DIJDBM: Dinasti International Journal of Digital Business Management
E-ISSN: 2715-4203
P-ISSN: 2715-419X
https://dinastipub.org/DIJDBM dinasti.info@gmail.com +62 811 7404 455
DOI:https://doi.org/10.38035/dijdbm.v7i5

Pricing and Fleet Capacity Management Strategies in Response to Ticket Sales Surges During the 2026 Eid al-Fitr Peak Season: A Case Study of KM Kelud at PT PELNI

Dolby Schwazzeneger[1], Aty Herawati[2]
[1]Universitas Trilogi, Jakarta, Indonesia, diejee.dolby@gmail.com
[2]Universitas Trilogi, Jakarta, Indonesia, atyherawati@trilogi.ac.id

Corresponding Author: diejee.dolby@gmail.com[1]

Abstract: This study analyzes the pricing and fleet-capacity management strategies applied to KM Kelud by PT Pelayaran Nasional Indonesia during the 2026 Eid al-Fitr peak season. A qualitative case-study design was employed using document analysis and non-participant digital observation. The evidence comprises fare and discount documents, normal and authorized dispensation capacity data, passenger movements, sailing schedules, Eid transport publications, regulatory publications, and information from official digital channels. Data were analyzed through the interactive model of Miles, Huberman, and Saldaña using condensation, thematic grouping, display, and verification supported by source and method triangulation. The findings show that pricing is oriented toward accessibility through a 30 percent economy-class discount and requires controlled quota distribution and consistent information. Normal capacity of approximately 2,607 passengers was expanded through an authorized dispensation to approximately 3,457 passengers, subject to facilities, crew readiness, manifests, port support, and safety. The study proposes an integrated peak-season management model linking capacity validation, quota release, information synchronization, cross-functional coordination, and multidimensional evaluation.

Keyword: Pricing Strategy, Capacity Management, Peak Season, Maritime Transport.

INTRODUCTION

As an archipelagic country, Indonesia depends on maritime transport to maintain interregional connectivity while ensuring access to mobility for people with diverse economic circumstances. This requirement becomes substantially more complex during the Eid al-Fitr travel period, when passenger flows rise sharply within a short window while vessel capacity, sailing schedules, port facilities, and safety requirements cannot be expanded instantaneously. Under these conditions, transport operators must simultaneously balance public-service objectives, operational efficiency, affordability, information certainty, and safety.

PT Pelayaran Nasional Indonesia (PT PELNI) plays an important role in inter-island passenger transport. During the 2026 Eid al-Fitr Transport Period, KM Kelud served a high-demand corridor connecting Jakarta (Tanjung Priok), Batam (Batu Ampar), Tanjung Balai

Karimun, and Medan (Belawan), including the reverse direction. Research documents recorded approximately 23,771 passenger movements toward Jakarta and Belawan during the period. This level of demand indicates that peak season should not be understood merely as a period of high ticket sales; it is a managerial situation requiring rapid decisions, consistent information, and cross-functional coordination.

The first dimension is pricing. In public passenger transport, price is not only a transaction value but also a determinant of service accessibility and purchasing behavior. Kotler and Keller (2016) position price as a representation of value that influences consumer decisions. In capacity-constrained services, pricing policies also interact with seat or space availability and sales timing. Pratikto (2020) shows that pricing and capacity allocation should be considered jointly in Indonesian passenger rail services. Hetrakul and Cirillo (2014), Wang et al. (2016), and Luo et al. (2021) likewise demonstrate that allocation and booking-limit decisions shape an operator's ability to respond to uneven demand.

During the 2026 Eid al-Fitr Transport Period, a 30 percent discount on economy-class passenger ship tickets placed affordability at the center of the pricing policy. Initial KM Kelud data recorded fares of IDR 229,200 for Batam-Belawan, IDR 267,400 for Batam-Jakarta, and IDR 392,600 for Jakarta-Belawan. The discount can broaden access, but it can also accelerate quota absorption. Consequently, pricing strategy cannot be evaluated solely through nominal fares; sales windows, quota distribution, information consistency, and alternatives when preferred departures sell out are part of the same managerial decision.

The second dimension is capacity. Service capacity is perishable: unused capacity on one departure cannot be stored for another, while demand that exceeds vessel capacity cannot be served immediately. Ferry-service literature indicates that capacity adequacy, frequency, waiting time, and service level should be considered together because they influence both user welfare and operator efficiency (Mathisen & Solvoll, 2010; Jørgensen & Solvoll, 2017). Lai and Lo (2004) and Škurić et al. (2021) emphasize fleet size, allocation, routing, and scheduling in passenger ferry design, while Ahlberg et al. (2023) highlight the importance of historical data and seasonality in transportation-demand forecasting for revenue management.

