

Digital Ticketing Service Quality and Passenger Repurchase Intention at Merak Ferry Port, Indonesia: Evidence from a Mandated E-Ticketing Setting

Heru Maryanto¹, Fauhidzi Zulistian², Syairi Anwar^{3*}, Yollanda Octavitri⁴
Banten Maritime Polytechnic, Tangerang, Indonesia

Corresponding Author: Syairi Anwar syairi2022@gmail.com

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ABSTRACT

Electronic ticketing has been mandatory on the Merak-Bakauheni ferry crossing since 2020, so that continued use cannot be read as evidence of passenger satisfaction under this compelled-use condition – the problem this study addresses. Its objective was to determine whether perceived digital ticketing service quality predicts passengers' repurchase intention despite the absence of choice, and to identify which service dimension carries the greatest risk to that disposition. A quantitative survey design was employed with 50 passengers at Merak Ferry Port selected by purposive sampling on the criterion of at least two prior uses of the digital service, data being collected between August and September 2025 using a 15-item five-point Likert instrument. The highest-rated item was time efficiency and the lowest was freedom from technical disruption, a pairing which locates the principal risk to voluntary continuance in system reliability rather than in usability. The findings indicate that in a mandated setting, service quality operates upon willingness rather than upon behaviour, and that this willingness is contingent upon reliability that the present system does not yet fully deliver.

INTRODUCTION

Sea transport constitutes a backbone of the movement of people and goods across the Indonesian archipelago, and the Merak-Bakauheni crossing is among its most heavily loaded arteries, serving as the principal gateway between Java and Sumatra. Passenger and vehicle volumes on the route rise sharply during extended holidays, the annual homeward migration, and periods of intensified logistics activity. For many years ferry ticketing at Merak Ferry Port was associated with prolonged queues, crowding, and the discomfort attending both.

The digitalisation of ticketing was introduced in response. Through official applications, websites, and partnerships with third-party platforms, passengers may now purchase tickets and complete manifest data before arriving at the port. In the Indonesian case the transition was not gradual but mandated: electronic ticketing has been compulsory on the Merak-Bakauheni crossing since 2020, and purchase at the counter is no longer generally available. This regulatory fact defines the setting of the present study and distinguishes it from the great majority of the literature on digital ticketing adoption.

That literature has developed principally around voluntary adoption. Mallat et al. (2006) investigated the adoption of mobile ticketing in public transport, Cheng and Huang (2013) examined the adoption of mobile ticketing among high-speed rail passengers, and Di Pietro et al. (2015) developed an integrated model of mobile payment acceptance applied to public transport. More recently, Chen et al. (2022) analysed the factors bearing upon the use of mobile ticketing applications from the standpoint of innovation resistance theory, and Wani et al. (2025) examined digital payment adoption in the public transport of developing cities. In each of these settings the passenger retains the option of declining the digital channel, so that observed use may reasonably be treated as evidence of acceptance.

Where use is compulsory, that inference no longer holds. A passenger who continues to use a mandated system reveals nothing about satisfaction, because the alternative has been removed. What remains meaningful under such conditions is not behaviour but disposition: whether the passenger would choose the service again, whether they would recommend it to others, and whether the experience has generated attachment to the operator. These constitute repurchase intention in the sense established by Oliver (1999), and they retain diagnostic value precisely because they are not compelled.

The theoretical basis for expecting perceived service quality to bear upon that disposition is well established. Parasuraman et al. (2005) developed the E-S-QUAL scale for the assessment of electronic service quality, identifying efficiency, fulfilment, system availability and privacy as its principal dimensions, a structure subsequently refined into a hierarchical model by Blut (2016). The meta-analytic review of Blut et al. (2015) confirms the association between electronic service quality and behavioural outcomes across a substantial body of studies, and Rita et al. (2019) demonstrate the chain running from electronic service quality through satisfaction to customer behaviour. Within Indonesia, Nuralam et al. (2024) show perceived ease of use, perceived usefulness and satisfaction to operate as drivers of repurchase intention in electronic commerce.

