Perceived Security, Intention to Adopt and Actual Usage Behavior of Duitnow among Indonesian Tourists in Malaysia

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ABSTRACT

The integration of cross-border Quick Response (QR) payment systems, such as Malaysia's Duit Now and Indonesia's QRIS, represents a pivotal advancement in the ASEAN digital economy. Despite its potential to enhance the tourism experience by streamlining financial transactions, security and privacy concerns remain significant barriers to adoption among international travelers. Grounded in an extended Technology Acceptance Model (TAM), this study investigates the structural interrelationships between perceived security, intention to adopt, and actual usage behavior of the DuitNow platform among Indonesian tourists in Malaysia. Employing a quantitative cross-sectional research design, primary data were collected through self-administered questionnaires from 184 Indonesian tourists at high-traffic destinations in Kuala Lumpur. The proposed hypotheses were analyzed using Pearson correlation, multiple linear regression, and the Sobel test for mediation. The empirical results reveal that perceived security significantly and positively influences both intentions to adopt and actual usage behavior of DuitNow. Furthermore, intention to adopt strongly predicts actual usage and functions as a significant mediator in the relationship between perceived security and actual usage behavior. This research contributes theoretically by positioning perceived security as a paramount antecedent in cross-border financial transactions and demonstrating its critical role in shaping user intent. Practically, the findings provide actionable insights for policymakers, fintech developers, and hospitality stakeholders to optimize user-centric and secure digital payment infrastructures, thereby fostering trust and adoption within the regional tourism sector.

Keywords: Cross-border payment, Duit Now, Perceived Security, Technology Acceptance Model (TAM), Intention to Adopt, Tourism

INTRODUCTION

Financial digitalisation is rapidly transforming the global economy, reshaping consumer behaviour from traditional cash transactions to digital payment systems (Daud et al., 2022). Quick Response (QR) codes have emerged as a prominent tool for facilitating seamless, convenient, and efficient transactions across various trading platforms (Musyaffi et al., 2024). In the ASEAN region, governments and local banks are actively promoting digital payments to fuel financial inclusivity and economic growth (Lee et al., 2023).

A significant milestone in this digital evolution is the integration of cross-border QR payment systems. Malaysia's DuitNow, a real-time payment platform supervised by Payments Network Malaysia (PayNet, 2018), and Indonesia's Quick Response Code Indonesian Standard (QRIS) have been linked to enable frictionless cross-border transactions (BNM, 2023; Puspitasari & Salehudin, 2022). This technological integration holds particular relevance for the hospitality and tourism sectors (Bhatiasevi & Yoopetch, 2015; DeFranco & Morosan, 2017).

In 2023, Indonesia was the second-largest contributor of foreign tourists to Malaysia, with an estimated 3.1 million visitors (MOTAC, 2024). The cross-border QR payment system allows these tourists to bypass traditional money changer services, thereby reducing transaction costs, minimizing processing time, and enhancing the overall travel experience (Lou et al., 2017; Gio et al., 2024).

Despite these technological breakthroughs and the widespread embrace of QR codes for their ease of use (Natapradja & Rafi, 2022), substantial challenges remain regarding the practical implementation and security of QR payment usage by international tourists (Ghifari et al., 2023). The perception of security and privacy threats is one of the most critical barriers to adoption, heavily influencing consumers' intentions to utilize digital payment services (Revathy & Balaji, 2020). Escalating digital security issues, such as phishing scams targeting user credentials and broad data breaches prevalent in Southeast Asia, have compromised consumer trust in the digital economy (Bandari, 2023; Susilo, 2024). Consequently, many consumers remain hesitant, preferring traditional payment methods due to fears of financial loss and skepticism toward the reliability of digital transactions (Junaidi & Sfenrianto, 2015; Khan et al., 2021). Furthermore, cultural influences, combined with unfamiliarity with foreign platforms like DuitNow, the perceived complexity of the systems, and a lack of user education, significantly exacerbate consumer reluctance (Schierz et al., 2010).

Addressing these barriers is imperative, as overcoming user hesitation presents substantial opportunities for Malaysia's tourism and retail industries. To fill this critical gap in the literature, this study aims to investigate the influence of perceived security, intention to adopt, and actual usage behaviour of DuitNow among Indonesian tourists in Malaysia. By clarifying these dynamics, this research seeks to provide actionable insights into the determinants of cross-border payment acceptance, ultimately contributing to the optimization of digital financial infrastructures within the ASEAN tourism sector.

