

## Determinants of Payment Method Selection in E-commerce: An Empirical Analysis of Cash on Delivery (COD) Recipients at PT Pos Indonesia

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### ABSTRACT

This study investigates the factors influencing customers' decision to choose Cash on Delivery (COD) as a payment method in e-commerce transactions. Perceived Convenience, Prior Experience, and Perceived Security were identified as key factors shaping customers' preferences. The objective was to analyze the relationship between these factors and the likelihood of choosing COD. A quantitative approach using a survey methodology was employed, with a sample of 153 customers from PT. POS Indonesia. The findings reveal that Perceived Convenience significantly drives customers' decisions to select COD due to its ease and flexibility. Prior Experience also plays a crucial role, as positive past interactions build trust and reduce perceived risks, encouraging repeated use of COD. Additionally, Perceived Security emerged as a significant factor, with customers perceiving COD as a safer payment option, particularly for those concerned about online fraud.

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## **INTRODUCTION**

Cash on Delivery (COD) remains a preferred payment method for online shoppers, particularly in emerging economies, despite the increasing adoption of digital payment options (Vandiny et al., 2022). Customers are drawn to COD due to factors such as convenience, security, trust, and familiarity with cash transactions, which alleviate concerns regarding online fraud and financial data security (Pencarelli et al., 2018).

Perceived convenience significantly influences the decision to opt for COD, as it simplifies the purchasing process by allowing consumers to make payments only upon delivery (Tandon et al., 2017). This is particularly relevant in regions where access to digital banking is limited or where consumers prefer not to engage in prepaid transactions (Pencarelli et al., 2018). The flexibility offered by COD eliminates the need for upfront financial commitment, reducing perceived risk and increasing adoption rates (Vandiny et al., 2022).

Prior experience plays a crucial role in shaping consumer preferences toward COD. Positive past interactions, including timely deliveries and product accuracy, reinforce trust and repeat usage (Shankar & Datta, 2018). Conversely, consumers who encounter delayed shipments, product mismatches, or fraudulent activities may develop negative perceptions, leading them to switch to alternative payment methods (Karunarathna, 2021). Regional studies indicate that trust in e-commerce platforms and last-mile delivery quality significantly affect consumer satisfaction and COD adoption (Aljohani, 2024).

Perceived security is another key determinant, as COD provides consumers with financial control by allowing them to inspect the product before payment (Vandiny et al., 2022). This aspect is particularly important in markets where concerns over online fraud and transaction security are high (Anjum & Chai, 2020). Many consumers prefer COD as a safeguard against data breaches, unauthorized transactions, and potential e-commerce scams (Hossain, 2019).

Despite its advantages, COD presents logistical challenges, including higher return rates, cash-handling complexities, and increased operational costs for e-commerce platforms (Pencarelli et al., 2018). Businesses must balance COD demand with sustainable logistics strategies to minimize financial risks. Furthermore, the impact of last-mile delivery quality on COD adoption remains an underexplored area that could provide deeper insights into consumer preferences (Aljohani, 2024).

Existing literature largely focuses on specific geographic regions, such as Italy, Pakistan, and Sri Lanka, limiting the generalizability of findings (Pencarelli et al., 2018; Anjum & Chai, 2020; Karunarathna, 2021). A broader comparative analysis is needed to examine how cultural, economic, and technological factors influence COD adoption across diverse markets. Additionally, while some studies discuss the rise of COD usage in recent years, there is limited research on its long-term sustainability in the evolving e-commerce landscape (Halaweh, 2018). Addressing these gaps will help businesses tailor payment models that align with consumer expectations, trust-building mechanisms, and digital payment innovations.

This study aims to investigate the determinants influencing customers' decision to choose COD as a payment method. Specifically, it seeks to answer the following research questions:

RQ1: Does perceived convenience affect customers' decision to choose COD?

RQ2: Do prior experiences influence customers' decision to choose COD?

RQ3: Does perceived security impact customers' decision to choose COD?

## LITERATURE REVIEW

### *Decision to choose Cash on Delivery (COD) payment Method*

Customers' choice to opt for Cash on Delivery (COD) as a payment method is influenced by various factors. Research by Anjum & Chai (2020) highlights that despite significant advancements in e-commerce, customers still prefer COD over electronic payment methods in countries like Pakistan. This preference for COD is also evident in Italy, as studied by (Pencarelli et al., 2018), where customers appreciate the convenience of making a cash payment upon delivery of the product. Moreover, the study by Karunarathna (2021) emphasizes that perceived security, privacy, and trust play a crucial role in influencing customers to opt for COD. This aligns with the findings of prior study, who suggest that the assurance of privacy, security, and confidence associated with COD impacts consumer buying behavior positively (Simorangkir, 2024).

Furthermore, the study by Vandiny et al. (2022) delves into the factors that encourage customers to select COD when shopping online. This research sheds light on the motivations behind customers' choices and provides insights into the decision-making process. Additionally, Yu et al. (2020) discuss the risk analysis of COD payment through social network analysis and fuzzy Petri net, emphasizing the popularity of COD in various regions and its potential for expanding markets and increasing profits for online sellers. These studies collectively underscore the significance of customer preferences, convenience, and trust in driving the adoption of COD as a preferred payment method.