KM Kelud has a normal capacity of approximately 2,607 passengers and received an authorized capacity dispensation of approximately 3,457 passengers during the 2026 Eid al-Fitr peak season. The additional capacity of about 850 passengers, or 32.6 percent, created more service space but cannot be interpreted as an automatic increase in sellable tickets. Effective capacity depends on facilities, crew readiness, safety equipment, embarkation and disembarkation processes, manifest accuracy, port conditions, and regulatory approval. Capacity optimization must therefore remain controlled and safety-oriented.

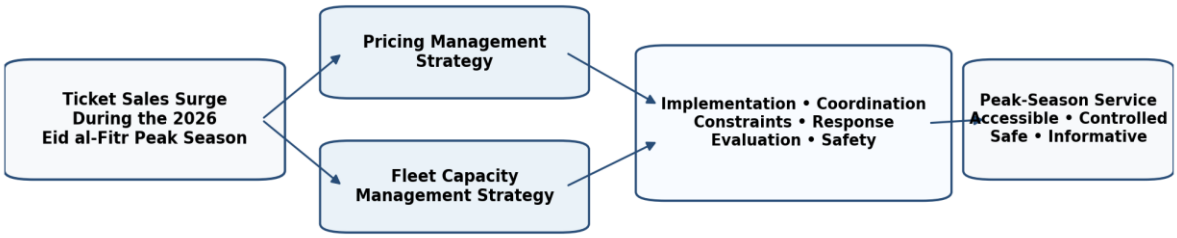
Digitalization adds a third managerial layer because it changes how passengers obtain information and purchase tickets. Digital channels can accelerate transactions and broaden access, but they also raise expectations for data consistency. Jović et al. (2022) show that maritime digitalization relies on process integration and information quality. In the PT PELNI context, Prananta and Wijaya (2020) discuss online ticket-sales strategy, Azzahra et al. (2025) find that ticket-sales digitalization contributes to service efficiency when supported by adequate infrastructure, and Balido and Setiono (2023) emphasize the importance of ticket-sales service procedures for passenger satisfaction.

Information quality, comfort, capacity, and fares are recurring dimensions in ferry-service evaluation. Mathisen and Solvoll (2010) identify fares, discounts, and peak-season capacity adequacy as important to ferry users. Mikuličić et al. (2024) show that maritime passenger-service evaluation increasingly integrates safety, reliability, comfort, and information. In Indonesia, Tarigan and Ulimaz (2020), Narti et al. (2020), and Satyadharma (2024) demonstrate that fares, service quality, facilities, and complaint handling are closely associated with user assessments of ferry services.

Indonesian maritime-transport studies have commonly examined load factor, efficiency, capacity, or passenger satisfaction as separate issues. Hidayat et al. (2024) focus on load-factor optimization in speedboat services, Hanum and Susanti (2024) describe passenger increases during the Eid travel period, Faturrahman (2024) discusses maritime-transport efficiency, and Tisman et al. (2025) demonstrate the need for fleet planning as passenger demand grows. The research gap therefore lies in understanding how pricing and capacity policies are integrated within one managerial process for a specific vessel, a major corridor, and a defined peak-season period.

Accordingly, this study treats pricing and capacity not as statistical variables whose causal relationship is tested, but as two strategic domains that interact through planning, coordination, implementation, digital information, safety control, and evaluation. The study aims to explain PT PELNI's pricing strategy for KM Kelud during the 2026 Eid al-Fitr peak season, describe how capacity is planned and managed when ticket demand surges, and analyze how pricing and capacity policies are integrated through coordination, constraint management, and evaluation.

The study addresses three questions: (1) how does PT PELNI manage KM Kelud ticket pricing during the 2026 Eid al-Fitr peak season; (2) how is KM Kelud capacity planned and managed in response to the increase in ticket sales; and (3) how are pricing and capacity policies integrated through implementation, coordination, constraint handling, and service evaluation? These three questions structure the results and discussion.



Source: Developed by the author based on the thesis research framework, 2026.

Figure 1. Conceptual Framework

METHOD

This study uses a qualitative case-study approach based on document analysis and non-participant digital observation. The unit of analysis is the managerial process through which KM Kelud pricing and fleet capacity were managed during the 2026 Eid al-Fitr peak season. A case-study design is appropriate because the object, service corridor, and research period are clearly bounded, allowing the analysis to focus on context-specific managerial decisions (Creswell & Poth, 2018). Numerical information such as fares, passenger volumes, capacity, and load factors is used as contextual evidence rather than for hypothesis testing or causal estimation.

The research context focuses on KM Kelud services associated with PT PELNI's Batam branch and the Jakarta-Batam-Tanjung Balai Karimun-Belawan corridor during the H-15 to H+15 Eid al-Fitr 2026 period. Sources were purposively selected using three criteria: direct relevance to KM Kelud or the 2026 Eid al-Fitr Transport Period; traceability to official documents or official digital channels; and relevance to fares, capacity, schedules, ticket sales, availability, or service safety.

