor: Sporadic server slowness during peak state network traffic or scheduled maintenance momentarily slows single submission verifications. Operational Environment Factor: Dynamic marine conditions, sudden ETA revisions from vessel masters, and berth congestion in port channels force rapid rescheduling of clearance workflows. Management Factor: Resource allocation and real-time task balancing require continuous

monitoring to maintain optimal staff-to-vessel ratios during traffic spikes. Next Fishbone Analytical Matrix of Clearance Bottlenecks and Root Causes on Table 4.

Table 4. Fishbone Analytical Matrix of Clearance Bottlenecks and Root Causes

Fishbone Dimension	Identified Operational Bottlenecks and Field Causes	Impact on Clearance Efficiency
Human (Man)	Workload spikes during simultaneous vessel arrivals; concurrent data entry and field duties	Primary driver of administrative queuing and document processing delays
Method	Rigid task sequencing without dynamic priority rules during schedule compressions	Secondary delays when non-urgent tasks compete with urgent vessel departures
Material (Document)	Data discrepancies between principal pre-advice and physical ship certificates	Requires iterative re-checking and document resubmissions on Inaportnet
Machine (System)	Sporadic Inaportnet portal slowness during peak hours or system maintenance	Temporary pauses in submission verification; manageable via off-peak input
Environment	Unpredictable maritime weather, sudden ETA shifts, and port berth congestion	Forces rapid rescheduling of tug, pilotage, and clearance approval windows
Management	Static staff allocation across vessels during fluctuating port traffic volumes	Uneven workload distribution across operational team members

Optimization Strategies and Continuous Improvement. In alignment with Deming's continuous improvement paradigm, PT Eleanor Pradana Shipping has instituted a multi-pronged optimization framework: Human Resource Capacity Building: Assigning dedicated Persons in Charge (PIC) per vessel during high-traffic windows to prevent task fragmentation. Enhanced Inter-Agency Liaisons: Establishing real-time digital communication channels with KSOP and terminal dispatchers to resolve document queries immediately. Preventive Inaportnet Monitoring: Implementing round-the-clock tracking of digital submission statuses to catch missing approvals early. Standard Operating Procedure Refinement: Updating SOP guidelines periodically based on monthly post-operation debriefs and regulatory updates.

4. Conclusion

This research establishes that vessel clearance in and clearance out procedures at PT Eleanor Pradana Shipping are executed systematically in full compliance with Standard Operating Procedures (SOPs) and integrated digital Inaportnet regulations. The adoption of electronic single-submission workflows has significantly enhanced administrative transparency, accelerated inter-agency verification, and reduced paper dependency. However, service effectiveness remains subject to field operational bottlenecks, notably human resource task accumulation during simultaneous vessel arrivals, sudden ETA modifications, and document discrepancies from principals. Fishbone cause-and-effect analysis reveals that human factors and workload management are the primary determinants of service speed and accuracy.

Strategic recommendations emphasize: Implementing dynamic Person in Charge (PIC) assignments to balance operational workloads during peak arrivals, Refining pre-arrival document audit protocols with vessel owners, Strengthening real-time digital liaisons with port authorities (KSOP, Customs, Immigration, Quarantine), and Conducting continuous professional training to maintain high digital literacy and regulatory compliance among agency staff.

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