Moreover, the research by Thomas et al. (2011) points out a contrasting aspect related to payment methods, indicating that credit card payments may lead to increased purchases of unhealthy food products compared to cash transactions. This highlights how the mode of payment can also influence consumer behavior and choices.

### *Perceived Convenience*

Perceived convenience in the context of Cash on Delivery (COD) payment method refers to the ease and comfort customers associate with using this specific payment option when making online purchases. Studies have shown that convenience plays a significant role in the adoption of innovative payment methods (Teo et al., 2015). It encompasses consumers' perceptions of being able to complete transactions conveniently in terms of time, place, and method (Fen et al., 2015). Factors such as promotion, social aspects, personal preferences, perceived ease of use, and usefulness all contribute to the decision-making process when selecting COD as a payment method for online shopping (Vandiny et al., 2022). The level of perceived service convenience is mainly influenced by non-monetary costs, particularly those related to time and effort expended

during the transaction process (Jiang et al., 2013). From a mobile payment perspective, perceived convenience is linked to consumers' perceptions of the time and effort required to conduct payment transactions more efficiently (Lai & Liew, 2021). Perceived transaction convenience, defined as users' perceptions of the transaction in terms of time and effort, is a crucial factor influencing the intention to use mobile payment methods (Do et al., 2020; Chen et al., 2019).

In the realm of e-commerce, despite the significant evolution of e-payment methods, Cash on Delivery (COD) remains a prevalent choice among customers, indicating a reluctance to fully transition to electronic payment methods (Anjum & Chai, 2020). Studies have delved into the factors influencing customers' preferences for COD, shedding light on the reasons behind its continued popularity (Pencarelli et al., 2018). Cash on delivery is favored by customers for its simplicity and ease of use, making it a preferred method of payment for online purchases, particularly in regions like Bangladesh (Fatima, 2024). The convenience threshold plays a pivotal role in determining the preferred mode of payment, with cash being favored below this threshold and card payments above it (Karoubi & Chenavaz, 2015). In various regions, including Europe and countries like Thailand, India, and Bangladesh, COD is a widely accepted offline payment method that facilitates market expansion and increased profits for online sellers (Yu et al., 2020). The adoption of COD in e-commerce is driven by its value proposition to consumers, offering a convenient payment option akin to in-store purchases (Rihidima et al., 2022). Retailers also find value in adopting the COD model due to its perceived ability to enhance trust, convenience, security, and cater to customers who do not use credit cards for online transactions (Phuong et al., 2021).

### *Prior experience*

Prior experience in e-commerce payment methods encompasses a range of factors that influence the adoption and utilization of various payment options in online transactions. Research by et al. Nakhleh (2017) highlights the significance of experience and skills in IT, IT education, website characteristics, communications, and security of payment methods as critical elements affecting e-commerce practices. This suggests that familiarity with technology and security features plays a pivotal role in shaping individuals' preferences for specific payment methods. Pencarelli et al. (2018) further elaborate on the evolution of payment methods in e-commerce, noting the rapid advancements in options such as credit cards, debit cards, smart cards, e-cash, e-checks, and e-wallets. This evolution underscores the importance of prior exposure and experience with diverse payment mechanisms in shaping consumer behavior and preferences in online transactions.

Moreover, Halaweh (2017) discusses the multiple e-payment methods utilized in e-commerce transactions, including credit cards, prepaid cards or smart cards, e-cash, and e-checks. Understanding and having prior experience with these various payment modalities can significantly impact individuals' choices when engaging in online shopping. Karunarathna (2021) delves into the critical factors influencing online consumer preferences for the cash on delivery

(COD) method, shedding light on the importance of investigating factors that drive customers' choices in payment methods. This emphasizes the role of prior experiences, perceptions, and preferences in shaping individuals' inclinations towards specific e-commerce payment options.

Anjum and Chai (2020) provide insights into the prevailing use of cash on delivery (COD) as a dominant payment method in online shopping, particularly in regions like Pakistan where e-payment adoption remains limited. This suggests that cultural and regional factors, along with prior experiences and trust levels, heavily influence the choice of payment methods in e-commerce. Additionally, Jarupunphol & Mitchell (2002) argue that credit card payments are widely considered the most suitable method for e-commerce transactions due to factors like transaction speed and fraud protection. This highlights how prior experiences with payment security and efficiency can shape individuals' preferences for specific payment modes in online settings.

Furthermore, Luong et al. (2022) emphasize the pivotal role of Payment Intermediaries in influencing consumers' online payment attitudes and intentions. This underscores how intermediary services can impact individuals' prior experiences with e-commerce payment methods and subsequently influence their future choices. Awadallah (2017) stresses the importance of stable and secure payment systems in supporting e-commerce activities, indicating that prior experiences with payment system reliability can significantly impact individuals' trust and confidence in using e-payment methods. Amofah & Chai (2022) highlight trust and payment methods as critical factors influencing e-commerce adoption, suggesting that individuals' prior experiences with payment security and reliability play a crucial role in shaping their overall trust in online transactions.