Evidence from the ferry sector specifically remains thinner. Mathisen and Solvoll (2010) examined service quality in Norwegian ferry passenger transport, and the systematic review of Mikulicic et al. (2024) maps the evaluation of service quality in liner maritime passenger transport more broadly. Sitzimis (2024) assessed service quality and passenger satisfaction on Cretan coastal routes, and Nha and Kim (2025) examined satisfaction with the walking environment at a Korean ferry terminal. Within Indonesia, Tarigan and Ulimaz (2020) analysed the effect of service quality upon passenger satisfaction on the Batam-Tanjung Pinang ferry route. None of these studies addresses the digital ticketing interface, and none addresses a setting in which its use is mandated.

Three questions accordingly guided the present study: how the digitalisation of ticketing at Merak Ferry Port is perceived by those who use it; what level of repurchase intention passengers report; and whether perceived service quality predicts that intention. The contribution lies in supplying evidence from a mandated rather than a voluntary setting, a condition under which the relationship between perceived quality and continuance disposition has received little empirical attention, and in identifying which dimension of the service carries the principal risk to that disposition.

THEORETICAL REVIEW

Electronic Service Quality

Electronic service quality denotes the extent to which a digital channel facilitates the efficient and effective completion of a transaction. Parasuraman et al. (2005) established the E-S-QUAL scale for its measurement, distinguishing efficiency, fulfilment, system availability and privacy as core dimensions, together with a recovery scale addressing responsiveness, compensation and contact. Blut (2016) subsequently developed a hierarchical model organising the construct into higher-order dimensions, and Blut et al. (2015) synthesised the accumulated evidence meta-analytically, confirming the association between electronic service quality and customer outcomes across contexts.

Empirical applications across sectors reinforce the pattern. Al-dweeri et al. (2019) demonstrated the effect of electronic service quality upon electronic loyalty in online retailing, and Khan et al. (2019) established the sequence running from electronic service quality through electronic satisfaction to electronic loyalty. Raza et al. (2020) applied a modified e-SERVQUAL model to internet banking, and Gautam and Sah (2023) examined the same relationships in a South Asian developing-country setting. Nguyen and Uong (2024) confirmed the effect of electronic service quality upon satisfaction and trust among younger consumers.

The present study operationalises service quality through five dimensions derived from this tradition and adapted to the ticketing context: efficiency, reliability, security, convenience and trust. The adaptation follows the practice, established across the studies cited, of retaining the conceptual core of E-S-QUAL while adjusting its indicators to the transaction under study.

Repurchase Intention and Continuance

Repurchase intention denotes the consumer's willingness to acquire the same service again on the basis of prior experience. Oliver (1999) locates it within a broader account of loyalty, arguing that consistent satisfaction generates a disposition towards continued patronage that precedes and predicts actual repurchase. Within information systems, Bhattacharjee (2001) developed the expectation-confirmation model of continuance, in which confirmation of prior expectation drives satisfaction, which in turn drives the intention to continue using a system; Ambalov (2018) subsequently evaluated the model meta-analytically.

Empirical work has established the antecedents of the construct with reasonable consistency. Trivedi and Yadav (2020) identified trust and electronic satisfaction as mediators of repurchase intention, and Miao et al. (2021) demonstrated the influence of satisfaction, trust and perceived value upon repurchase intention in business-to-consumer commerce. Iffan et al. (2024) established the mediating role of trust and satisfaction in the relationship between electronic service quality and repurchase intention, and Dandis et al. (2026) confirmed that mediation while adding electronic word of mouth as a parallel pathway.

This body of work is nevertheless developed almost entirely within voluntary settings, in which the intention to repurchase and the act of repurchasing stand in close correspondence. The theoretical interest of a mandated setting lies precisely in the severance of that correspondence, which is examined further below.