LITERATURE REVIEW

Cross-Border QR Payment Systems and the Tourism Sector

The proliferation of smartphones and the surge in demand for contactless transactions post-COVID-19 have significantly accelerated the global adoption of Quick Response (QR) payment systems (Omar et al., 2021; Wong et al., 2022). Southeast Asia has emerged as a leader in this digital financial transition, heavily supported by legislative backing and rising mobile penetration (Bank for International Settlements, 2023; Chen et al., 2020; Lee et al., 2023). To standardize this digital infrastructure, Malaysia introduced DuitNow in 2018, a real-time platform allowing instant fund transfers via unified identifiers, while Indonesia launched the Quick Response Code Indonesian Standard (QRIS) in 2019 to secure and expedite transactions across various mobile banking and e-wallet providers (PayNet, 2018; Puspitasari & Salehudin, 2022).

A critical advancement in the ASEAN region is the interoperability of these systems, specifically the integration of DuitNow and QRIS, which enables frictionless cross-border settlements without the need for traditional currency exchange or multiple applications (BNM, 2023; Lim & Noh, 2023). This technological synthesis holds profound implications for the hospitality and tourism sectors, streamlining the purchasing experience and minimizing transaction costs for international visitors (Bhatiasevi & Yoopetch, 2015; DeFranco & Morosan, 2017). For Indonesian tourists in Malaysia, who represent a major demographic in the local tourism market, QR systems reduce reliance on physical cash and offer timesaving conveniences, with up to 65% expressing a preference for QR payments over traditional methods (Widia et al., 2021; Yusof et al., 2022). Nevertheless, barriers such as system incompatibility, limited merchant acceptance, and prominent security concerns continue to challenge full adoption (Fatmawati & Hayati, 2024; Leiwakabessy et al., 2023).

Theoretical Underpinning: Technology Acceptance Model (TAM)

The behavioural dynamics of adopting new payment technologies can be evaluated through the Technology Acceptance Model (TAM), which posits that an individual's intention to adopt an information system is primarily driven by its perceived usefulness and perceived ease of use (Davis, 1989). While TAM has been extensively utilized to explain the uptake of various digital tools, financial transactions necessitate an expanded framework (Cabanillas et al., 2014; Lou & Li, 2017). In the context of hospitality and cross-border digital payments,

perceived risk and trust become paramount due to the sensitive nature of financial data (Khalilzadeh et al., 2017). Consequently, contemporary studies frequently integrate perceived security as an external variable within TAM to better capture the determinants of consumer confidence and adoption intention in high-risk digital environments (Liao et al., 2019).

Perceived Security, Intention to Adopt, and Actual Usage

Perceived security refers to a user's subjective assessment of a digital platform's safety, including its reliability and protection against fraud, identity theft, and unauthorized access (Samaniego & Orozco, 2021; Zhang & Zhao, 2020). In electronic payment systems, robust encryption, transparent data protection, and anti-fraud measures are essential to instilling consumer trust (Ali et al., 2022; Li et al., 2022). This perception of security is particularly critical for cross-border transactions, which consumers inherently view as riskier due to unfamiliar foreign regulations and the potential complexities of international digital infrastructure (De Lima et al., 2022; Smith & Lee, 2023).

Perceived security is a foundational predictor of actual system usage. Research indicates that international tourists are significantly more inclined to utilize QR payments when they trust the system's reliability and security mechanisms (Masrom & Ismail, 2019). Addressing security concerns directly mitigates perceived risks and promotes a higher frequency of actual usage behaviour among mobile payment users (Baharin et al, 2025; Ashraf et al., 2021; Saha & Farah, 2022). Therefore, the following hypothesis is proposed:

H1: There is a significant relationship between perceived security perception and actual usage behavior of DuitNow among Indonesian tourists in Malaysia.

Furthermore, perceived security heavily shapes a consumer's initial intention to adopt a payment system. Studies confirm that security perception is a primary determinant influencing tourists' willingness to accept mobile payment solutions abroad (Cheng & Eze, 2020; Teo & Loo, 2014). When users feel confident that a platform like DuitNow safeguards their personal and financial information, this trust actively drives their behavioural intention to engage with the technology (Baharin et al, 2025; Dahlberg et al., 2015; Umiyati et al., 2021). Consequently, this study posits:

H2: There is a significant relationship between perceived security perception and intention to adopt DuitNow among Indonesian tourists in Malaysia.

