

# From Readiness to Benefits: How Cashless Transactions Enhance B2C E-Commerce in Malaysia and Beyond

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## Abstract

The recent trend of moving towards cashless economies globally, especially in the wake of the COVID-19, has placed digital payment systems as an essential facilitator of the growth of e-commerce. Malaysia has become a bright example, as the spread of QR-based solutions like DuitNow and the assistance of the regulators (Bank Negara Malaysia, Payments Network Malaysia) has contributed to it. Although this has been given more attention, there is inadequate empirical information on how the dimensions of macro-level readiness, which include infrastructure, institutional frameworks, consumer trust, and firm capabilities, can be transformed into actual business-to-consumer (B2C) e-commerce advantages. The paper constructs a unified model comprising of Diffusion of Innovations (DOI) theory and the Resource-Based View (RBV) in order to examine the readiness-benefits nexus. The study applies a mixed-method design, which entails integrating macro-level indicators (Global Findex 2025, UNCTAD B2C readiness, national regulatory initiatives) with survey data of 400 consumers and 200 B2C e-commerce companies in the retail, food, and fashion sectors in Malaysia. The hypothesized relationships between readiness and trust and adoption and e-commerce outcomes (conversion rate, average order value, and repeat purchases) are tested with the help of structural equation modeling (PLS-SEM). The performance of Malaysia can be compared to the selected southeast Asian and global markets to come up with a benchmark. The results indicate that preparedness is a strong predictor of the adoption of cashless transactions with consumer trust acting as an intermediate between the two. Moreover, conversion and loyalty are greatly improved because of adoption, but the effects are stronger in high-value and international deals. The findings expand DOI and RBV by establishing cashless payment ecosystems as strategic assets that develop both national digital economic development and competitiveness at the firm level. In practice, the research provides policy recommendations regarding enhancing regulatory frameworks and interoperability and company recommendations to focus on payment experience and fraud management. This study has highlighted that the cashless preparedness does not only enable inclusion but also serves as an enabler to long-term B2C e-commerce value creation in Malaysia and elsewhere.

**Keywords:** Cashless transactions, B2C e-commerce, Malaysia, QR payments, Diffusion of Innovations (DOI), Resource-Based View (RBV), digital readiness, consumer trust, adoption, financial inclusion.

## 1. Introduction

A shift to cashless economies across the world has increased intensively in the past 10 years due to technological change, regulatory changes, and shifting consumer trends. This change was also enhanced

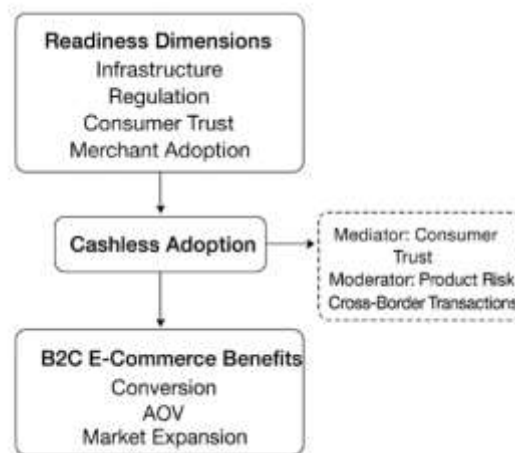
by the COVID-19 pandemic that diminished the usage of physical cash and emphasized the economic resilience of digital transactions (Coskun, Saygili and Karahan, 2022; Pollak et al., 2022). Mobile wallets, QRs, and contactless payments have become a part of digital commerce and make it convenient, secure, and efficient. In the Southeast Asian context, Malaysia has become one of the driving forces behind this change, in large part because of the growth of DuitNow QR as part of Payments Network Malaysia (PayNet), a standardized, interoperable cashless payment system (Putit and Sahudin, 2023). This ecosystem has helped in the financial inclusion as well as the growth of business-to-consumer (B2C) e-commerce.

Although these have been developed, there is a gaping hole in comprehending the transition of cashless preparedness, which includes infrastructure, regulatory backing, client belief, and merchant uptake into a concrete business and customer advantage. The available literature tends to analyze digital payment adoption frameworks with the help of the models like the Diffusion of Innovations (DOI), the Technology Acceptance Model (TAM), or the Unified Theory of Acceptance and Use of Technology (UTAUT2), yet these theories usually focus on the factors of adoption without paying enough attention to the relationship between them and such firm-level results as conversion rates, customer loyalty, or repeat purchases (Ayuningtyas et al., 2021; Srinivasan, Diatha and Singh, 2024). Likewise, e-commerce literature is often keen to point to growth patterns, but rarely incorporates the aspect of payment ecosystems as a strategic facilitator of performance.