Technology Acceptance and Mobile Ticketing

The acceptance of digital ticketing has been examined predominantly through the technology acceptance tradition. Davis (1989) established perceived usefulness and perceived ease of use as determinants of acceptance, and Venkatesh et al. (2003) unified the competing models into the UTAUT framework, subsequently extended to consumer contexts (Venkatesh et al., 2012). Applications to ticketing are numerous. Mallat et al. (2006) investigated mobile ticketing adoption in public transport empirically, and Cheng and Huang (2013) examined it among high-speed rail passengers. Brakewood et al. (2014) forecast mobile ticketing adoption on commuter rail, Fontes et al. (2017) examined mobile payment adoption in public transport, and Di Pietro et al. (2015) proposed an integrated acceptance model for the same domain. Chen et al. (2022) approached the question from the standpoint of innovation resistance, identifying the barriers rather than the drivers of use, and Owusu-Agyemang et al. (2024) examined adoption and impact among bus riders.

The operational benefits of the transition are documented independently of perception. Fernandez et al. (2010) and Tirachini (2011) established the effect of fare collection method upon bus dwell time, demonstrating that the substitution of digital for cash payment reduces boarding duration measurably. Wani et al. (2025) examined digital payment adoption in developing cities with attention to the mediating role of mode choice. These findings supply the

operational rationale for mandating the digital channel, but they concern throughput rather than disposition.

Ferry Passenger Service Quality

Research on service quality in ferry transport has concentrated upon the voyage and the terminal rather than upon the ticketing interface. Mathisen and Solvoll (2010) examined service quality aspects in Norwegian ferry passenger transport, and Mikulicic et al. (2024) reviewed the field systematically with attention to liner maritime passenger transport. Sitzimis (2024) assessed quality and satisfaction on Cretan coastal routes, and Nha and Kim (2025) examined the walking environment at a Korean ferry terminal.

Indonesian evidence is accumulating but remains localised. Tarigan and Ulimaz (2020) analysed the effect of service quality upon satisfaction on the Batam-Tanjung Pinang route, Ginting et al. (2019) examined service standards at Kolaka ferry port, and Malik et al. (2026) and Pratiwi et al. (2026) have more recently examined satisfaction and loyalty among ferry passengers in East Java and Batam respectively. None addresses digital ticketing as the object of evaluation.

Port Digitalisation and Operational Performance

The digitalisation of ports has been examined chiefly from the standpoint of operational performance. Behdani (2023) proposed a conceptual model of smart port digitalisation, Belcore et al. (2023) developed a framework for assessing port efficiency through connected vehicles and digital infrastructure, and Eom et al. (2023) and Kastner et al. (2024) examined digital twin applications in terminal operations. Zhang et al. (2016) modelled vehicle waiting queues at ferry terminals, and Guolei et al. (2021) optimised roll-on/roll-off terminal apron layout with explicit attention to passenger service quality. Sirajuddin et al. (2026) examined integrated port governance and digitalisation as determinants of logistics performance in the Indonesian context.

This literature establishes that digitalisation improves throughput. It does not establish how the passengers subject to it evaluate the experience, which is the gap the present study addresses.

Digital Inclusion as a Constraint

Where a digital channel is mandated, the capacity of users to operate it ceases to be a matter of preference and becomes a condition of access. Mubarak and Suomi (2022) document digital exclusion among older populations and the widening of the grey digital divide, and Li and Kostka (2024) examine the same phenomenon in China. Chohan and Hu (2020) argue for training programmes to strengthen digital competency in electronic government, and Jurisic and Bogataj (2024) review means of enhancing engagement with digital government among older adults. Djatmiko et al. (2025) examine digital transformation and social inclusion in Indonesian public services specifically, and Morte-Nadal and Esteban-Navarro (2025) offer recommendations for digital inclusion in European public services. This literature frames the assisted-service provision discussed later in the present paper.

Conceptual Framework and Hypotheses

The study positions digital ticketing service quality as the independent variable and repurchase intention as the dependent variable, as set out in Figure 1. The hypotheses advanced are H0, that the perceived quality of the digital ticketing service exerts no significant effect upon passengers' repurchase intention, and H1, that it exerts a significant positive effect.