### *Perceived Security*

Perceived security in e-commerce payment methods refers to consumers' subjective evaluation of the security measures implemented within digital payment systems (Poudel & Sapkota, 2022). This perception significantly influences consumer trust and satisfaction towards e-retailers in online shopping (Aggarwal & Rahul, 2018). Security concerns in e-commerce transactions encompass aspects such as payment confidentiality, integrity, and authorization, particularly in Internet transactions (Jarupunphol & Mitchell, 2002). Consumers' trust in the security of mobile payment procedures greatly impacts their willingness to adopt such platforms (Lai & Liew, 2021). Furthermore, the perceived security of electronic payments plays a crucial role in shaping e-commerce consumer perceptions and purchase intentions (Ardiansah et al., 2020). Studies have indicated that consumers' trust in e-payment systems is affected by their perceived security and the technical safeguards in place to ensure secure payment transactions (Mashatan et al., 2022).

In the realm of e-commerce, the security of electronic payment systems is a critical component that ensures transactions occur smoothly while maintaining overall system security (Hassan et al., 2020). The adoption of e-payment systems is influenced by various factors, with security being a necessary element

alongside advantages and web assurance seals, collectively impacting customer intentions to adopt such systems (Özkan et al., 2010). Additionally, the perceived security of online payment systems has been found to influence consumers' buying behavior, directly affecting purchase intentions based on considerations of ease of use and usefulness (Vijayan & Duraisamy, 2021). Perceived security, along with perceived control, interface design features, and conscientiousness, significantly influences users' continuous use of mobile payment services (Zhang et al., 2019). It is evident that ensuring a high level of perceived security is essential for fostering adoption of e-payment systems in the ever-evolving landscape of digital transactions.

### ***Hypotheses Development***

#### ***The relationship between perceived convenience and customers decision to choose COD payment method.***

The perceived convenience of Cash on Delivery (COD) significantly influences customers' decision-making processes, making it a preferred payment method, particularly among those who prioritize transaction ease, security, and control (Teo et al., 2015). COD is especially attractive to customers who lack access to credit cards or prefer not to engage in online prepayments (Phuong et al., 2021). Studies indicate that factors such as promotions, social influences, personal considerations, perceived ease of use, and perceived usefulness play crucial roles in shaping COD adoption (Vandiny et al., 2022). Additionally, security, privacy, and trust have been identified as major determinants of COD preference (Karunarathna, 2021).

Extensive research confirms that perceived transaction convenience (PTC) directly impacts payment adoption intentions (Chen et al., 2019). Factors such as acceptability, accessibility, and purchasing habits further shape users' payment preferences, reinforcing convenience as a critical driver (Tounekti et al., 2020). Additionally, cognitive considerations, product-related attributes, ease of use, and trust significantly contribute to customers' decisions regarding COD (Rabaa'i & Zhu, 2021).

In regional studies, perceived security against online scams and buyer control over transactions have been identified as key reasons for COD preference in Pakistan (Anjum & Chai, 2020). Similarly, in Sri Lanka, perceived security, privacy, and trust significantly influence COD adoption (Karunarathna, 2021). In Cambodia, ease of use and safety concerns have been highlighted as crucial factors shaping COD selection (Hung et al., 2019).

The dynamic nature of customer experiences also impacts COD adoption. As customers engage in repeat purchases, their perception of payment risk declines, increasing the likelihood of continuing to use COD (Wu et al., 2020). Research further indicates that convenience remains a primary motivator in the adoption of various payment methods, including COD (Chandradasa & Liyanapathirana, 2022).

#### ***The relationship between prior experience and customers decision to choose COD payment method.***

The decision-making process in selecting Cash on Delivery (COD) is significantly shaped by prior experience, as customers learn to assess risks associated with different payment methods. Wu et al. (2020) highlight that shopping experience moderates the choice between COD and online payment methods, suggesting that repeat purchases reduce risk perception and decrease COD reliance. This aligns with Anjum & Chai (2020), who found that trust and convenience influence COD adoption, with prior experiences shaping payment preferences in e-commerce transactions.

A lack of trust in online payments remains a key determinant of COD preference, particularly in developing markets like Sri Lanka (Prelec & Loewenstein, 1998). Security concerns, stemming from past fraudulent transactions or perceived risks, reinforce COD as a preferred alternative. Additionally, Vandiny et al. (2022) explore the psychological aspect of payment decisions, suggesting that mental accounting influences customers' preference for COD by reducing the immediate financial burden of online prepayments.

Further, Garrouch (2021) emphasizes the impact of security and reliability perceptions in shaping online payment preferences. Customers often choose COD as a familiar and trusted method, particularly when their past experiences with alternative payment methods have been negative. Collectively, these studies indicate that prior transaction experiences, security concerns, and cognitive biases play a pivotal role in determining COD adoption, particularly in markets where trust in digital payments remains low.