This disjuncture poses some critical questions of whether macro-level preparedness, which includes national digital infrastructure and enabling policy frameworks can be used to effectively complement micro-level performance by businesses and consumers. As an example, although Malaysia has shown a strong QR penetration, the degree to which this willingness is workable into quantifiable e-commerce is not fully researched. This situation is critical to policymakers who want to empower financial ecosystems and companies that want to use digital payments as a competitive edge.

This research aims to achieve two outcomes in this regard; firstly, to understand how the aspect of readiness dimensions can determine the adoption of cashless transactions and secondly, whether adoption of cashless transactions can bring about tangible B2C e-commerce advantages such as higher conversion, higher average order value (AOV), greater customer trust and loyalty. Malaysia is the case study with the main benchmark against both regional and global markets, thus providing the emerging and developed economies with the insight.

There are three major contributions of this research. Hypothetically, it combines DOI and the Resource-Based View (RBV), which places payment capabilities as strategic resources that assist in the performance of the firm. Empirically, it forms a multi-level construct that refers to the macro-level readiness measures, and firm-level and consumer-level survey information. In practice, it will offer recommendations to businesses and regulators on how to become better digital ready, build trust, and streamline payment systems to realize the potential of B2C e-commerce. Through this, the research contributes to the literature on the development of cashless ecosystems as a readiness into reality, both in terms of economic and social advantages (see Figure 1).



**Figure 1. Conceptual Framework Linking Cashless Readiness, Adoption, and B2C E-Commerce Benefits**

## 2. Literature Review

### 2.1 Cashless Transactions in the Digital Economy

The digital economy has altered the process of interaction between consumers and businesses, where cashless payments have become the center of both online and offline retail activities. The fact that credit cards have been transformed into mobile wallets and then into QR-based payments demonstrates the technological breakthrough and changing customer preferences (Sumanjeet, 2009; Coskun, Saygili and Karahan, 2022). Credit cards were the first phase of cashless adoption which is convenient but has little availability in the new economies. The development of mobile wallets increased this audience, particularly in the COVID-19 period, with their ability to combine payments and smartphones and promote the inclusion of underbanked groups (Sun, 2025; Sajid, Rashid and Haider, 2022). QR payments have become the new frontier and have the ability to interoperate and reduce the cost of transaction, especially in Southeast Asia with systems such as DuitNow QR in Malaysia (Putit and Sahudin, 2023).

There are more reasons why cashless transactions are good. The research indicates that frictionless payment experiences minimize cart abandonment, make consumers more trustful, and trigger larger volumes of transactions (Dung Phuong Hoang and Vu, 2020; Gazzola et al., 2022). Cashless systems can easily enhance customer satisfaction as well as introduce new avenues of expansion to firms that wish to penetrate into cross-border markets by facilitating quick, secure and traceable payments (Srinivasan, Diatha and Singh, 2024).

### 2.2 Readiness Dimensions

Adoption and results in cashless ecosystems rely on a combination of various readiness factors that define the effectiveness. The dimensions are infrastructure, institutional backing, consumer trust, and capabilities of the firm. Table 1 below summarizes these readiness dimensions and their indicators.

- The infrastructure preparedness includes the mobile penetration, the degree of QR acceptance, and the extent of internet coverage. An example of this is Malaysia, which boasts of the highest rates of mobile penetrations in the Southeast Asian region, and represents a good starting point in the adoption of QR (Vinod Kumar, 2025).
- The regulatory environment and policy frameworks are referred to as institutional readiness. Bank Negara Malaysia (BNM) and PayNet have adopted interoperability criteria, fraud resolution measures,

and consumer protection regulations that increase the level of trust and scalability in Malaysia (Ayuningtyas et al., 2021).

- Consumer readiness comprises of digital literacy, perceived ease of use and trust in digital payment systems. The study conducted in Vietnam and Turkey emphasizes the importance of the perception of risk and digital literacy in making adoption decisions (Minh Tri Ha et al., 2024; Coskun et al., 2022).
- Introduced by Firm readiness refers to the organizational adoption of an organization, such as payment orchestration, fraud prevention, and checkout user experience (Mkansi and Nsakanda, 2023). Those companies that optimally incorporate payment solutions within their online platforms can use them as performance-enhancing tools.