The evidence base includes fare and discount documents, normal and authorized dispensation capacity data, passenger movement information, sailing schedules, Eid transport publications, regulatory publications, PELNI Mobile, and other official PT PELNI digital channels. The article deliberately limits its claims to documentary and digital evidence that can

be traced and reviewed. It therefore does not infer subjective passenger experiences or internal decision processes that are not reflected in the analyzed sources.

Data collection consisted of document review and non-participant digital observation. Document review was used to trace fare policies, discount periods, capacity arrangements, dispensations, schedules, and the broader Eid transport context. Digital observation focused on fares, ticket-availability status, schedules, and service-information updates. Each item of evidence was recorded according to its source, date or period, information focus, and connection to the three research questions, creating an auditable analytical trail.

Data analysis followed the interactive model of Miles, Huberman, and Saldaña (2020). Evidence was first condensed by selecting relevant information and assigning initial codes: pricing, capacity, coordination, digitalization, constraints, safety, and evaluation. Related codes were then grouped into three main themes: pricing strategy, capacity strategy, and integrated implementation and evaluation. Data were displayed in matrices and thematic narratives, and conclusions were verified by comparing evidence across sources and data-collection methods.

Credibility was strengthened through source triangulation and method triangulation. Source triangulation compared company documents, regulatory publications, contextual data, and official digital-channel information on the same theme. Method triangulation compared findings from document review with digital observation. Information supported by only one item of evidence was not treated as a final factual claim. The study also explicitly distinguishes empirical evidence, interpretation, and managerial recommendations, and uses only lawfully accessible information without disclosing personal data.

RESULTS AND DISCUSSION

Context of KM Kelud During the 2026 Eid al-Fitr Peak Season

KM Kelud serves the Jakarta-Batam-Tanjung Balai Karimun-Belawan corridor and the reverse direction, connecting areas with high levels of inter-island mobility. Research documents recorded approximately 23,771 passenger movements toward Jakarta and Belawan during the 2026 Eid al-Fitr Transport Period. The figure reflects a large concentration of demand within a short period while sailing schedules and vessel capacity remain constrained by operational capability. This context provides the basis for interpreting pricing and capacity decisions as a single peak-season management issue.

From a capacity perspective, KM Kelud operates with a normal capacity of approximately 2,607 passengers and received an authorized dispensation to approximately 3,457 passengers. The additional capacity of about 850 passengers, or 32.6 percent, expands the service envelope but is not equivalent to an automatically safe increase in ticket inventory. Its operational value depends on facilities, crew readiness, safety equipment, manifest accuracy, embarkation and disembarkation processes, and the ability of ports to absorb higher passenger flows.

From a pricing perspective, the 30 percent discount on economy-class tickets confirms an accessibility orientation. The policy can reduce passengers' travel costs but may also accelerate quota absorption on preferred routes and departure dates. Pricing and capacity must therefore be interpreted together. A commercial policy that widens access must remain within effective-capacity limits and be supported by consistent information so that the benefits of the discount do not translate into service uncertainty.

Table 1. Contextual Data of KM Kelud During the 2026 Eid al-Fitr Peak Season

Aspect	Contextual Data	Managerial Meaning
Service corridor	Jakarta-Batam-Tanjung Balai Karimun-Belawan and the reverse direction	Requires coordination across branches, vessel operations, ports, and schedules.

Aspect	Contextual Data	Managerial Meaning
Passenger movements	Approximately 23,771 passengers toward Jakarta and Belawan	Large demand is concentrated within a short period.
Normal capacity	Approximately 2,607 passengers	Baseline for ticket inventory and service planning.
Authorized dispensation capacity	Approximately 3,457 passengers	Adds about 850 passengers or 32.6%; requires operational-readiness validation.
Fare policy	30% discount on economy-class tickets	Improves accessibility while increasing pressure on limited quotas.
Sales channels	Ticket counters and official digital channels, including PELNI Mobile	Broadens purchasing access and increases the need for timely information updates.

Source: Processed from thesis research documents and PT PELNI contextual data, 2026.

Ticket Pricing Strategy: Accessibility, Distribution, and Information

Document analysis indicates that KM Kelud's pricing strategy differs from dynamic pricing systems that fully follow short-term demand fluctuations. Fares operate within a public-service and regulatory framework; the primary orientation is therefore to maintain affordability while distributing access to limited capacity in an orderly manner. The 30 percent economy-class discount strengthens the social function of pricing, but it also increases the importance of sales timing, quota control, and information management when demand is highly concentrated.

Fares vary by service segment: IDR 229,200 for Batam-Belawan, IDR 267,400 for Batam-Jakarta, and IDR 392,600 for Jakarta-Belawan. These values must be interpreted together with route, class, schedule, policy period, and ticket-availability status. From a service-management perspective, consistency across applications, websites, ticket counters, and staff explanations is part of pricing strategy because inconsistent information may be perceived as a fare change or unequal treatment even when the underlying cause is a different route, schedule, or quota status.