### ***The relationship between perceived security and customers decision to choose COD payment method***

Perceived security is a critical determinant in customers' preference for Cash on Delivery (COD) in e-commerce transactions. Shankar & Datta (2018) highlight that perceived security establishes initial trust, a key factor influencing mobile payment adoption. Similarly, Karunarathna (2021) and Halaweh (2017) found that security, privacy, and trust significantly shape COD adoption, reinforcing its role as a preferred payment method. These studies collectively underscore that perceived security is a pivotal element in payment method selection in online shopping.

Further, Anjum and Chai (2020) found that in Pakistan, concerns over online scams and perceived control over purchases were key motivators for COD selection. This aligns with Phuong et al. (2021), who emphasized that trust, convenience, and security drive COD preference, particularly for customers without credit cards. These findings highlight that perceived security enhances trust and comfort, making COD a reliable option in e-commerce.

Additional research by Vandiny et al. (2022) identifies ease of use, usefulness, and social factors as contributors to COD adoption, reinforcing the role of security in shaping preferences. Similarly, Pencarelli et al. (2018) stress that privacy and security concerns are major drivers for COD selection. Collectively, these studies demonstrate that perceived security remains a primary factor influencing consumer trust, risk assessment, and payment choices in online transactions.

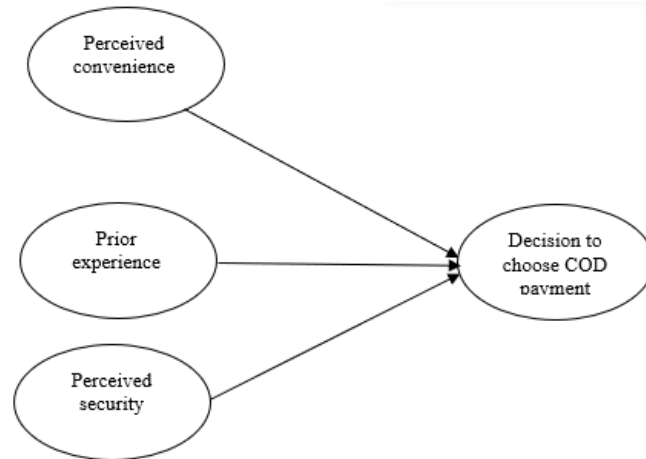
*Accordingly, the hypotheses are developed as follows:*

H1: There is a positive and significant effect of perceived convenience on customers' decision to choose COD payment.

H2: There is a positive and significant effect of prior experience on customers' decision to choose COD payment.

H3: There is a positive and significant effect of perceived security on customers' decision to choose COD payment.

The conceptual framework presented in Figure 1 outlines the hypothesized relationships between key variables influencing the choice of COD payment



**Figure 1. Research framework**

## **METHODOLOGY**

The present study aims to explore the factors influencing customers' decisions to choose the Cash on Delivery (COD) payment method, focusing on perceived convenience, prior experiences, and perceived security. A quantitative research approach is adopted, using survey methodology to gather and analyze data. The target population consists of customers who have received packages from PT. POS Indonesia, and the sample size is determined using a formula for population proportion studies. Based on this calculation, a sample of 153 customers is selected to ensure adequate responses for analysis. Data is collected through an offline survey distributed to a random sample of these customers who have used COD at least once, which helps minimize non-response bias and improves sample representativeness.

The study investigates three key constructs: perceived convenience, prior experiences, and perceived security. Perceived convenience is measured through items like "COD is easy to use," "COD saves time," and "COD is hassle-free." The impact of prior experiences is assessed through statements such as "I have used COD before and had a positive experience" and "I have used COD before and had a negative experience." Perceived security is gauged with items like "COD is a secure payment method" and "COD ensures the safe delivery of my purchases."

The data analysis employs Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine the relationships between the independent variables (perceived convenience, prior experiences, and perceived security) and the dependent variable (decision to choose COD). The analysis involves an initial

screening of data for missing values and outliers, followed by an evaluation of the measurement model's validity and reliability using convergent and discriminant validity, along with composite reliability and Cronbach's alpha. The structural model is then assessed by analyzing path coefficients, conducting significance testing via bootstrapping, and examining R-squared values to determine the explained variance in the dependent variable. Finally, the model's fit is evaluated using SRMR and predictive relevance ( $Q^2$ ) to ensure robustness. This methodology aims to provide valuable insights into the factors shaping customers' choices of COD as a payment method and to identify the most significant drivers of this decision.

## RESEARCH RESULT

### *Respondent Profile*

This study presents the demographic profile of the respondents, which includes information on gender, age, monthly income, residence, and the frequency of e-commerce transactions conducted by the respondents. A detailed overview of the sample characteristics can be seen in Table 1.