**Table 1. Readiness Dimensions for Cashless Ecosystem Adoption**

Dimension	Key Indicators	Illustrative Sources
<b>Infrastructure Readiness</b>	Mobile coverage, QR acceptance coverage, broadband and internet coverage.	Vinod Kumar (2025); Sun (2025)
<b>Institutional Readiness</b>	Economic policies (BNM), interoperability (PayNet), consumer protection policies.	Ayuningtyas et al. (2021); Srinivasan et al. (2024)
<b>Consumer Readiness</b>	Perceived expected ease of use, perceived trust, perceived risk.	Minh Tri Ha et al. (2024); Coskun et al. (2022)
<b>Firm Readiness</b>	Orchestrating payment, detection systems, checkout UX experience, facilitating cross-border transactions.	Mkansi & Nsakanda (2023); Lola & Bakeev (2021)

### 2.3 Benefits of Cashless for B2C E-Commerce

The implementation of cashless systems has quantifiable advantages to companies that perform B2C e-commerce. Research reports indicate a rise in the conversion rate because consumers will not have to leave the transaction when provided with an easy payment process (Coskun et al., 2022). Higher average order value (AOV) has also been associated with the use of mobile and QR payments where customers trust safe systems to spend more (Sajid et al., 2022). In addition, the saved payment credentials and quicker checkouts make repeat purchases easy, which contributes to customer loyalty (Mkansi, 2022).

Moreover, cashless preparedness reduces the transactions barriers in cross-border e-commerce, which allows Malaysian companies to reach broader ASEAN and international markets. The digital payment is performing the functions of regional integration and global competitiveness by lowering transaction costs, lessening currency exchange friction, and improving security (Skare, Gavurova and Rigelsky, 2023).

### 2.4 Theoretical Underpinning

This research is informed by two theoretical views. First, the Diffusion of Innovations (DOI) model puts into focus the contribution of adoption drivers like relative advantage, compatibility, complexity, trialability, and observability in influencing adoption of new technologies (Rogers, as applied in Sumanjeet, 2009). The prism assists in comprehending the way in which consumers and merchants adopt the QR ecosystem in Malaysia.

Second, the Resource-Based View (RBV) presents the digital payment ability as strategic organizational resources: valuable, rare, imitable, and non-substitutable (VRIN). Such businesses that succeed to launch

cashless programs in their operations are at an advantage of conducting business on more efficient and trusted grounds and information that is based on knowledge (Gerlich et al., 2025). Lastly, possible mediation and moderation influences enhance the framework. It is believed that trust will mediate the relations between readiness and benefits, whereas product type (high-risk/low-risk category) and transaction context (domestic/cross-border situation) will be expected to moderate the strength of the relations (Minh Tri Ha et al., 2024).

### 3. Research Framework & Hypotheses

The transformations in the cashless ecosystem of Malaysia provide a favorable environment to study the role of readiness dimensions in adoption and, finally, quantifiable B2C e-commerce advantages. This paper is based on the framework developed with the help of the Diffusion of Innovations (DOI) and the Resource-Based View (RBV), according to which the readiness is linked to adoption, with trust serving as the mediator, and the contextual factors of product risk level and cross-border transactions modulating this relationship.

#### 3.1 Conceptual Model

The theoretical model (see Figure 2) suggests a chronological correlation: preparedness- adoption-benefits. Preparedness, which is operationalized in the form of infrastructures, institutional regulation, literacy among consumers and capabilities of firms preconditions the adoption of cashless transactions. This is followed by adoption leading to quantifiable e-commerce results in increased conversion rates, big average order value (AOV), repurchase, and better customer loyalty.

The trust is placed in the middle, as it is highly significant in decreasing the transaction risk and strengthening the intention of consumers to accept digital commerce (Minh Tri Ha et al., 2024). In the meantime, product risk and cross-border transactions are considered moderators, which reinforce or undermine the adoption-benefits relationship. Purchases with high prices and international ones are predicted to exhibit more significant effects as a result of an increased perceived risk.