The Mediating Role of Adoption Intention

The transition from an individual's intention to their actual behaviour is a core tenet of behavioural theories (Ajzen & Fishbein, 1980; Davis, 1989). The intention to adopt a digital payment system acts as a crucial precursor to actual usage, driven by positive evaluations of the system's convenience, accessibility, and trustworthiness (Ariani & Djatmika, 2020). Empirical evidence specifically observing Indonesian tourists indicates a strong alignment between their intent to adopt QR systems and their subsequent expenditure behaviours in Malaysia (Baharin et al, 2025; Rizal et al., 2019; Setiawan & Widiastuti, 2022). Thus, the following hypothesis is formulated:

H3: There is a significant relationship between intention to adopt and actual usage behavior of DuitNow among Indonesian tourists in Malaysia.

Finally, while perceived security directly informs actual usage, this relationship is highly complex and often operates through the cognitive formation of intent. Within the TAM framework, perceived security shapes the user's overall attitude and intention, which subsequently dictates actual utilization (Davis, 1989; Lu et al., 2016). In multicultural, cross-border contexts, adoption intention bridges the gap between a tourist's belief in a system's safety and their real-world transactional behavior (Baharin et al, 2025; Chau & Lai, 2003; Hofstede et al., 2010). Therefore, intention to adopt is posited to serve as a critical mediating mechanism:

H4: Intention to adopt mediates the relationship between perceived security perception and actual usage behavior of DuitNow among Indonesian tourists in Malaysia.

METHODOLOGY

This study employed a quantitative, cross-sectional, and causal research design to empirically investigate the interrelationships between perceived security, intention to adopt, and actual usage behaviour of the DuitNow QR payment system. To capture natural behavioural dynamics, the research was conducted in a non-contrived setting at prominent tourist destinations in Kuala Lumpur, specifically the Petronas Twin Towers, Bukit Bintang, and Central Market (Pasar Seni). The target population comprised Indonesian tourists visiting Malaysia who actively utilize DuitNow for their transactions. Due to the absence of a definitive sampling frame for this specific demographic, a convenience sampling approach was utilized. Prospective respondents were first asked a screening question, "Are you using DuitNow during your visit in Malaysia?", to ensure they met the inclusion criteria. The minimum sample size was determined to be 68 respondents based on G*Power software and Cohen's (1992) power primer criteria. Following a one-month data collection period and subsequent data cleaning to exclude 15 straight-lining responses, the study achieved a robust final sample of 184 usable responses, which significantly exceeded the minimum threshold.

Data were gathered using a self-administered questionnaire distributed via Google Forms. To ensure clarity and enhance the response rate among the target demographic, the instrument was provided bilingually in English and Bahasa Indonesia. All construct items were evaluated on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), to minimize respondent frustration while accurately capturing variance. The survey was structured into four sections: Section A measured Perceived Security Perception (8 items), Section B assessed Intention to Use (8 items), Section C evaluated Actual Usage Behavior (8 items), and Section D collected Demographic Profiles (4 items). The measurement items for the primary constructs were adapted from Jusoh and Jing (2019), while the demographic questions were adapted from Han et al. (2021). Prior to the main data collection, face and content validity were verified by subject matter experts, and a pilot study involving 30 Indonesian tourists in Selangor was conducted. The pilot study confirmed the instrument's internal consistency, with all constructs yielding Cronbach’s alpha values above the acceptable 0.70 threshold.

The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS). Initially, descriptive statistics were generated to profile the respondents and summarize the mean scores of the variables. Pearson correlation analysis was then conducted to assess the strength and direction of the bivariate relationships among perceived security, intention to adopt, and actual usage behaviour. To test the proposed hypotheses, particularly the causal links and mediating effects, Multiple Linear Regression was utilized. Prior to regression, rigorous diagnostic tests were performed, confirming that the data met all critical assumptions, including linearity, homoscedasticity, independence of errors (via the Durbin-Watson statistic), normality of residuals, and the absence of multicollinearity (via Tolerance and VIF values). Finally, to evaluate the mediating role of adoption intention, the analysis followed Baron and Kenny's (1986) four-step mediation procedures and incorporated the Sobel test to ascertain the statistical significance of the indirect effect.