During peak season, the opening of sales and the release of quotas serve a distributive function. Capacity on a multiport passenger vessel is used by passengers with different origin-destination combinations; releasing all inventory without considering travel segments may reduce access for passengers boarding at subsequent ports. Revenue-management literature treats booking limits and capacity allocation as important instruments when demand is stochastic (Wang et al., 2016; Luo et al., 2021). In a public-service context, the same principle is relevant not for increasing prices, but for managing equitable access to constrained capacity.

Pratikto (2020) shows that pricing and capacity allocation should be treated as integrated decisions in passenger transportation. Hetrakul and Cirillo (2014) similarly demonstrate that booking patterns and user heterogeneity influence allocation decisions. For KM Kelud, a more appropriate logic is to combine regulated fares with a sales calendar, quota allocation by segment, alternative sailing options, and transparent availability information. This approach maintains the public-service orientation while reducing the risk of demand being concentrated at a single point in time.

These documentary findings provide a different context from Hidayat et al. (2024), who examine load-factor optimization when transport capacity is not fully utilized. KM Kelud during Eid al-Fitr 2026 faced high demand and relatively inflexible capacity. Accordingly, pricing-policy success should not be measured only through ticket sales; it should also be assessed through the distribution of quota absorption, the speed of information updates, and the availability of clear alternatives when specific departures are full.

The service implications are consistent with Tarigan and Ulimaz (2020), Balido and Setiono (2023), and Mikuličić et al. (2024), who position price, procedures, information, and service quality as parts of the user experience. For KM Kelud, pricing-strategy evaluation should combine transaction indicators with information consistency, quota-absorption patterns, cancellations, passenger inquiries, and complaint categories. Price is therefore best understood as an accessibility instrument whose effectiveness depends on distribution governance and communication quality.

Table 2. Analysis of the Ticket Pricing Strategy

Dimension	Observed Practice	Objective	Risk to Control
Policy basis	Public-service fares and government discount	Travel accessibility	Errors in eligibility, route, or policy period
Route-based fares	Fares differ by travel segment	Alignment with route and service distance	Passenger misunderstanding
Sales timing & quota distribution	Quotas allocated by schedule and travel segment	More balanced access to limited capacity	Preferred departures selling out too quickly
Fare communication	Application, website, counters, service center, and staff	Information certainty	Inconsistent information across channels
Evaluation	Reconcile fares, transactions, quotas, cancellations, and complaints	Assess policy consistency	Fragmented evaluation that obscures root causes

Source: Processed by the author from the research data, 2026.

Capacity Management: From Nominal Capacity to Effective Capacity

The normal capacity of approximately 2,607 passengers serves as KM Kelud's planning baseline, while the authorized dispensation to approximately 3,457 passengers provides additional room to respond to the demand surge. However, nominal capacity and effective capacity are different concepts. Nominal capacity defines the permitted numerical limit, whereas effective capacity represents the system's actual ability to serve passengers with adequate facilities, crew, port processes, manifests, minimum comfort, and safety.

Ferry-service literature supports this distinction. Mathisen and Solvoll (2010) identify peak-season capacity adequacy as an important component of service quality, while Jørgensen and Solvoll (2017) link capacity to vessel size, travel time, boarding and disembarkation efficiency, and frequency. Lai and Lo (2004) and Škurić et al. (2021) position fleet size, routing, scheduling, and demand as decisions that should be analyzed jointly. An increase in the authorized numerical limit is therefore meaningful only when the broader operational system can support it.

For KM Kelud, the dispensation should be treated as conditional capacity. Before it is translated into sellable ticket inventory, the additional capacity should be validated against facilities, crew readiness, safety equipment, embarkation and disembarkation processes, and port support. This implication shifts the orientation from sales maximization toward controlled optimization. Maximization seeks to sell as many places as possible, whereas optimization balances demand absorption with service capability and safety risk.

Capacity allocation should also account for the multiport structure of the voyage. A single onboard place can be used across different trip segments, so origin-destination quota distribution affects the operator's ability to serve passengers at subsequent ports. This logic is

consistent with seat-inventory control in passenger transport, where capacity is allocated by product and origin-destination pair (Hetrakul & Cirillo, 2014; Wang et al., 2016). In public services, the objective is to reduce unused capacity while preventing one segment from absorbing an excessive share of available inventory.

Historical sales and booking patterns are important inputs for quota release. Ahlberg et al. (2023) emphasize the selection of relevant historical data for transportation-demand prediction, while Hanum and Susanti (2024) show that maritime passenger flows change markedly during the Eid period. For KM Kelud, evaluation by route and departure across the H-15 to H+15 window can identify peak dates, cancellation patterns, booking lead times, and the highest-demand segments. Such evidence can improve the precision of future peak-season planning.