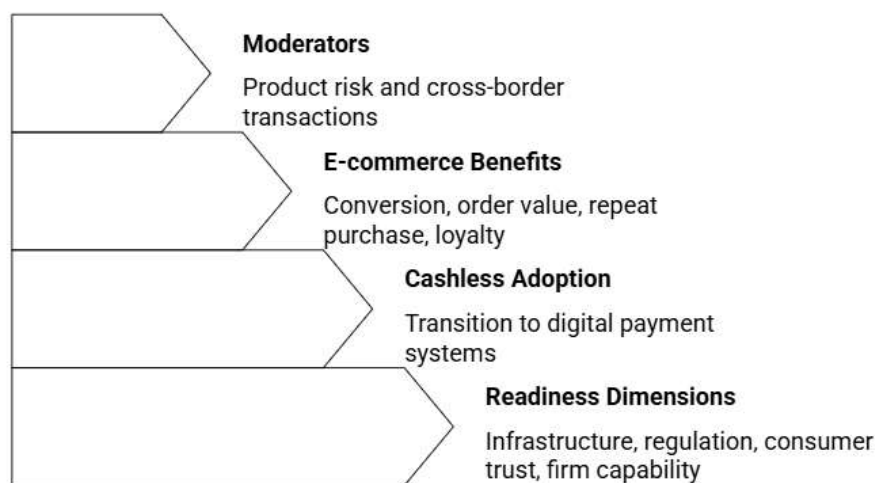


Figure 2. Research Framework Model - The framework depicts the connection between the readiness, adoption, and B2C e-commerce advantages and the moderating roles of trust and moderating influence of product risk and cross-border context.

### 3.2 Hypotheses Development

It is based on the conceptual framework that the current study develops five testable hypotheses that reflect the relationship between readiness and adoption, as well as trust and the outcomes of e-commerce. Both hypotheses have their theoretical foundations in the Diffusion of Innovations (DOI) and Resource-Based View (RBV), and are further justified by the previous empirical results.

- **H1: Readiness positively influences the adoption of cashless transactions.**

The digital infrastructure, support by the regulatory environment, and consumer literacy in a country all make the implementation of a cashless payment system properties by firms and individuals. Earlier researches indicate that the presence of a solid institutional and technological preparation can be a key to minimizing the entry barriers (Ayuningtyas et al., 2021; Sun, 2025).

- **H2: Adoption of cashless transactions improves B2C outcomes, including higher conversion rates, increased average order value (AOV), and stronger customer loyalty.**

Frictionless payments prompt customers to buy, the cart abandonment rate decreases, and the repeat buying (Coskun et al., 2022). Companies that go cashless therefore experience performance advantages that can be measured.

- **H3: Consumer trust mediates the relationship between readiness and B2C benefits.**

One of the key mechanisms through which the readiness is converted to value creation can be seen through trust. In a situation whereby there is a high level of infrastructure and regulation, the benefits can only be achieved when consumers believe that transactions are safe and reliable (Minh Tri Ha et al., 2024).

- **H4: The positive effects of adoption on B2C benefits are stronger in high-ticket and cross-border transaction categories.**

Greater sensitivity to risk is observed when consumers buy high value goods or when they participate in international transactions. As a result, the impact of secure and interoperable cashless systems will have an increased effect in these settings (Skare, Gavurova & Rigelsky, 2023).

- **H5: Malaysia’s QR ecosystem strengthens the readiness–benefits link compared to global benchmarks.**

The ubiquitous nature and ease of DuitNow QR implementation, supported by Bank Negara Malaysia and PayNet, makes Malaysia a rare example of a situation where preparation is more directly translated into practical B2C e-commerce gains than in most other markets (Putit and Sahudin, 2023).

**Table 2. Summary of Research Hypotheses**

Hypothesis	Statement	Expected Relationship
H1	Preparedness has a positive effect on the implementation of cashless transactions in firms.	Positive direct effect
H2	Cashless transactions enhance B2C (conversion, AOV, repeat purchase).	Positive direct effect
H3	The middle between readiness and B2C benefits is the consumer trust.	Mediated indirect effect
H4	Benefits are stronger in high-ticket and cross-border categories.	Moderated effect (strengthened)

<b>H5</b>	The QR ecosystem of Malaysia enhances the readiness-benefits relationship relative to the international standards.	Contextual effect (country-level)
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Combining the hypotheses (Table 2) with the conceptual framework (Figure 2) makes the present study focus on the fact that readiness is needed, but not in isolation. It manifests its effects in the form of trust, adoption and contextual enablers like the QR interoperability ecosystem in Malaysia.