FINDINGS AND DISCUSSION

Demographic Profile and Descriptive Statistics

The data were collected from a final sample of 184 Indonesian tourists who utilized the DuitNow platform during their visit to Malaysia. The demographic profile indicated a relatively balanced gender distribution, with a slight majority of females (56.5%) compared to males (43.5%). The sample was predominantly young, with the largest age group being 18 to 24 years old (48.9%), followed by those aged 25 to 34 years (31.5%). Consistent with the age distribution, nearly half of the respondents were students (48.9%), and their primary purpose of visiting Malaysia was education (37.9%) or leisure (25.0%). In terms of trip duration, the respondents were evenly split, with approximately one-third staying 1–3 days (34.8%), 4–7 days (32.6%), and more than 7 days (32.6%).

Descriptive statistics revealed moderately high evaluations across all measured constructs on the five-point Likert scale. For perceived security, respondents expressed strong agreement regarding the platform’s safety (M = 4.39, SD = 0.693) and the protection of their personal information (M = 4.35, SD = 0.716). Intention to adopt DuitNow was robust, particularly for making online bookings (M = 4.37, SD = 0.735) and recommending the platform to other tourists (M = 4.33, SD = 0.726). Actual usage behavior also reflected positive and consistent

engagement, with users finding DuitNow highly beneficial for hospitality-related payments (*M* = 4.26, *SD* = 0.766).

Table 1: Descriptive Results

	Perceived Security	Mean	SD
1.	I Perceived Risk that DuitNow transaction is safe.	4.39	.693
2.	I believe that user's information and transactions via DuitNow are well protected.	4.35	.716
3.	I trust that unauthorized parties will not gain access to my DuitNow transactions.	4.17	.882
4.	I find it acceptable to share personal information while using DuitNow transactions.	3.92	.926
5.	I consider the possibility of online fraud during DuitNow transactions to be low.	3.76	1.100
6.	I am willing to continue using DuitNow transactions even if concerns about security vulnerabilities have been discovered.	3.77	1.117
7.	I trust the ability of DuitNow to safeguard my personal privacy.	4.07	.793
8.	I do not feel concerned about the security of DuitNow transactions.	3.95	.996
	Intention to Adopt	Mean	SD
1.	I would use DuitNow to make payment for hospitality products and services (i.e. hotel stay, F&B, shopping, tourist attractions) during my visit in Malaysia	4.30	.779
2.	I would use DuitNow for online bookings of hospitality products and services.	4.37	.735
3.	I would use DuitNow for over-the-counter payment (i.e. at hotel front desk, restaurant, retail outlet and tourist attractions)	4.28	.773
4.	I intend to use DuitNow to make payments for hospitality products and services shall I have access to it.	4.22	.751
5.	I intend to explore other DuitNow services relevant to hospitality products and services.	4.24	.801
6.	I intend to use DuitNow more frequently for hospitality products and services.	4.18	.738
7.	I intend to try the latest DuitNow features relevant to hospitality products and services.	4.22	.751
8.	I will recommend DuitNow to other tourists in Malaysia.	4.33	.726
	Actual Usage Behavior	Mean	SD
1.	I use DuitNow more often than other payment methods for hospitality products and services (i.e. hotel stay, F&B, retail purchases, tourist attractions)	4.14	.790
2.	I am using and will continue to use DuitNow transactions for hospitality products and services.	4.17	.804
3.	I mainly use DuitNow for online bookings of hospitality products and services.	4.03	.842
4.	I have extensive experience using DuitNow to pay for hospitality products and services.	4.02	.836
5.	I have extensive experience making online payments via DuitNow for hospitality products and services.	4.00	.911

6.	I regularly use DuitNow to pay for hospitality products and services.	3.99	.881
7.	I often found DuitNow beneficial for making payments related to hospitality products and services.	4.26	.766
8.	Overall, I've made many payments using DuitNow for hospitality-related products and services.	4.16	.743
Note: N = 184, SD (Standard Deviation)			

Measurement Model Assessment

Prior to hypothesis testing, the reliability and validity of the measurement instrument were evaluated. The internal consistency of the constructs was assessed using Cronbach's alpha. The overall instrument demonstrated excellent reliability (α = 0.943), while the individual constructs of perceived security (α = 0.849), intention to adopt (α = 0.928), and actual usage behavior (α = 0.913) all comfortably exceeded the recommended 0.70 threshold.