Tisman et al. (2025) show that growing ferry demand may create a gap between passenger needs and available fleet capacity. The KM Kelud case expands this discussion by showing that the capacity response is not only quantitative but also regulatory and operational. Capacity increases require disciplined manifest control, service readiness, and safety oversight. Capacity performance should therefore be assessed using load levels, compliance with authorized limits, service time, complaints, operational incidents, and safety records.

Table 3. Analysis of Fleet Capacity Management

Dimension	Decision/Practice	Main Consideration	Evaluation Indicator
Baseline capacity	Approximately 2,607 passengers	Seaworthiness, facilities, and space configuration	Manifest accuracy, occupancy, and operational flow
Authorized dispensation	Up to approximately 3,457 passengers	Regulatory approval and safety readiness	Compliance with dispensation terms and avoidance of overcapacity
Route allocation	Quota allocation by travel segment and departure	Origin-destination demand patterns	Segment utilization and minimized unused capacity
Operational readiness	Crew, facilities, embarkation, service, and safety	Effective rather than merely nominal capacity	Service time, complaints, incidents, and compliance

Source: Processed by the author from the research data, 2026.

Integration of Pricing, Capacity, Coordination, and Digital Information

The central finding is that pricing and capacity form one chain of decisions. A discount broadens access and can accelerate ticket absorption; higher absorption then increases the need for vessel, crew, facility, port, and manifest readiness. Conversely, effective-capacity limits determine how far additional quota can be released. This two-way relationship shows why commercial decisions cannot be separated from operational decisions during a peak-demand period.

Integration should begin before ticket sales open. Commercial and ticketing functions require validated schedules and capacity, while operations require demand projections and sales data to prepare facilities and services. Customer service needs consistent information to respond to passenger questions, while the vessel and port teams require accurate manifests and schedule-change information to manage passenger flows. Managerially, these functions need a shared data basis so that decisions do not proceed in isolation.

Effective coordination requires three elements: clear decision authority, rapid information updating, and an escalation pathway. Clear authority determines who may change quotas or

schedules; rapid updates prevent passenger information from lagging behind operational changes; and escalation ensures that issues beyond front-line authority are quickly transferred to the responsible unit. Together, these elements transform coordination from simple message exchange into an operational-control mechanism.

Digitalization functions as both an enabler and a source of risk. Jović et al. (2022) explain that maritime digital transformation requires process integration and information governance. Prananta and Wijaya (2020) emphasize the role of online sales systems, while Azzahra et al. (2025) identify efficiency benefits from digital ticketing. For KM Kelud, these benefits are strongest when fares, schedules, quotas, cancellations, and departure status are derived from the same data source and updated consistently across all channels.

Inconsistent status across channels increases passengers' information-search costs and may reduce perceived transparency. Digital-channel quality should therefore be evaluated not only by whether a transaction can be completed, but also by synchronization speed, update timestamps, alternative schedule information, and complaint-handling mechanisms. This principle is consistent with Balido and Setiono (2023), who position ticket-sales procedures as an important part of passenger service experience.

Peak-season service quality must also incorporate safety and comfort. Mikuličić et al. (2024) emphasize the multidimensional nature of maritime passenger-service quality, while Narti et al. (2020) and Satyadharma (2024) show the importance of facilities, procedural certainty, and complaint handling. High ticket sales or a high load factor cannot therefore function as stand-alone performance measures; performance should also be read through manifest accuracy, smooth embarkation, facility readiness, information speed, and safety records.

Based on this synthesis, the managerial implication is a cross-functional peak-season control mechanism that integrates commercial, capacity, operations, customer-service, and safety information. This mechanism is proposed as a recommendation derived from the evidence and literature rather than presented as an existing internal PT PELNI practice. Ideally, every quota or schedule change should have a documented decision basis, update time, responsible person, and assessment of its effect on other routes or departures.

Operational Constraints, Organizational Response, and Evaluation

The main peak-season constraint is the mismatch between the speed of demand growth and the operator's ability to expand service. Demand is concentrated on particular dates, whereas a vessel cannot increase capacity freely. As a result, tickets may be absorbed quickly, quota status may change within short intervals, and information needs rise at the same time. These conditions require disciplined information updates and capacity validation so that responses to demand pressure do not create new operational risks.

Relevant short-term responses include rapid status updates, releasing additional quota only after capacity validation, deploying more staff at crowded service points, providing alternative departures, and escalating issues that cannot be resolved at the front line. To support organizational learning, each response should be recorded by issue, decision, time, responsible function, and result. Such records help distinguish isolated incidents from recurring patterns.

Peak-season evaluation should not rely solely on the number of tickets sold. A more comprehensive set of indicators includes load factor by segment, manifest accuracy, information-update speed, cancellations, complaint categories, response time, embarkation flow, facility readiness, and safety records. This multidimensional approach is consistent with Mathisen and Solvoll (2010) and Mikuličić et al. (2024), who treat capacity, fares, information, comfort, and reliability as interconnected dimensions of the service experience.