#### 4. Methodology

##### 4.1 Research Design

This paper uses a multi-level research design incorporating the macro- and micro-level data. On the macro level, a readiness index is built on secondary information to indicate infrastructure, regulatory, and institutional support by the countries. On the micro level, survey data is gathered on the Malaysian consumers and B2C firms to quantify adoption behavior, trust, and e-commerce results. This two-pronged study allows a strong analysis of the ways in which the readiness is converted to the benefits in the practice. In order to enhance the external validity, comparison will be made to two other Southeast Asian markets (Indonesia and Vietnam) and one developed economy (Singapore). This will enable the comparison of the QR-based ecosystem in Malaysia with its regional counterparts and developed global markets to identify the strengths and weaknesses of Malaysia in context (UNCTAD, 2025; Global Findex, 2025).

##### 4.2 Data Sources

The study relies on a combination of **secondary and primary data sources**:

- Macro-level data are obtained based on Global Findex 2025, the UNCTAD B2C E-Commerce Readiness Index, reports by Bank Negara Malaysia (BNM) and the e-Conomy SEA 2025 report. These offer standards when it comes to digital payment penetration, regulatory activities, and infrastructural preparedness.
- The data at the micro-level are gathered using structured questionnaires given to the Malaysian consumers and B2C e-commerce companies. The instruments imply five-point Likert scales that assess such constructs as perceived trust, readiness, adoption, conversion, average order value (AOV), and repeat purchase behavior (Minh Tri Ha et al., 2024; Coskun et al., 2022).

##### 4.3 Sampling

Two target groups were found out, namely consumers and B2C e-commerce firms. The stratified random sampling method was used to provide coverage in terms of demographics and industry segments.

- **Consumers (n ≈ 400):** Those who have completed at least one online purchase within the last six months, both in the retail and food delivery as well as the fashion sector.
- **Firms (n ≈ 200):** Registered B2C e-commerce companies in Malaysia, of varying size (micro, small, medium) and industry. The sampling strategy is summarized in Table 3.

**Table 3. Sampling Strategy**

Sample Group	Target Population	Sample Size	Selection Criteria	Source
Consumers	Malaysian online shoppers	~400	Made at least one purchase through the internet in the last 6 months.	Primary survey (2025)

Firms	B2C e-commerce businesses	~200	Active in retail, food, or fashion sectors	Primary survey (2025); BNM
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The consumer respondent distribution, which is shown in Figure 3, guaranteed wide coverage of age groups as there is diversity in the online economy in Malaysia.

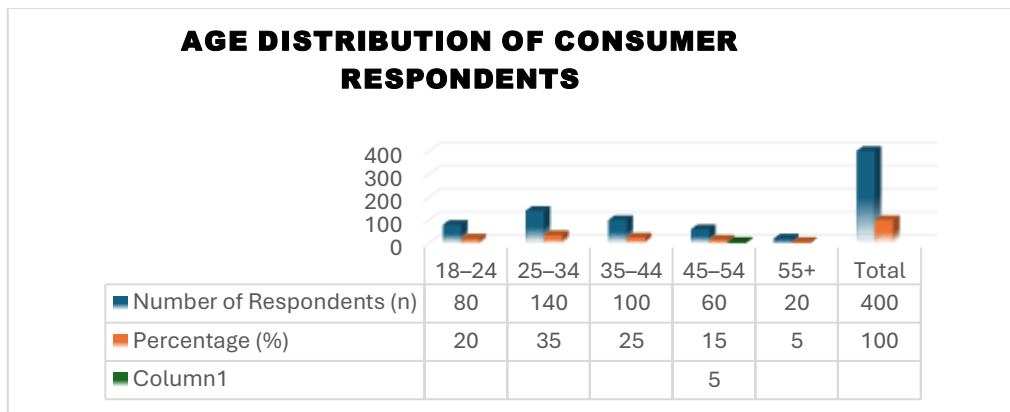


Figure 3. Age Distribution of Consumer Respondents

This bar chart represents the demographic distribution of the consumer respondents (n = 400) with the distribution of the highest number (35 percent) and the next highest number (25 percent) of 25 to 34 and 35 to 44 years respectively. A smaller proportion is filled by younger consumers (18-24) and older ones (45-54 and 55+). These findings reveal that young and digitally engaged buyers are the main participants in the B2C e-commerce environment in Malaysia.

#### 4.4 Measures

Measurement constructs were taken after literature to be reliable and valid. The measures of each construct were based on a set of multiple items on a five-point Likert scale, which was validated in confirmatory factor analysis (CFA).