METHODOLOGY

Research Design

The study employed a quantitative approach using a survey design, appropriate to the testing of a hypothesis concerning the effect of one measured variable upon another. The survey method permits data to be obtained directly from respondents through a questionnaire measuring perception on a five-point Likert scale. The research framework is presented in Figure 1.

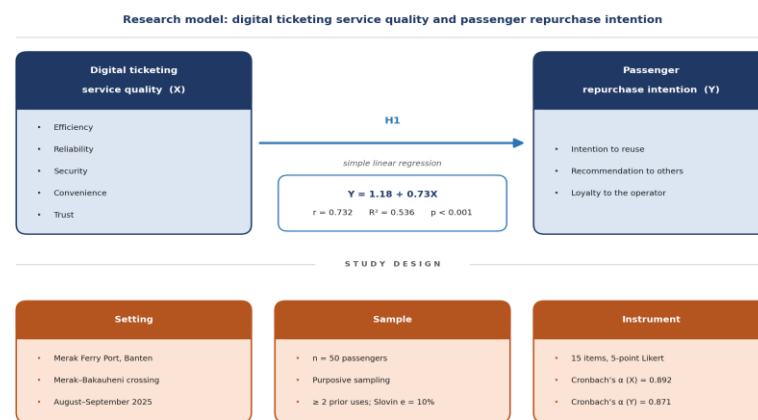


Figure 1. Research model relating digital ticketing service quality to passenger repurchase intention, with the setting, sample and instrument on which the estimates rest.

Setting

The study was conducted at Merak Ferry Port in Banten Province, the busiest ferry terminal in Indonesia and the Java-side terminus of the Merak-Bakauheni crossing. Since 2020 the purchase of tickets for this crossing has been possible only through digital channels, whether the operator's own application, its website, or authorised partner platforms. The setting is therefore one of mandated rather than voluntary digital service use, which bears directly upon the interpretation of the results and is addressed in the discussion.

Population, Sample and Sampling

The population comprised all passengers using digital ticketing at Merak Ferry Port. Operator data indicate that the terminal serves in excess of 500,000 passengers monthly, so that the population is very large and its precise enumeration impracticable. Sample size was determined using the Slovin formula at a tolerated error of 10%, yielding 50 respondents. Selection proceeded by purposive sampling on the criterion that the respondent had used the digital ticketing service on at least two prior occasions, so that the evaluation obtained

would rest upon repeated rather than initial experience. Data were collected between August and September 2025. This is a purposive (non-probability) sampling procedure, adopted because no formal sampling frame of digital-ticket users exists from which a probability sample could be drawn; passengers were screened against the prior-use criterion before completing the substantive items, and those not meeting it did not proceed.

Instrument

The instrument comprised 15 closed statements measured on a five-point Likert scale from strongly disagree to strongly agree. Eight items measured digital ticketing service quality across the dimensions of efficiency, reliability, security, convenience and trust, addressing ease of comprehension, accessibility of the application, security of payment, time saving relative to counter purchase, freedom from technical disruption, accuracy of schedule and fare information, staff assistance when the system fails, and overall comfort of the purchasing process. Seven items measured repurchase intention across the dimensions of intention to reuse, recommendation and loyalty, together with satisfaction and trust as its proximate antecedents. A section for open comment was appended but is not analysed quantitatively here.

Data Analysis

Analysis proceeded in three stages using statistical software. Reliability was assessed through Cronbach's alpha, applying the conventional threshold of 0.70. The association between the variables was assessed through the Pearson product-moment correlation. The effect of service quality upon repurchase intention was estimated through simple linear regression, the model being specified as $Y = a + bX$, with significance evaluated at the 5% level and the coefficient of determination used to express the proportion of variance in repurchase intention accounted for by perceived service quality.