Rigorous diagnostic tests were also conducted to ensure the data met the assumptions required for multiple linear regression. Scatterplots of standardized residuals confirmed the assumptions of linearity and homoscedasticity. A histogram and a normal P-P plot indicated that the residuals were approximately normally distributed. The independence of errors assumption was satisfied, as evidenced by a Durbin-Watson statistic of 2.092, which is close to the ideal value of 2. Finally, multicollinearity was not an issue in the model, as both the Tolerance value (0.665) and the Variance Inflation Factor (VIF = 1.504) were well within acceptable limits (Tolerance > 0.10; VIF < 5).

Hypotheses Testing: Direct Effects

To test the direct relationships proposed in hypotheses H1, H2, and H3, Pearson correlation analysis was employed to examine the bivariate relationships between the variables.

H1 (Perceived Security and Actual Usage): The analysis revealed a significant, moderate positive relationship between perceived security and actual usage behavior (r = .583, p < .001). This finding indicates that as tourists' confidence in the system's security increases, their actual usage of DuitNow also increases. Therefore, H1 is supported.

H2 (Perceived Security and Intention to Adopt): A significant and moderate positive correlation was found between perceived security and the intention to adopt DuitNow (r = .579, p < .001). This confirms that a higher perception of safety directly strengthens the tourists' intention to use the digital payment platform, supporting H2.

H3 (Intention to Adopt and Actual Usage): The results demonstrated a strong positive relationship between the intention to adopt and actual usage behavior (r = .696, p < .001). This robust correlation confirms that tourists with a stronger intent to use DuitNow translate this intention into actual payment behavior, leading to the acceptance of H3.

Table 2: Correlation Analysis

		Perceived Security	Intention to Adopt	Actual Usage Behaviour
Perceived Security	Pearson Correlation	1	.579**	.583**
	Sig. (2-tailed)		.000	.000

	N	184	184	184
Intention to Adopt	Pearson Correlation	.579**	1	.696**
	Sig. (2-tailed)	.000		.000
	N	184	184	184
Actual Usage	Pearson Correlation	.583**	.696**	1
	Sig. (2-tailed)	.000	.000	
	N	184	184	184
**. Correlation is significant at the 0.01 level (2-tailed).				

Hypotheses Testing for Mediating Effect:

To evaluate Hypothesis 4 (H4), which posited that adoption intention mediates the relationship between perceived security and actual usage behavior, a series of regression analyses were conducted following Baron and Kenny's (1986) procedures.

1. The independent variable (perceived security) was found to significantly predict the dependent variable (actual usage behavior), yielding an unstandardized coefficient (*b*) of 0.593 ($t = 9.673$, $p < .001$).

2. The independent variable (perceived security) significantly predicted the mediating variable (intention to adopt), with $b = 0.560$ ($t = 9.577$, $p < .001$).

3. When controlling for perceived security, the mediating variable (intention to adopt) significantly predicted the dependent variable (actual usage behavior) with $b = 0.568$ ($t = 8.666$, $p < .001$).

4. When both perceived security and intention to adopt were included in the regression model, the direct effect of perceived security on actual usage behavior remained statistically significant but was substantially reduced ($b = 0.275$, $t = 4.341$, $p < .001$).

Because the direct effect of perceived security decreased but remained significant upon introducing the mediator, the results indicate a partial mediation model. To further confirm the statistical significance of this indirect effect, a Sobel test was conducted. The Sobel test yielded a highly significant result ($Z = 6.405$, $p < .001$), statistically validating that intention to adopt serves as a critical mediating mechanism between perceived security and the actual usage of DuitNow. Thus, H4 is supported.

Table 3: Sobel Mediation Analysis

Perceived Security > Intention to Adopt > Actual Usage		
IV > Med Beta (beta)	0.560	***
Med > DV Beta	0.568	***
IV > Med SE	0.058	
Med > DV SE	0.066	
Sobel test statistic	6.405	***

One-tailed probability	0.000	
Two-tailed probability	0.000	
Result	Partial Mediation	

Notes: *p<.10, **p<.05, ***p<0.01

DISCUSSION

The primary objective of this study was to investigate the structural relationships between perceived security, intention to adopt, and actual usage behaviour of the DuitNow cross-border Quick Response (QR) payment system among Indonesian tourists in Malaysia. The empirical findings robustly support all four proposed hypotheses, providing critical insights into the behavioural dynamics of international digital financial transactions.