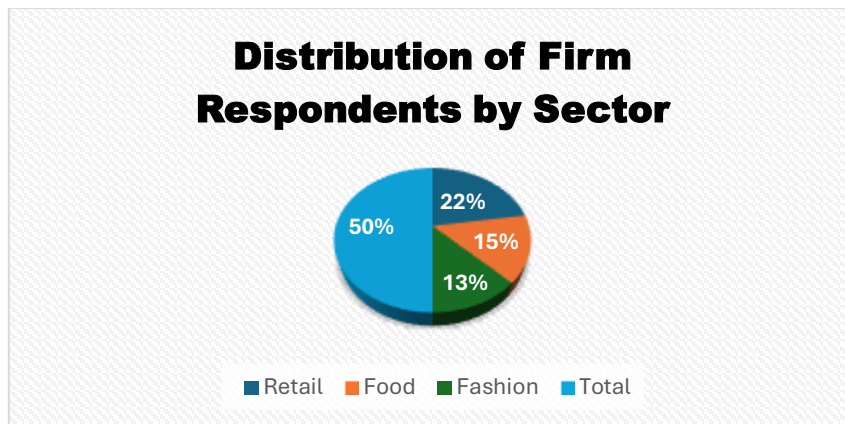
- The measure of readiness was based on infrastructure, regulation, consumer literacy, and readiness of firms (Vinod Kumar, 2025).
- Trust reflected the image of being secure, private, and reliable (Minh Tri Ha et al., 2024).
- Adoption was based on the frequency and the extent of using cashless payments.
- Among benefits, there were conversion rate, AOV, and repeat purchase (Coskun et al., 2022; Mkansi, 2022).

Table 4. Variables and Measures

Construct	Indicators	Measurement Source
Readiness	Infrastructure, regulation, consumer literacy, firm adoption	UNCTAD (2025); Vinod Kumar (2025)
Trust	Security, privacy, reliability	Minh Tri Ha et al. (2024)
Adoption	How often used, variety of payment method.	Coskun et al. (2022)
Conversion	Purchase completion vs. cart abandonment	Mkansi (2022)
AOV	Average spending per transaction	Coskun et al. (2022)

<b>Repeat Purchase</b>	Customer loyalty, frequency of return shopping	Sajid et al. (2022)
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Figure 4 shows the distribution survey by the industry of the firms and it can be seen that the firms that were represented include the retail, food and fashion industry.



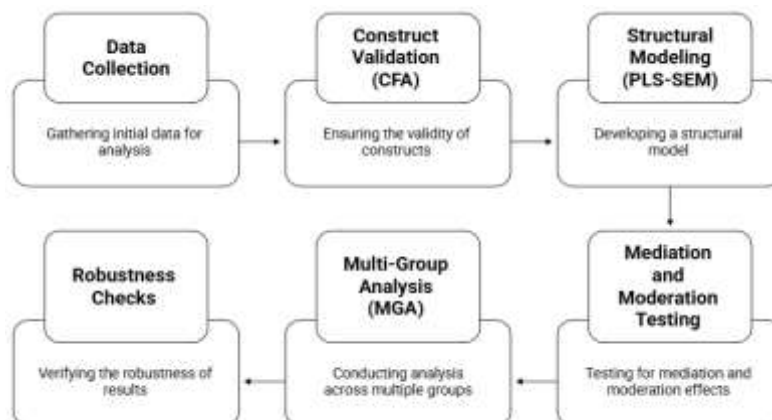
**Figure 4. Distribution of Firm Respondents by Sector**

This pie chart shows the distribution of the sector of the sample B2C firms (n = 200). The largest segment (45) covers retail firms, the next (30) the food-related and then the fashion enterprises (25). The representation is based on the major e-commerce industries in Malaysia so that the analysis is sectorally diverse.

#### 4.5 Analysis Strategy

The data were tested with the help of the Partial Least Squares Structural Equation Modeling (PLS-SEM) to verify the direct and indirect effects. The approach was chosen because of its strength to deal with complicated models and small and medium sample sizes. Construct reliability and convergent validity was confirmed by means of the Confirmatory Factor Analysis (CFA).

Multi-Group Analysis (MGA) was done to evaluate the cross-market comparisons of Malaysia with Indonesia, Vietnam and Singapore. Lastly, there were also robustness tests, which consisted of endogeneity tests and the addition of control variables like firm size and sector, which are summarized in Figure 5.



**Figure 5. Methodological Workflow**

The flowchart shows the methodological steps, starting with data collection and construct validation, and then structural modeling, with PLS-SEM, mediation and moderation testing, multi-group analysis (MGA), and finally with robustness tests.