Statistical Power and Sample Adequacy

A sample of 50 respondents for a single-predictor regression exceeds the minimum of 50 plus eight times the number of predictors recommended by Green (1991) for testing a multiple correlation, and comfortably exceeds the requirement for a single predictor. Post hoc consideration confirms that a sample of this size is sufficient to detect a correlation of the magnitude observed at conventional levels of power (Faul et al., 2009). The sample is nevertheless small in absolute terms, and the confidence interval around the estimated coefficient is correspondingly wide; this is addressed among the limitations.

RESULTS

Respondent Characteristics

The 50 respondents comprised 30 men (60%) and 20 women (40%). The largest age group was 31 to 40 years, at 36%, followed by 21 to 30 years at 30%, over 40 years at 22%, and below 20 years at 12%. Half held a diploma or bachelor's degree, 40% had completed secondary education, and 10% held a postgraduate qualification. Crossing frequency was concentrated in the middle band, with 44%

crossing three to five times annually and 28% in each of the lower and upper bands. Eighty per cent had most recently purchased their ticket online and 20% at a counter. Respondent characteristics are set out in Table 1.

Table 1. Respondent characteristics (n = 50).

Category	Classification	Frequency	Percentage (%)
Sex	Male	30	60
	Female	20	40
Age	Below 20 years	6	12
	21-30 years	15	30
	31-40 years	18	36
	Above 40 years	11	22
Education	Secondary	20	40
	Diploma / bachelor's	25	50
	Postgraduate	5	10
Crossings per year	Fewer than 3	14	28
	3 to 5	22	44
	More than 5	14	28
Most recent purchase	Online	40	80
	Counter (assisted)	10	20

The distribution across age and education indicates that use of the digital service is not confined to younger or more highly educated passengers, which is consistent with the mandated character of the channel. The 20% reporting most recent purchase at a counter is notable given that counter sale is not generally available, and most plausibly reflects assisted purchase at the terminal, in which staff complete the digital transaction on the passenger's behalf.

Descriptive Statistics

Perceived digital ticketing service quality attracted an overall mean of 4.24 on the five-point scale. The item-level distribution is presented in Table 2.

Table 2. Item-level descriptive statistics for digital ticketing service quality.

Item	Statement	Mean	SD
X1	Online ticket purchase is easy to understand	4.38	0.62
X2	The application is accessible at any time	4.30	0.67

Item	Statement	Mean	SD
X3	Online payment feels secure and trustworthy	4.12	0.71
X4	Digital tickets save time relative to counter purchase	4.40	0.58
X5	The system rarely suffers technical disruption	4.02	0.80
X6	Schedule and fare information are accurate	4.25	0.60
X7	Staff assist effectively when the system fails	4.10	0.73
X8	The digital system increases comfort of purchase	4.35	0.66
Overall (X)	-	4.24	0.67

The highest-rated item was time saving relative to counter purchase, at 4.40, followed by ease of comprehension at 4.38 and overall comfort at 4.35. The lowest-rated item was freedom from technical disruption, at 4.02, which also carried the largest standard deviation at 0.80, indicating that experience of system reliability varies more widely across respondents than any other aspect of the service. Staff assistance when the system fails, at 4.10, and security of payment, at 4.12, occupied the next lowest positions.

Repurchase intention attracted an overall mean of 4.27, marginally above that of perceived quality. The item-level distribution is presented in Table 3.

Table 3. Item-level descriptive statistics for repurchase intention.

Item	Statement	Mean	SD
Y1	I am satisfied with the digital ticketing service	4.25	0.64
Y2	I trust the ticket digitalisation process	4.20	0.69
Y3	I intend to use digital tickets again	4.40	0.59
Y4	I would recommend it to others	4.35	0.61
Y5	I prefer digital tickets to counter purchase	4.30	0.60
Y6	Digitalisation has increased my loyalty	4.18	0.70
Y7	Digitalisation has improved my travel experience	4.22	0.68
Overall (Y)	-	4.27	0.65

The highest-rated item was the intention to use the digital service again, at 4.40, followed by willingness to recommend it to others, at 4.35. The lowest was the proposition that digitalisation has increased loyalty towards the operator, at 4.18, with satisfaction and trust in the digitalisation process occupying intermediate positions at 4.25 and 4.20 respectively.