First, the study confirms a significant positive relationship between perceived security and actual usage behaviour (H1). Consistent with the Technology Acceptance Model (TAM) (Davis, 1989), when tourists perceive the DuitNow system as highly secure—specifically regarding data encryption, fraud protection, and system reliability—they demonstrate a greater propensity to utilize the platform for their transactions. This finding corroborates Cheng and Eze (2020) and Chau and Lai (2003), who posited that security is a fundamental determinant of digital payment adoption, particularly for users navigating unfamiliar foreign financial infrastructures.

Second, the results validate a significant positive relationship between perceived security and the intention to adopt DuitNow (H2). In a cross-border context, where users face differing regulations and potential currency exchange anxieties, the assurance of transaction safety critically shapes their initial willingness to engage with the technology. As Venkatesh and Bala (2008) highlighted, external variables such as perceived risk fundamentally inform behavioural intention. Thus, when Indonesian tourists trust the credibility of DuitNow, this psychological assurance directly translates into a strong intent to use the service.

Third, the study demonstrates that intention to adopt strongly predicts actual usage behaviour (H3), a finding that aligns seamlessly with both TAM and the Theory of Planned Behaviour (Ajzen & Fishbein, 1980). In the high-stakes context of international travel, behavioural intention acts as a vital motivator that helps tourists overcome perceived barriers such as unfamiliarity or trust deficits.

Finally, the mediation analysis confirmed that the intention to adopt partially mediates the relationship between perceived security and actual usage behaviour (H4). This indicates that while perceived security directly influences usage, its effect is significantly amplified when it first cultivates a strong cognitive intention to adopt the system. In cross-border payment scenarios, structural security alone is insufficient; users must actively form an intent to utilize the technology, bridging the cognitive gap between belief in the system's safety and actual transactional engagement.

Theoretical and Practical Implications

From a theoretical perspective, this research extends the traditional TAM framework by positioning perceived security, rather than perceived ease of use, as a primary antecedent to behavioural intention and actual usage in the context of cross-border financial technologies. Interestingly, the findings suggest that as QR payment technologies mature and interface usability becomes standardized, perceived ease of use diminishes in behavioural influence compared to trust and perceived security. Furthermore, by contextualizing the study within the interoperability of QRIS and DuitNow, this research fills a critical gap in Southeast Asian digital finance literature regarding international user behaviour in a host country.

Practically, the findings offer actionable insights for fintech developers, hospitality stakeholders, and policymakers. Given the paramount importance of perceived security, businesses must prioritize visible trust-

building mechanisms, such as transparent security certifications, clear refund policies, and localized, in-language instructions at merchant sites. To transition tourists' intention into actual usage, marketing campaigns should highlight the tangible benefits of DuitNow such as speed, cost-efficiency, and the elimination of currency exchange hassles. Furthermore, seamless merchant integration and standardized QR interoperability signage are essential to reducing transaction friction and fostering a tourist-friendly digital ecosystem.

Limitations and Directions for Future Research

Despite its contributions, this study acknowledges several limitations that present opportunities for future research. The reliance on a non-probability convenience sampling method within specific Kuala Lumpur tourist zones may limit the generalizability of the findings to broader demographics, such as older travellers or those visiting rural destinations. Additionally, the cross-sectional design captures user behaviour at a single point in time, restricting the ability to observe how trust and usage patterns evolve over repeated visits.

Notably, economic barriers such as unfavourable currency conversion rates and hidden fees were identified as practical deterrents to DuitNow adoption, yet these were not formally modelled. Future research should employ longitudinal designs to assess sustained adoption over time and expand the geographical sampling frame to other Malaysian destinations like Penang or Langkawi. Integrating economic constructs (e.g., perceived financial cost) and utilizing broader theoretical frameworks like the Unified Theory of Acceptance and Use of Technology (UTAUT) would further enrich the understanding of cross-border digital payment behaviour. Finally, qualitative methodologies could uncover the nuanced emotional and psychological barriers to adoption that quantitative data may overlook.

CONCLUSION AND RECOMMENDATION

The digital integration of financial services marks a transformative era for cross-border tourism in the ASEAN region. This study successfully modelled the behavioural dynamics of DuitNow usage among Indonesian tourists in Malaysia, revealing that perceived security is a fundamental driver of both the intention to adopt and actual usage behaviour. By establishing adoption intention as a critical mediating mechanism, the research highlights that a secure technological infrastructure must be paired with strategies that actively foster user trust and willingness. Ultimately, for digital interoperability initiatives like QRIS and DuitNow to achieve their full economic potential, stakeholders must prioritize user-centric, secure, and transparent financial environments that empower international tourists to transact with confidence.

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