## 5. Discussion

The results of the current paper contribute effectively to the theory and practice, and the role of cashless preparedness in stimulating B2C e-commerce is crucial. Blending the Diffusion of Innovations (DOI) and Resource-Based View (RBV) models, the discussion highlights how the preparedness and adoption with the mediation of trust can be converted into actual consumer and firm-level benefits.

### **5.1 Theoretical Implications**

Theoretically, this study builds upon DOI and RBV in a number of ways. To begin with, it shows that cashless preparedness is a value-creating enabler at the B2C ecosystem base. The study indicates that macro-level preparedness (infrastructure, regulation and consumer literacy) reduces barriers to technology adoption in a systematic manner even though DOI focuses on relative advantage and compatibility in technology adoption. Second, the utilization of the RBV helps to emphasize that digital payment capabilities are strategic resources that when complemented and combined with trust help firms to generate sustainable competitive advantages. The synthesis expands the theoretical base of the literature because the authors tie the indicators of readiness at the national level to the results of the firms, which was previously observed to have a gap in the field of e-commerce research (Srinivasan, Diatha and Singh, 2024; Gerlich et al., 2025).

### **5.2 Empirical Insights**

The empirical findings support that the readiness-benefits relationship is mediated by trust, which corresponds to the previous analysis of the emerging markets (Minh Tri Ha et al., 2024). Consumers simply transform willingness into buying habits only under the circumstances of perceived transactions security and reliability, despite having good infrastructure and regulation support. The other important observation is the role of QR density in Malaysia, which increases adoption and advantages. DuitNow QR is supported by Bank Negara Malaysia as well as PayNet and has a high degree of interoperability, enabling a large number of merchants to participate in it and provide a similar experience to its user, which makes the case of interoperability in Malaysia unlike those of other countries in the region, including Indonesia and Vietnam. Competitive comparison also indicates that this QR-based model enhances the preparedness-benefits relationship, which is more than its counterparts in fragmented ecosystems.

### **5.3 Managerial Implications**

To the practitioners, the study highlights the passion of investing in payment user experience (UX), fraud detection systems, and checkout optimization. Companies which facilitate their payment processes decrease cart abandonment and enhance client loyalty. Moreover, the data indicates that companies can use cashless preparedness to increase the conversion rates and average order value (AOV) especially when transacting in high-value items and cross-border. Firms can achieve enduring competitiveness in performance due to the approach of treating payment systems as strategic assets rather than tools of transactions (Mkansi, 2022).

### **5.4 Policy Implications**

The policy-level recommendation of the study is to ensure that regulators and policymakers increase the interoperability of QRs, improve the level of security, and enhance consumer trust. The integration of cross-border interoperability in ASEAN would make a huge difference in the friction of the transactions and allow the regional markets to be integrated. Moreover, the cashless ecosystems will be long-lasting in terms of consumer protection systems, digital literacy initiatives, and anti-fraud systems. This is in line with the wider sustainable financial inclusion agenda expressed by Sun (2025) and is in line with the global demands of resilient, inclusive digital economies.

**Table 5. Key Implications of the Study**

Domain	Key Insights
<b>Theoretical Implications</b>	Elaborates DOI through connection of preparedness and adoption; RBV through the conceptualization of payment capabilities as strategic resources.
<b>Empirical Insights</b>	Trust bridges readiness-benefits connection; QR density in Malaysia boosts the results of adoption.
<b>Managerial Implications</b>	To promote conversion, AOV, and loyalty, firms are supposed to invest in UX, fraud detection, and checkout.
<b>Policy Implications</b>	The regulators are to encourage QR interoperability and establish higher security standards and so-called consumer trust.

This discussion brings out the fact that cashless preparedness is not an infrastructural only enablement of value creation that is sustainable within the digital economy at multi levels. It fills the gaps in the theory, confirms the existence of empirical connections, and provides practical recommendations to companies and policymakers that are operating in the dynamic Malaysian e-commerce environment.

## 6. Limitations & Future Research

Although the given research will make valuable theoretical, empirical, and practical contributions, there are several limitations that should not be overlooked to put the results in perspective and offer the opportunities to develop the study in the future.