Reliability

Both scales exceeded the conventional threshold comfortably, as set out in Table 4.

Table 4. Reliability of the measurement scales.

Variable	Number of items	Cronbach's alpha	Interpretation
Digital ticketing service quality (X)	8	0.892	Good
Repurchase intention (Y)	7	0.871	Good

Cronbach's alpha reached 0.892 for digital ticketing service quality and 0.871 for repurchase intention, indicating good internal consistency in both cases and supporting the aggregation of items into scale scores for the subsequent analysis.

Correlation and Regression

The Pearson correlation between perceived service quality and repurchase intention was 0.732 at a significance below 0.001, indicating a strong positive association. The regression results are presented in Table 5.

Table 5. Simple linear regression of repurchase intention on digital ticketing service quality.

Parameter	Value	Interpretation
Constant (a)	1.18	Intercept
Coefficient (b)	0.73	One-unit gain in X raises Y by 0.73
Correlation (r)	0.732	Strong positive association
Coefficient of determination (R squared)	0.536	X accounts for 53.6% of variance in Y
F statistic	55.81	Model significant
Significance	< 0.001	H0 rejected

The estimated model is $Y = 1.18 + 0.73X$. The F statistic of 55.81 at a significance below 0.001 establishes the model as significant. The coefficient of

determination of 0.536 indicates that perceived service quality accounts for 53.6% of the variance in repurchase intention, the remaining 46.4% being attributable to factors outside the model. The null hypothesis is accordingly rejected in favour of H1.

The model reproduces the observed data consistently: substituting the mean of the independent variable into the estimated equation yields $1.18 + 0.73(4.24) = 4.28$, against an observed mean repurchase intention of 4.27. The coefficient of 0.73 indicates that a one-unit gain in perceived service quality is associated with a gain of 0.73 units in repurchase intention, which on a five-point scale represents a substantial marginal return to improvement in perceived quality.

DISCUSSION

Service Quality and Intention under Mandated Use

The finding that perceived service quality accounts for 53.6% of the variance in repurchase intention is consistent in direction and comparable in magnitude with the established literature. Blut et al. (2015) confirmed the association between electronic service quality and behavioural outcomes meta-analytically, Rita et al. (2019) demonstrated the pathway running through satisfaction to customer behaviour, and Iffan et al. (2024) and Dandis et al. (2026) established the mediating role of satisfaction and trust in the relationship between electronic service quality and repurchase intention specifically.

What distinguishes the present case is the mandated character of the channel. Because counter purchase is not generally available on the Merak-Bakauheni crossing, passengers cannot decline the digital service, and continued use therefore carries no information about their evaluation of it. The theoretical significance of the result lies here: perceived quality predicts the disposition to continue even where the behaviour itself is compelled. Service quality in this setting operates upon willingness rather than upon action.

This distinction is not merely conceptual. Under voluntary conditions, poor service quality manifests as attrition, which is observable and therefore self-correcting through the operator's own performance data. Under mandated conditions the same deterioration manifests only as resentment, which generates no observable signal in usage statistics. An operator relying upon transaction volume alone would register no warning. The disposition measured here is accordingly the operator's only early indicator, which supplies the practical case for measuring it directly rather than inferring satisfaction from throughput.

Reliability as the Binding Constraint

The internal structure of the perception data locates the principal vulnerability precisely. Time efficiency attracted the highest rating at 4.40, whereas freedom from technical disruption attracted the lowest at 4.02 and simultaneously the widest dispersion at 0.80. The service is thus valued for what it does when it works and doubted for whether it will work. Since dispersion is widest on exactly the item that is lowest, the difficulty is not experienced uniformly but concentrated among a subset of passengers whose encounters with the system have been unsatisfactory.