Table 1. Respondent Profile

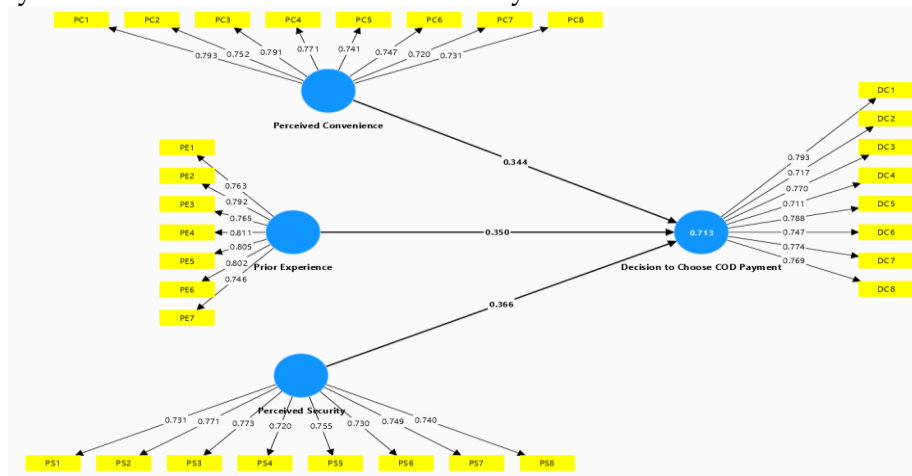
Category	Description	Number of Respondents	Percentage
Gender	Male	65	42%
	Female	88	58%
Age	< 20 years	10	6%
	21 - 25 years	45	29%
	26 - 30 years	55	36%
	31 - 35 years	30	20%
	> 35 years	13	8%
Monthly Income	< IDR 1,000,000	10	7%
	IDR 1,000,001 - IDR 2,000,000	40	26%
	IDR 2,000,001 - IDR 4,000,000	55	36%
	IDR 4,000,001 - IDR 7,000,000	35	23%
	> IDR 7,000,001	13	8%
Residence	Medan Sunggal Sub-district	65	42%
	Medan Helvetia Sub-district	60	39%
	Deli Serdang, Sunggal Sub-district	28	19%
E-commerce Transaction Frequency	1 time	15	10%
	2 times	20	13%
	3 times	35	23%
	More than 3 times	83	54%

Table 1 presents the demographic profile of the respondents, highlighting several key characteristics across various categories. In terms of gender, a larger proportion of the respondents are female (58%), while male respondents account for 42%. Regarding age, the majority of respondents are between 26-30 years old (36%), followed by those in the 21-25 years range (29%). Other age groups, including those under 20 years, 31-35 years, and over 35 years, represent smaller segments, with 6%, 20%, and 8%, respectively. As for monthly income, the largest group of respondents earns between IDR 2,000,001 and IDR 4,000,000 (36%), while 26% earn between IDR 1,000,001 and IDR 2,000,000. Smaller percentages of

respondents earn below IDR 1,000,000 (7%) or above IDR 7,000,001 (8%). In terms of residence, most respondents are from Medan Sunggal District (42%), followed by Medan Helvetia District (39%) and Sunggal, Deli Serdang District (19%). When it comes to e-commerce transaction frequency, a majority of respondents (54%) have made more than three transactions, while 23% have made three, 13% have made two, and 10% have made one. These findings indicate that the respondents are predominantly from the productive age groups, with diverse income levels, and are frequent users of e-commerce platforms.

**Measurement Model Evaluation**

The measurement model evaluation aims to establish the validity and reliability of the constructs used in the study.



**Figure 2. Outer Loading**

Figure 1 and Table 1 present the results of the evaluation, including convergent validity, discriminant validity, and internal consistency reliability, to ensure that the constructs meet the necessary criteria for further analysis.

**Table 1. Measurement Model Evaluation**

Construct	Loading	Cr Alpha	CR	AVE
<i>Perceived Convenience</i>		0.893	0.893	0.572
PC1	0.793			
PC2	0.752			
PC3	0.791			
PC4	0.771			
PC5	0.741			
PC6	0.747			
PC7	0.720			
PC8	0.731			
<i>Prior Experience</i>		0.895	0.897	0.614
PE1	0.763			
PE2	0.792			
PE3	0.765			
PE4	0.811			
PE5	0.805			
PE6	0.802			
PE7	0.746			
<i>Perceived Security</i>		0.886	0.887	0.557

Construct	Loading	Cr Alpha	CR	AVE
PS1	0.731			
PS2	0.771			
PS3	0.773			
PS4	0.720			
PS5	0.755			
PS6	0.730			
PS7	0.749			
PS8	0.740			
<i>Decision to choose COD Payment</i>		0.895	0.896	0.576
DC1	0.793			
DC2	0.717			
DC3	0.770			
DC4	0.711			
DC5	0.788			
DC6	0.747			
DC7	0.774			
DC8	0.769			
<i>Note(s): Loading: &gt; 0.70; CA: &gt; 0.70; CR: &gt; 0.70; AVE: &gt; 0.50</i>				

The Measurement Model Evaluation in Table 1 demonstrates the reliability and validity of the constructs used in the study. The results show that all constructs—Perceived Convenience, Prior Experience, Perceived Security, and Decision to Choose COD Payment—satisfy the key criteria for evaluating a measurement model.

For Perceived Convenience, the indicator loadings range from 0.720 to 0.793, which meet the threshold of  $> 0.70$ , indicating strong individual item reliability. Additionally, the Cronbach's Alpha (CA) value of 0.893 and the Composite Reliability (CR) value of 0.893 confirm high internal consistency and reliability. The Average Variance Extracted (AVE) for this construct is 0.572, which exceeds the required threshold of 0.50, demonstrating good convergent validity.