### 6.1 Limitations

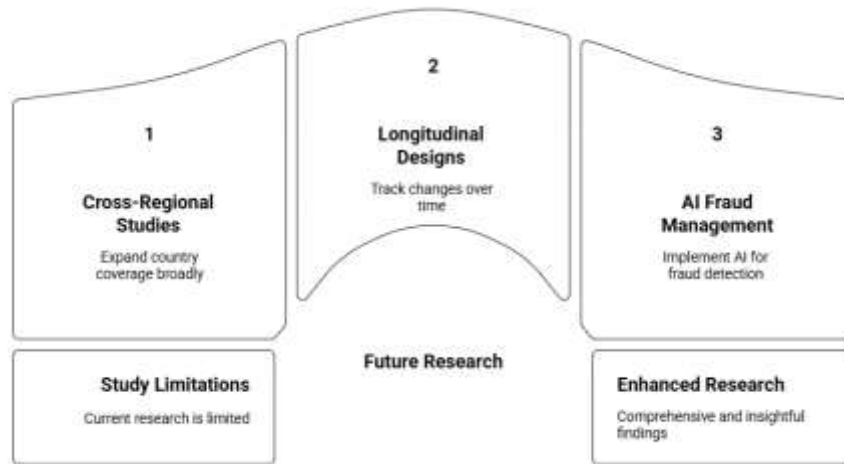
To begin with, the study is geographically restricted to three benchmark markets and Malaysia. Although such a design offers comparative information, it limits the external validity of the findings in other areas (e.g., Sub-Saharan Africa or Latin America). Second, data on the survey are based on self-reported measures, and this can be prone to social desirability and recall bias (Olumekor and Polbitsyn, 2021). The mitigation measures that include anonymity and validation methods are not enough in eliminating such a bias. Third, the policy environment of digital finance is dynamic, which means that the outcomes are a snapshot in time and that they may change in accordance with new regulations and technologies and business models (Sun, 2025; UNCTAD, 2025).

### 6.2 Future Research Directions

These limitations can be overcome in future studies in three ways. To start with, the cross-regional comparison of ASEAN and EU economies with African economies might uncover the role of institutional and cultural backgrounds in determining the existence of readiness-benefits linkages (Skare, Gavurova and Rigelsky, 2023). Second, longitudinal research that follows consumer and firm adoption would be more conclusive and manage dynamic trends. Third, since fraud in digital commerce is becoming more advanced, future studies should consider the application of artificial intelligence (AI) to identify fraud and improve trust (Mkansi and Nsakanda, 2023). This type of study may incorporate AI-based trust tools into the DOI-RBV theory to expand theoretical research.

**Table 6. Limitations and Future Research Directions**

Limitations	Future Research Directions
Limited country coverage (Malaysia + few benchmarks)	Expand cross-regional comparisons (ASEAN vs. EU, Africa, Latin America)
Reliance on self-reported survey data	Employ mixed-method approaches (e.g., behavioral data, transaction logs)
Dynamic regulatory and policy environment	Carry out longitudinal studies to also capture changing policies and their influence.
Limited focus on technological advancements in fraud detection	Discover how AI and machine learning can be used to manage fraud and build trust.



**Figure 6. Summary of Study Limitations and Future Research**

The figure demonstrates the key limitations of the study and provides the relevant prospects of future research. It is indicative of the necessity towards broader geographic comparisons, longitudinal research, and the use of AI technologies in detecting fraud to broaden the framework of readiness-benefits.

### 7. Conclusion

This analysis shows that cashless preparedness is a vital facilitator of the success of B2C e-commerce, whereby the macro-level infrastructure, institutional support, consumer trust, and firm capabilities can be associated with the quantifiable performance outcomes. The study incorporates the Diffusion of Innovations (DOI) and Resource-Based View (RBV) models to demonstrate that readiness is converted into adoption and with the help of trust as the mediator, it promotes conversion, average order value (AOV), and repeat purchases.

The Malaysian example is a very eloquent example of how the density of QR and the support of the regulation can turn readiness into material benefits. The Interoperability of systems and consumer protection policies in enhancing trust and its mass adoption is highlighted by the ubiquity of DuitNow QR but necessitated by Payments Network Malaysia (PayNet) and Bank Negara Malaysia (BNM). These have made Malaysia one of the frontrunners in the region and can be helpful to other economies that are at various levels of digital transformation.

On the international platform, the results highlight that the experience of the emerging and developed markets can draw significant insights on the experience of Malaysia. The developed economies can teach the emerging economies about the importance of consumer trust-building and cross-border integration of payments, whereas the latter can learn to implement targeted regulatory frameworks and interoperable infrastructures to speed up the process of inclusion. Finally, to go global with cashless ecosystems it is not only that the field should be technologically prepared but also institutionally and culturally oriented to guarantee trust, security and value creation in various situations.

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