Faturrahman (2024) identifies cost, time, capacity, infrastructure, and safety as elements of maritime-transport efficiency. In the KM Kelud case, these elements need to be interpreted through process interdependence. Sold-out tickets, for example, cannot be explained by high

demand alone; the analysis should also consider sales-opening time, quota distribution, alternative departures, and capacity by travel segment. Likewise, port congestion should be read together with manifest conditions, staff readiness, and operational changes. Cross-functional analysis helps make root causes more visible.

Organizational learning becomes stronger when evaluation is translated into measurable actions. Each issue should be assigned an owner, deadline, completion indicator, and follow-up action for the next peak season. In this way, the 2026 Eid al-Fitr experience can improve demand forecasting, quota-release patterns, validation of additional capacity, facility readiness, passenger communication, and cross-functional coordination in subsequent peak seasons.

Table 4. Triangulation Matrix and Evidence Boundary

Theme	Sources/Techniques	Cross-Check Focus	Evidence Status
Pricing strategy	Fare/discount documents; official digital channels; transaction information	Fare values, discount period, information consistency, quota status	Supported by documentary evidence; direct passenger experience requires interview confirmation.
Capacity strategy	Capacity/dispensation documents; schedules; contextual data	Normal capacity, authorized dispensation, operational readiness, safety	Supported by capacity evidence; detailed approval processes require internal documentation.
Coordination & digitalization	Cross-functional information reflected in schedules, quotas, and official channels	Alignment of quotas, schedules, manifests, and updates	Patterns can be analyzed; internal coordination mechanisms require informant evidence.
Service evaluation	Sales, load factors, complaints, manifests, and safety information	Accessibility, efficiency, quality, and risk	An evaluation framework is established; detailed daily data and complaint recaps remain incomplete.

Source: Processed by the author based on the research design and available evidence, 2026.

Theoretical and Managerial Interpretation

Theoretically, the study indicates that revenue management in public services does not have to be synonymous with dynamic pricing. When fares are shaped by regulation and accessibility objectives, demand can be managed through sales calendars, segment-based quota allocation, alternative departures, and transparent availability information. This finding is consistent with capacity-allocation logic in passenger transportation (Pratikto, 2020; Wang et al., 2016; Luo et al., 2021), while adding public-service accessibility and safety as explicit decision boundaries.

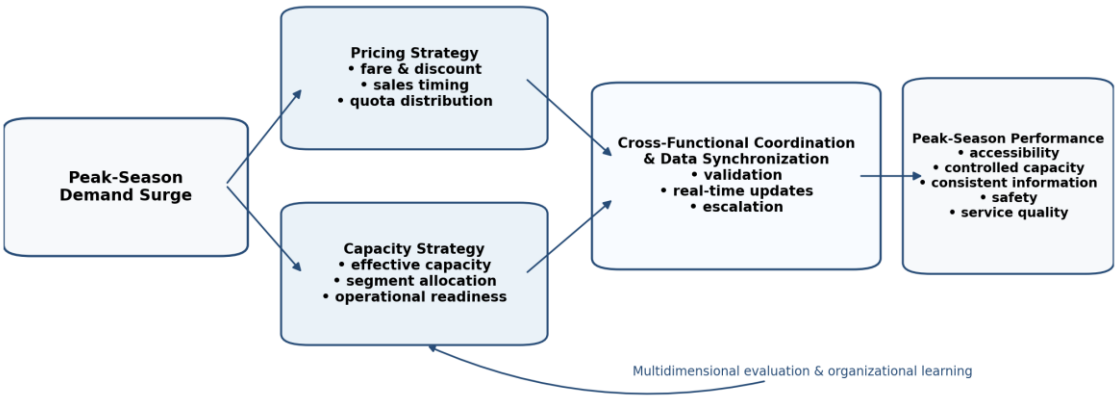
The second contribution is the distinction between nominal and effective capacity. Nominal capacity provides a numerical ceiling; effective capacity reflects the ability of the entire service system to accommodate passengers with adequate facilities, crew, port processes, manifests, and safety. Ferry-capacity literature supports the need to integrate demand, schedules, routes, and resources (Lai & Lo, 2004; Jørgensen & Solvoll, 2017; Škurić et al., 2021). The KM Kelud case indicates that authorized capacity dispensation should become ticket inventory only after operational validation.

The third contribution concerns information quality. Affordable fares do not fully create access if passengers cannot obtain consistent information about schedules and availability. This

is consistent with Tarigan and Ulimaz (2020), Narti et al. (2020), and Jović et al. (2022), who emphasize service quality and information integration. Digitalization should therefore be understood as coordination infrastructure rather than merely a transaction channel.