In the case of Prior Experience, the loadings for the indicators range from 0.746 to 0.811, well above the 0.70 threshold, indicating strong item reliability. The CA value of 0.895 and CR value of 0.897 reflect excellent internal consistency and reliability. The AVE value of 0.614 indicates that the construct has adequate convergent validity.

For Perceived Security, the indicator loadings range from 0.720 to 0.773, again meeting the  $> 0.70$  threshold. With a CA of 0.886 and CR of 0.887, this construct also demonstrates strong reliability. The AVE value of 0.557 further supports the convergent validity of the construct, exceeding the 0.50 threshold. Finally, the Decision to Choose COD Payment construct shows loadings between 0.711 and 0.793, indicating strong individual item reliability. The CA and CR values of 0.895 and 0.896, respectively, confirm the reliability of this construct. The AVE value of 0.576 confirms its convergent validity, meeting the required standard.

All constructs meet the necessary criteria for indicator reliability (loading  $> 0.70$ ), internal consistency (CA and CR  $> 0.70$ ), and convergent validity (AVE  $>$

0.50). These findings demonstrate that the measurement model is robust and suitable for further structural model analysis. To assess the discriminant validity of the constructs, Table 2 presents the results using the Fornell-Larcker criterion. This evaluation helps ensure that the constructs are distinct and not overly correlated, providing further support for the robustness of the measurement model.

Table 2. Discriminant Validity: Fornell and Larcker

Construct	DC	PC	PS	PE
DC	(0.759)			
PC	0.661	(0.756)		
PS	0.680	0.438	(0.746)	
PE	0.675	0.446	0.467	(0.784)

*Note(s): The values in parentheses represent the square root of the AVE.  
DC (Decision to Choose COD Payment); PC (Perceived Convenience); PS (Perceived Security); PE (Prior Experience)*

The results from Table 2 show that all constructs in the model meet the criteria for discriminant validity based on the Fornell-Larcker criterion. The diagonal values represent the square roots of the Average Variance Extracted (AVE) for each construct, while the off-diagonal values indicate the correlations between the constructs. According to the Fornell-Larcker criterion, a construct exhibits discriminant validity if the square root of its AVE is greater than the correlations with other constructs.

For the Decision to Choose COD Payment (DC), the square root of the AVE is 0.759, which is greater than its correlations with Perceived Convenience (PC) (0.661), Perceived Security (PS) (0.680), and Prior Experience (PE) (0.675), indicating strong discriminant validity. Similarly, for Perceived Convenience (PC), the square root of the AVE is 0.756, which exceeds its correlations with the other constructs, confirming its distinctiveness. The same is true for Perceived Security (PS), with the square root of the AVE being 0.746, higher than the correlations with DC, PC, and PE. Finally, Prior Experience (PE) has the highest square root of AVE at 0.784, which is greater than its correlations with all other constructs, further supporting its discriminant validity. All constructs demonstrate discriminant validity, as the square roots of their AVEs are greater than their correlations with other constructs. This confirms that the constructs are distinct from one another, thereby ensuring the robustness of the measurement model. To further assess discriminant validity, Table 3 presents the results using the Heterotrait-Monotrait Ratio (HTMT). This criterion provides additional support for the distinctiveness of the constructs by evaluating the ratio of the correlations between different constructs. A value below the threshold indicates adequate discriminant validity.

Table 3. Discriminant Validity: HTMT

Construct	DC	PC	PS
PC	0.736		
PS	0.761	0.490	
PE	0.751	0.498	0.524

*Note (s): HTMT ratio < 0.85 indicates acceptable discriminant validity.  
DC (Decision to Choose COD Payment); PC (Perceived Convenience); PS (Perceived Security); PE (Prior Experience)*

Table 3 presents the results of discriminant validity evaluation using the Heterotrait-Monotrait Ratio (HTMT) criterion. The results indicate that all HTMT values meet the required criterion. The Decision to Choose COD Payment (DC) construct shows HTMT values of 0.736 with Perceived Convenience (PC), 0.761 with Perceived Security (PS), and 0.751 with Prior Experience (PE), all of which are below 0.85, indicating adequate discriminant validity. Similarly, Perceived Convenience (PC) has HTMT values of 0.490 with Perceived Security (PS) and 0.498 with Prior Experience (PE), both well within the acceptable range. The HTMT values for Perceived Security (PS) and Prior Experience (PE) are 0.524, further confirming that these constructs are distinct from one another.

### Structural Model Evaluation

To evaluate the structural model, Table 4 presents the results of key assessments, including R<sup>2</sup> (predictive explanatory power), Q<sup>2</sup> (predictive relevance), and SRMR (model fitness).