This pattern maps onto the E-S-QUAL structure in an informative way. Parasuraman et al. (2005) distinguish system availability from efficiency, and Blut (2016) preserves the distinction within a hierarchical model. The present data indicate that efficiency is being delivered while system availability is not being delivered reliably, and it is the latter that constrains the disposition to continue. Chen et al. (2022), examining mobile ticketing through innovation resistance theory, likewise locate the barriers to use in perceived risk and reliability rather than in usability.

The practical inference is that further investment in interface design or in demonstrating time savings addresses a dimension already rated highly, and would therefore yield little. Investment in network stability, server capacity at peak periods, and payment gateway reliability addresses the dimension that is both lowest and most variable. In a mandated setting this ordering carries additional weight, because a passenger whose transaction fails has no counter to fall back upon.

Assisted Service and Digital Inclusion

That one respondent in five reported most recent purchase at a counter, in a setting where counter sale is not generally available, indicates that assisted purchase is functioning as a de facto fallback channel. The moderate rating attracted by staff assistance when the system fails, at 4.10, suggests that this channel is neither absent nor adequate.

The literature on digital inclusion frames the consequence. Mubarak and Suomi (2022) and Li and Kostka (2024) document systematic exclusion of older users from digital services, and Chohan and Hu (2020) and Jurisic and Bogataj (2024) argue for structured competency support. Djatmiko et al. (2025) examine the same question within Indonesian public services, and Morte-Nadal and Esteban-Navarro (2025) set out recommendations for inclusion in public digital provision. Where a service is mandated, the argument acquires additional force: a passenger unable to complete the digital transaction is not merely inconvenienced but excluded from the crossing. Assisted service under such conditions is not a courtesy but a component of access, and warrants resourcing accordingly.

Position Relative to the Adoption Literature

The adoption literature in public transport ticketing has developed around the question of what induces passengers to take up a digital channel voluntarily (Mallat et al., 2006; Cheng & Huang, 2013; Di Pietro et al., 2015; Fontes et al., 2017; Brakewood et al., 2014; Owusu-Agyemang et al., 2024; Wani et al., 2025). Where use is compulsory, that question is displaced but not dissolved: it becomes a question of what sustains willingness once the choice has been removed.

The operational literature establishes independently that the transition delivers throughput benefits. Fernandez et al. (2010) and Tirachini (2011) demonstrate the effect of fare collection method upon boarding duration, and the port digitalisation literature documents efficiency gains at terminal scale (Behdani, 2023; Belcore et al., 2023; Eom et al., 2023; Kastner et al., 2024; Sirajuddin et al., 2026). The present findings neither contradict nor duplicate these; they indicate that the operational case for mandating a digital channel does not by itself secure

the passenger's assent to it, and that the assent must be earned separately through reliability.

Relation to a Companion Study at the Same Port

The present analysis was conducted independently of, and rests upon a different sample from, a companion survey at the same port reported by Zulistian et al. (2025), which examined user satisfaction and its determinants among 210 respondents using exploratory factor analysis and multiple regression. That study identified service speed as the dominant determinant of satisfaction and recorded a mean queue duration of ten minutes for digital ticket holders against twenty-three minutes for manual purchasers. The two studies address different dependent variables, employ different instruments and samples, and are reported separately for that reason. The convergence of the two on the primacy of time efficiency, obtained through independent data, strengthens confidence in that particular finding.

Contribution to the Literature

This finding extends the electronic-service-quality and continuance literature in three respects. First, that literature has developed almost entirely within voluntary settings, where the intention to repurchase and the act of repurchasing stand in close correspondence (Bhattacharjee, 2001; Trivedi & Yadav, 2020; Miao et al., 2021; Iffan et al., 2024; Dandis et al., 2026); the present study supplies evidence from a mandated setting in which that correspondence is severed, showing that perceived quality continues to predict the disposition to continue even where continuance itself is compelled and therefore uninformative. Second, by disaggregating service quality into its component dimensions, the study identifies system reliability, rather than efficiency or usability, as the specific constraint on that disposition, refining the more general E-S-QUAL associations reported by Blut et al. (2015) and Blut (2016) into an actionable priority for this setting. Third, the study connects the ticketing-adoption literature, which has been concerned with what induces voluntary uptake (Mallat et al., 2006; Cheng & Huang, 2013; Di Pietro et al., 2015), to the digital-inclusion literature (Mubarak & Suomi, 2022; Chohan & Hu, 2020), by showing that once a digital channel is mandated, adoption ceases to be the relevant question and assisted access becomes a condition of the service itself rather than a supplementary courtesy.