The main novelty lies in positioning coordination and data synchronization as the mechanism linking pricing and capacity. Previous studies often optimize fares or capacity mathematically, measure load factors, or assess satisfaction. This article develops an integrative model in which commercial and operational decisions produce consistent service only when capacity is validated before quota release, data are updated from a common source, changes have an escalation pathway, and evaluation combines accessibility, capacity, information quality, and safety indicators.

Practically, the model can be translated into a cross-functional peak-season control mechanism. Its components include capacity validation, a quota-release calendar, a daily information dashboard, clear ownership of changes, an escalation path, and post-operation evaluation. The dashboard may integrate fares, quotas, ticket sales, occupancy, schedules, manifests, complaints, and operating conditions. This recommendation is a managerial implication of the analysis rather than a claim that the same mechanism is already implemented internally by PT PELNI.



Source: Developed by the author from the synthesis of research findings, 2026.

Figure 2. Integrated Peak-Season Management Model for KM Kelud

CONCLUSION

The first research question is answered by showing that KM Kelud's pricing strategy during the 2026 Eid al-Fitr peak season was oriented toward affordability as part of a public-service mandate. The 30 percent economy-class discount widened access, but its effectiveness depended on sales-opening time, quota distribution by route and schedule, information consistency, and alternatives when preferred departures were sold out. Price therefore functions not only as a transaction value but also as an accessibility instrument that requires disciplined distribution and communication governance.

The second research question is answered by distinguishing the normal capacity of approximately 2,607 passengers and the authorized dispensation of approximately 3,457 passengers from effective capacity. The additional capacity of about 32.6 percent provides flexibility to respond to the demand surge, but it can be used responsibly only when facilities, crew readiness, manifests, embarkation and disembarkation processes, port support, and safety conditions are adequate. Capacity strategy should therefore prioritize controlled optimization rather than maximizing the number of tickets sold.

The third research question shows that integration between pricing and capacity depends on cross-functional coordination and information synchronization. Commercial decisions influence operational pressure, while effective-capacity limits determine how much quota can

be released. The proposed integrative model places capacity validation, quota-release calendars, a common data source, timely information updates, escalation pathways, and multidimensional evaluation within one peak-season control sequence. Performance should be assessed not only through ticket sales or load factors, but also through manifest accuracy, information quality, service flow, and safety.

The study extends the application of revenue-management thinking to public maritime transport by showing that demand can be managed through capacity allocation, sales timing, and information transparency without relying on dynamic pricing. Practically, the proposed model can inform cross-functional peak-season control. The study is limited to one vessel and one period, lacks a complete daily dataset by route, and does not yet incorporate direct perspectives from operational staff and passengers. Future research should combine multi-stakeholder interviews with detailed daily data to test decision processes, user experience, and the practical effectiveness of the proposed model.

REFERENCE

Ahlberg, E., Mirkina, I., Olsson, A., Söyland, C., & Carlsson, L. (2023). On the selection of relevant historical demand data for revenue management applied to transportation. Journal of Revenue and Pricing Management, 22, 266–275. https://doi.org/10.1057/s41272-022-00371-0

Azzahra, R. R., Ayuningrum, L. Y., Marlita, D., & Hernawan, M. A. (2025). The effect of online ship ticket sales implementation and infrastructure development at the port on service quality improvement at PT. PELNI. Jurnal Ilmu Multidisiplin, 3(4), 486–496. https://doi.org/10.38035/jim.v3i4.2105

Balido, A. Z. S., & Setiono, B. A. (2023). Analysis of ship ticket sale service procedures for passenger satisfaction at PT. Pelayaran Nasional Indonesia (PELNI) Surabaya Branch. Jurnal Aplikasi Pelayaran dan Kepelabuhanan, 13(2), 76–88. https://doi.org/10.30649/japk.v13i2.92

Creswell, J. W., & Poth, C. N. (2018). Qualitative inquiry and research design: Choosing among five approaches (4th ed.). SAGE Publications.

Faturrahman, R. (2024). Analisis efisiensi transportasi laut dalam pengiriman barang dan penumpang [Analysis of maritime transportation efficiency in cargo and passenger transport]. Jurnal Ilmiah Wahana Pendidikan, 10(24), 535–543.