Table 4. Structural Analysis

Structural Model Assessment	R <sup>2</sup>	Q <sup>2</sup>	SRMR
Predictive Explanatory Power	0.713		
Predictive Relevance		0.4	
Model Fitness			0.055
<i>R<sup>2</sup>(Weak: &lt;0.25; Moderate: 0.25–0.50; Strong: &gt;0.50)</i> <i>Q<sup>2</sup> (Positive: &gt;0 indicates the model has predictive relevance).</i> <i>SRMR (Good fit: &lt; 0.1)</i>			

The results in Table 4 provide a comprehensive evaluation of the structural model's quality based on the R<sup>2</sup>, Q<sup>2</sup>, and SRMR metrics. The R<sup>2</sup> value of 0.713 indicates that the independent variables explain 71.3% of the variance in the dependent variable, demonstrating strong predictive explanatory power as it exceeds the threshold of 0.50. The Q<sup>2</sup> value of 0.4 is positive, confirming that the model has predictive relevance and is capable of accurately predicting the dependent variable. Additionally, the SRMR value of 0.055 is well below the acceptable threshold of 0.1, indicating that the model has a good fit with minimal discrepancies between the observed and predicted data. These results suggest that the structural model is robust, with strong explanatory power, reliable predictive capabilities, and an excellent fit to the data. To assess the relationships between the constructs, Table 5 presents the results of the hypothesis testing. This includes the path coefficients, t-statistics, and p-values, which provide insights into the strength, direction, and significance of the proposed relationships in the structural model.

Table 5. Hypotheses Test

	Path	$\beta$	M	SD	t-statistic	p-value	Remarks
H1	PC→DC	0.344	0.341	0.101	3.400	0.001	Yes **
H2	PE→DC	0.350	0.350	0.107	3.281	0.001	Yes **
H3	PS→DC	0.366	0.366	0.109	3.354	0.001	Yes **
<i>Note (s): *(p&lt;0.10); **(p&lt;0.05); ***(p&lt;0.001).</i> <i>DC (Decision to Choose COD Payment); PC (Perceived Convenience); PS (Perceived Security); PE (Prior Experience)</i>							

The results in Table 5 summarize the hypothesis testing for the structural model, assessing the relationships between the independent variables (Perceived Convenience (PC), Perceived Security (PS), and Prior Experience (PE)) and the dependent variable (Decision to Choose COD Payment (DC)).

For H1 (PC → DC), the path coefficient ( $\beta$ ) is 0.344, with a t-statistic of 3.400 and a p-value of 0.001, indicating a positive and statistically significant relationship. This result suggests that higher Perceived Convenience contributes significantly to the likelihood of choosing COD payment as the preferred payment method.

In H2 (PE → DC), the path coefficient ( $\beta$ ) is 0.350, with a t-statistic of 3.281 and a p-value of 0.001, indicating a positive and significant relationship between Prior Experience and the decision to choose COD payment. This suggests that customers' prior positive experiences with COD payment methods strongly influence their decision to continue using it.

For H3 (PS → DC), the path coefficient ( $\beta$ ) is 0.366, with a t-statistic of 3.354 and a p-value of 0.001, demonstrating a strong and significant positive effect of Perceived Security on the decision to choose COD payment. This finding implies that when customers perceive COD payment as secure, they are more likely to opt for it.

## DISCUSSION

The finding that Perceived Convenience (PC) positively and significantly influences customers' decisions to choose Cash on Delivery (COD) payment aligns with and supports prior studies that emphasize the pivotal role of convenience in payment method selection. This result reinforces the notion that the convenience associated with COD is a key factor driving its adoption, particularly among customers who seek ease and flexibility in their online shopping experiences.

The study corroborates the work of Teo et al. (2015), which highlighted Perceived Transaction Convenience (PTC) as a critical determinant in payment method choices. Similarly, Phuong et al. (2021) identified convenience as a major driver for the popularity of COD, particularly for customers who avoid using credit cards for online transactions. These findings are further supported by Vandiny et al. (2022), who demonstrated that ease of use and usefulness play significant roles in customers' decisions to opt for COD. The result also echoes the observations of Chen et al. (2019), who noted that perceived convenience directly influences users' adoption intentions for payment methods.

Additionally, regional studies, such as those by Hung et al. (2019) and Karunarathna (2021), align with this finding, showing that the ease, safety, and user-friendliness of COD significantly impact customers' payment preferences in markets like Cambodia and Sri Lanka. These studies collectively suggest that customers value convenience as a primary factor when choosing payment methods, particularly in contexts where trust and control over the buying process are important.

The current study's findings also complement research by Tounekti et al. (2020) and Rabaa'i and Zhu (2021), which emphasized that customers' cognitive evaluations of convenience and perceived usefulness influence their payment

choices. Additionally, studies by Anjum and Chai (2020) and Wu et al. (2020) demonstrate that convenience and experiential learning over time reduce perceived risks, encouraging repeated use of COD. These insights are consistent with the observed positive relationship between perceived convenience and the decision to use COD payment in this study. This research extends the existing body of knowledge by reinforcing the importance of perceived convenience as a critical factor influencing customers' decisions to choose COD.

The findings indicate that Prior Experience significantly influences customers' decisions to choose Cash on Delivery (COD) payment. This suggests that customers who have had positive prior experiences with COD are more likely to continue using this payment method. This aligns with existing research emphasizing the importance of past interactions in shaping payment preferences and supports the role of prior experience in reducing perceived risks and enhancing trust.