Limitations

Five limitations qualify these results. First, the sample of 50 respondents, while adequate for a single-predictor regression by the criterion of Green (1991), is small in absolute terms, and the estimate should be read as indicative of magnitude rather than precise. Second, purposive sampling on the criterion of at least two prior uses excludes by construction those who have used the service once and found it unsatisfactory, and the estimate of perceived quality is therefore likely to be favourably biased. Third, the design is cross-sectional, so that the direction of the relationship rests upon theoretical argument rather than temporal precedence; Spector (2019) sets out the inferential limits of such designs. Fourth, both variables were measured through self-report on a single instrument at a single point in time, which exposes the estimate to common method variance (Podsakoff et al., 2003;

Podsakoff et al., 2012). Fifth, the study measures intention rather than behaviour, and in a mandated setting the relation between the two cannot be established.

A sixth consideration is conceptual rather than methodological. Two items within the repurchase intention scale measure satisfaction and trust rather than intention as such. The theoretical literature treats these as antecedents of intention rather than as components of it, satisfaction in particular functioning as mediator between service quality and continuance in the models of Bhattacharjee (2001), Iffan et al. (2024) and Dandis et al. (2026). Their inclusion within the dependent scale is likely to inflate the observed association. The reported coefficient of determination should accordingly be read as an upper bound, and the separation of these constructs is the first priority for further work.

CONCLUSIONS AND RECOMMENDATIONS

The central finding of this study is that perceived digital ticketing service quality predicts passengers' repurchase intention even though continued use is mandatory and therefore uninformative on its own, and that system reliability, not efficiency or usability, is the specific dimension most at risk of undermining that disposition. Passengers at Merak Ferry Port evaluate the mandated digital ticketing service favourably, returning a mean of 4.24 for perceived quality and 4.27 for repurchase intention. Perceived quality is strongly and positively associated with repurchase intention ($r = 0.732$, $p < 0.001$) and accounts for 53.6% of its variance, the estimated model being $Y = 1.18 + 0.73X$. The null hypothesis is rejected. Within the perception data, time efficiency is rated highest at 4.40 and freedom from technical disruption lowest at 4.02, the latter also exhibiting the widest dispersion.

Three recommendations follow. First, the operator should treat system reliability as the priority for investment, since it is the dimension that is both lowest rated and most unevenly experienced, and since in a mandated setting a failed transaction has no fallback. Network stability at the terminal, server capacity at peak periods, and payment gateway resilience are the specific targets. Second, assisted service should be resourced as a component of access rather than as a discretionary courtesy, given that a fifth of respondents report reliance upon counter assistance and that inability to complete the digital transaction amounts to exclusion from the crossing. Third, the operator should monitor passenger disposition directly through periodic survey rather than inferring satisfaction from transaction volume, since under mandated use the latter cannot register dissatisfaction.

FURTHER STUDY

Four directions are indicated. First, satisfaction should be separated from repurchase intention and modelled explicitly as a mediator, following the specifications of Bhattacharjee (2001), Iffan et al. (2024) and Dandis et al. (2026); this requires item-level data and would both correct the conflation identified above and yield a theoretically stronger model. Second, the sample should be enlarged and drawn probabilistically across seasons, so that peak-period conditions, under which reliability is most likely to fail, are represented. Third, a comparative design contrasting a mandated crossing with one on which counter

purchase remains available would permit the effect of mandation itself to be estimated rather than assumed. Fourth, perceptual data should be supplemented with objective indicators such as transaction failure rates, application downtime and measured queue duration, reducing reliance upon self-report and permitting the perceived reliability deficit to be validated against system log.

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