Hanum, S., & Susanti, A. (2024). Analisis load factor penumpang angkutan laut Lebaran tahun 2023 dengan perbandingan total penumpang tahun 2022 di Gapura Surya Nusantara [Load-factor analysis of Eid maritime passengers in 2023 compared with total passengers in 2022 at Gapura Surya Nusantara]. Jurnal Media Publikasi Terapan Transportasi, 2(1), 41–48. https://doi.org/10.26740/mitrans.v2n1.p41-48

Hetrakul, P., & Cirillo, C. (2014). A latent class choice based model system for railway optimal pricing and seat allocation. Transportation Research Part E: Logistics and Transportation Review, 61, 68–83. https://doi.org/10.1016/j.tre.2013.10.005

Hidayat, N., Zakina, Fatma, W., & Restiana, T. (2024). Analisis load factor dan optimalisasi kapasitas angkutan speedboat CV Sinar Jaya Samudra rute Nunukan-Sebuku [Load-factor analysis and capacity optimization of CV Sinar Jaya Samudra speedboat services on the Nunukan-Sebuku route]. Jurnal Media Akademik, 2(12). https://doi.org/10.62281/v2i12.1149

Jović, M., Tijan, E., Brčić, D., & Pucihar, A. (2022). Digitalization in maritime transport and seaports: Bibliometric, content and thematic analysis. Journal of Marine Science and Engineering, 10(4), 486. https://doi.org/10.3390/jmse10040486

Jørgensen, F., & Solvoll, G. (2017). Designing capacity and service level at ferry crossings. Transportation Research Procedia, 26, 215–223. https://doi.org/10.1016/j.trpro.2017.07.022

Kotler, P., & Keller, K. L. (2016). Marketing management (15th ed.). Pearson.

Lai, M. F., & Lo, H. K. (2004). Ferry service network design: Optimal fleet size, routing, and scheduling. Transportation Research Part A: Policy and Practice, 38(4), 305–328. https://doi.org/10.1016/j.tra.2003.08.003

Luo, Y., Yan, H., & Zhang, S. (2021). An interactive booking-limit control for passenger railway revenue management. Journal of Rail Transport Planning & Management, 20, 100270. https://doi.org/10.1016/j.jrtpm.2021.100270

Mathisen, T. A., & Solvoll, G. (2010). Service quality aspects in ferry passenger transport: Examples from Norway. European Journal of Transport and Infrastructure Research, 10(2), 142–157. https://doi.org/10.18757/ejtir.2010.10.2.2879

Mikuličić, J. Ž., Kolanović, I., Jugović, A., & Brnos, D. (2024). Evaluation of service quality in passenger transport with a focus on liner maritime passenger transport-A systematic review. Sustainability, 16(3), 1125. https://doi.org/10.3390/su16031125

Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). Qualitative data analysis: A methods sourcebook (4th ed.). SAGE Publications.

Narti, N., Setiono, B. A., & Hardjono, H. (2020). The effect of service quality on KMP Tongkol passenger satisfaction at Ujung-Kamal Port PT. ASDP Indonesia Ferry (Persero) Surabaya Branch. Jurnal Aplikasi Pelayaran dan Kepelabuhanan, 10(2), 151–158. https://doi.org/10.30649/japk.v10i2.17

Prananta, W., & Wijaya, A. P. (2020). Business environment strategy: Is sale through online system important? A SWOT analysis approach. Indonesian Management and Accounting Research, 19(1), 1–16. https://doi.org/10.25105/imar.v19i1.6366

Pratikto, F. R. (2020). A practical approach to revenue management in passenger train services: A case study of the Indonesian railways Argo Parahyangan. Journal of Rail Transport Planning & Management, 13, 100161. https://doi.org/10.1016/j.jrtpm.2019.100161

PT Pelayaran Nasional Indonesia (Persero). (2026). Dokumen dan publikasi Angkutan Lebaran 2026 [2026 Eid al-Fitr transport documents and publications].

Satyadharma, M. (2024). Analisis tingkat kepuasan penumpang terhadap kualitas layanan di Pelabuhan Feri Kendari-Wawonii [Analysis of passenger satisfaction with service quality at Kendari-Wawonii Ferry Port]. Bandar: Journal of Civil Engineering, 6(1), 9–15. https://doi.org/10.31605/bjce.v6i1.3369

Škurić, M., Maraš, V., Davidović, T., & Radonjić, A. (2021). Optimal allocating and sizing of passenger ferry fleet in maritime transport. Research in Transportation Economics, 90, 100868. https://doi.org/10.1016/j.retrec.2020.100868

Tarigan, Y., & Ulimaz, P. M. (2020). The effect of service quality on customer satisfaction: A case study on passenger ferry route Batam-Tanjung Pinang. Journal of Applied Business Administration, 4(2), 221–226. https://doi.org/10.30871/jaba.v4i2.2103

Tisman, Kundrad, H., Sayfullah, M., Agusman, & Kasturi, R. (2025). Analisis kebutuhan kapal ferry di Pelabuhan Ferry Tomia Kabupaten Wakatobi [Analysis of ferry-vessel requirements at Tomia Ferry Port, Wakatobi Regency]. SCEJ (Shell Civil Engineering Journal), 10(1), 82–91. https://doi.org/10.35326/scej.v10i1.7797

Wang, X., Wang, H., & Zhang, X. (2016). Stochastic seat allocation models for passenger rail transportation under customer choice. Transportation Research Part E: Logistics and Transportation Review, 96, 95–112. https://doi.org/10.1016/j.tre.2016.10.003.