This result is consistent with Wu et al. (2020), who found that customers' shopping experiences moderate their choice between COD and online payment methods. Their study suggests that familiarity and positive experiences with COD help customers navigate risks, reinforcing its appeal. Similarly, Anjum and Chai (2020) emphasized that customer preferences for COD are shaped by trust and convenience, with prior successful transactions encouraging continued use. These findings align with the idea that prior experience builds trust and confidence in the payment method, making COD a preferred option. Additionally, the study supports observations by Prelec and Loewenstein (1998), who identified the lack of trust in online payments as a critical factor influencing COD preferences, especially in developing markets like Sri Lanka. This lack of trust, often rooted in past experiences with online payment systems, leads customers to favor COD, which they perceive as safer and more reliable. Similarly, Vandiny et al. (2022) discussed the psychological impact of upfront payments, noting that COD's delayed payment nature appeals to customers seeking to mitigate the "pain of paying" associated with online transactions.

Further alignment can be seen with Garrouch (2021), who highlighted that customers' familiarity and confidence in a payment method significantly influence their choices. The reliability and security associated with prior COD experiences encourage customers to continue using it, particularly when compared to other, less familiar payment methods.

The findings demonstrate that Perceived Security (PS) significantly influences customers' decisions to choose Cash on Delivery (COD) payment, indicating that when customers perceive COD as secure, they are more likely to select this payment method. This result aligns with and supports prior studies that emphasize the critical role of perceived security in shaping payment preferences, particularly in e-commerce contexts.

The study's findings are consistent with Karunaratna (2021) and Halaweh (2017), both of which highlighted the significant impact of perceived security, privacy, and trust on customers' inclination toward adopting COD payment methods. These studies suggest that customers prefer payment options that reduce their perceived risks, ensuring a safe transaction environment.

Similarly, Anjum and Chai (2020) found that in regions like Pakistan, concerns over online scams and the perceived control provided by COD make security considerations a key driver for its adoption.

This research also aligns with Phuong et al. (2021), who identified security, alongside trust and convenience, as essential factors contributing to the popularity of COD among customers, especially those without access to credit cards. This highlights that perceived security fosters trust and comfort, making COD an attractive payment option for individuals wary of digital payment methods.

Moreover, the findings complement those of Shankar and Datta (2018), who noted that perceived security is integral to establishing initial trust, a vital determinant of payment adoption intention. The emphasis on security as a foundation for customer trust is further supported by Pencarelli et al. (2018), who observed that privacy and security concerns drive consumer preferences for COD, reinforcing its reliability as a payment method. Similarly, Vandiny et al. (2022) acknowledged perceived ease of use and security as critical factors in influencing customers' payment decisions, alongside personal and social considerations.

## **CONCLUSIONS AND RECOMMENDATIONS**

This study aimed to examine the effects of Perceived Convenience, Prior Experience, and Perceived Security on customers' decisions to choose the Cash on Delivery (COD) payment method in e-commerce transactions. The findings demonstrate that all three factors significantly contribute to shaping customer preferences, highlighting their critical roles in influencing COD adoption.

The results reveal that Perceived Convenience is a key driver of COD payment decisions, reaffirming its importance in offering customers ease and flexibility during online shopping. Prior Experience also emerged as a significant predictor, with positive past interactions encouraging trust and reducing perceived risks, fostering repeated use of COD. Additionally, Perceived Security plays a pivotal role, as customers value safety and reliability in their payment options, particularly in e-commerce contexts where trust is essential.

These findings provide valuable implications for both theory and practice. Theoretically, the study reinforces the centrality of convenience, experience, and security in payment method selection, supporting prior research by Teo et al. (2015), Wu et al. (2020), and Karunarathna (2021). Practically, the results suggest that e-commerce platforms should prioritize enhancing these attributes in their payment systems to better address customer needs and build long-term loyalty.

However, the study is not without limitations. The sample was drawn from a specific demographic and geographic region, which may limit the generalizability of the findings. Additionally, the study focused solely on COD payment, leaving room to explore how these factors influence preferences for alternative payment methods, such as digital wallets or buy-now-pay-later options.

Future research could investigate the interplay between these factors and emerging technologies in payment systems across different cultural and

economic contexts. Furthermore, longitudinal studies could provide deeper insights into how evolving customer experiences influence payment preferences over time.

Therefore, this study underscores the critical role of Perceived Convenience, Prior Experience, and Perceived Security in driving customer decisions to choose COD payments. By addressing these factors, e-commerce businesses can enhance customer satisfaction and foster trust, ultimately strengthening their competitive position in the digital marketplace.

## ADVANCED RESEARCH

Future research should explore the evolving dynamics of consumer payment preferences by integrating emerging technologies such as blockchain, artificial intelligence, and biometric authentication to assess their impact on Perceived Security and Convenience in COD adoption. Additionally, a cross-cultural analysis could provide deeper insights into how socioeconomic and regulatory differences influence consumer trust in COD versus alternative payment methods like digital wallets and buy-now-pay-later options. Longitudinal studies examining shifts in consumer behavior over time, particularly in response to digital transformation and economic fluctuations, would further enrich our understanding of payment adoption trends.

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