# PULL-DRIVEN CONFIGURATIONS OF CONSUMERS' SWITCHING INTENTION FROM CASH TO ELECTRONIC PAYMENTS IN VIETNAM: A fsQCA STUDY

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**Abstract:** ***This study aims to investigate how pull factors interact to shape Vietnamese consumers' intention to switch from cash based payments to electronic payments. Drawing on the Pull dimension of the Push Pull Mooring framework, the study adopts fsQCA as the primary methodological approach. Empirical analysis is conducted using 105 valid survey responses. The fsQCA results confirm that all four conditional variables, namely Economic Benefit Expectancy, Performance Expectancy, Effort Expectancy, and Critical Mass, are associated with consumers' intention to switch from cash based payments to electronic payments. However, high switching intention is explained by multiple distinct configurational or causal pathways rather than a single dominant effect. Based on these findings, the study derives managerial implications aimed at strengthening Vietnamese consumers' intention to transition from cash payments to electronic payments.***

• Keywords: *electronic payments, fsQCA, switching intention, Vietnam*

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## 1. Introduction

In recent years, the promotion of cashless payments has become a major policy priority within Vietnam's national digital transformation process. Driven jointly by the widespread adoption of mobile technologies, the expansion of digital financial infrastructure, and government-led incentive programs, both the volume and frequency of electronic payment transactions have grown rapidly. According to Vietnamnet, the total value of cashless transactions in 2024 reached approximately VND 295 quadrillion, while the number of transactions increased by 56% compared to the previous year. These trends suggest that electronic payments are progressively becoming an established and routine mode of transaction in Vietnam's consumer landscape. However, cash transactions remain prevalent, particularly for low value purchases, in rural areas, and among older consumers with limited technological proficiency. Consequently, identifying effective approaches to strengthen consumers' intentions to shift from cash to electronic payments across diverse demographic groups, across different geographic contexts, and in a sustainable manner for future transactions constitutes a critical challenge in Vietnam's national digital transformation journey.

Electronic payment has been extensively examined in both domestic and international literature. Nevertheless, the majority of prior studies have concentrated on keywords such as usage intention or actual usage behavior of digital payment methods. As a result, this body of research primarily emphasizes the acceptance or initial experience of new payment technologies rather than consumers' intentional and sustained choice of a particular payment method. Motivated by this research gap, the present study adopts the Pull factors of the Push Pull Mooring (PPM) theoretical framework and applies the fuzzy set Qualitative Comparative Analysis (fsQCA) method to examine how different combinations of Pull factors jointly shape Vietnamese consumers' intention to switch from cash based payments to electronic payments. This approach allows for the identification of complex, asymmetric, and equifinal causal configurations, which is consistent with the inherently multidimensional nature of switching behavior in real world settings. Based on the empirical results, the study derives policy and managerial implications aimed at promoting the development of a cashless society in Vietnam.

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## 2. Literature and Configurational Propositions

### *2.1. Switching intention in the context of electronic payments*

Switching intention refers to consumers' tendency or willingness to move from a traditional method, service, or provider to a new alternative solution (Hsieh, 2021). Switching intention represents an individual's attitudinal disposition, indicating the extent to which they are willing and intend to adopt a new technology (Latupeirissa et al., 2020). Unlike the concepts of initial acceptance or first time usage, switching intention reflects a higher level of cognitive evaluation, whereby consumers go beyond mere trial and consciously consider replacing an established habitual behavior with a new and more enduring form of behavior.

### *2.2. The Push Pull Mooring (PPM) framework*

The Push Pull Mooring framework originates from migration theory proposed by Lee (1966) and was later extended by Moon (1995) through the incorporation of the mooring component, thereby establishing a comprehensive analytical model in migration studies. This framework was subsequently adapted to the consumer behavior domain by Bansal et al. (2005). The PPM framework comprises three core elements, namely Push, Pull, and Mooring factors. Push factors refer to negative influences that drive individuals away from their current state or behavior. Pull factors capture positive attributes that attract individuals toward a new alternative. Mooring factors encompass personal, social, or cultural conditions that either hinder or facilitate the switching process by acting as stabilizing forces (Chang et al., 2023). Within the context of electronic payments, the PPM framework is particularly relevant as it conceptualizes switching behavior as a process of comparison and trade off between cash and digital payment methods. Importantly, the transition toward electronic payments in Vietnam is largely voluntary and encouraged rather than mandated. Accordingly, focusing on Pull factors enables a clearer understanding of the perceived benefits and positive motivations that encourage consumers to alter their behavioral tendencies. For this reason, the present study adopts a Pull factor oriented perspective within the PPM framework.

### *2.3. Configurational Propositions*

In contrast to linear studies that assume each factor exerts an independent and symmetric effect on switching intention, this study adopts a configurational logic. From this perspective, switching intention from cash to electronic payments can emerge through multiple distinct combinations of Pull related conditions rather than a single net effect of individual factors.

Economic Benefit Expectancy (EBE) is conceptualized as a Pull factor that attracts users to switch to an alternative service due to the financial advantages it offers (Purwandari et al., 2022). This construct encompasses two primary dimensions. The first relates to the financial incentives and economic benefits provided by electronic payment services, such as price discounts, cashback programs, and reward points associated with online transactions in e commerce environments. The second concerns the costs incurred when using electronic payment services, including fees and other related expenses (Lu & Wung, 2021). A higher level of economic benefit expectancy reflects a stronger tendency among consumers to move away from cash based payments toward electronic alternatives (Purwandari et al., 2022). Accordingly, economic benefit expectancy is regarded as a key component within pull based configurations that give rise to switching intention.

*Proposition 1. A high level of consumers' economic benefit expectancy leads to an intention to switch from cash payments to electronic payments*.

Performance Expectancy (PEX) is a key construct commonly employed to explain both technology adoption and switching intention (Purwandari et al., 2022). It refers to the extent to which an individual believes that using a technological system will enhance the completion of specific tasks (Islam et al., 2024). In the context of cashless payments, performance expectancy captures the perceived advantages offered by the new technology, including its usefulness, transaction speed, reliability, and time saving potential. When electronic payment services are perceived as delivering superior functional benefits to users, they become more attractive and thereby encourage consumers to alter their payment behavior (Purwandari et al., 2022).

*Proposition 2. A high level of consumers' performance expectancy leads to an intention to*

*switch from cash payments to electronic payments.*

Effort Expectancy (EEX) refers to the degree of ease associated with using a system (Venkatesh et al., 2003). This construct integrates perceptions of ease of use, system complexity, and actual ease of use (Islam et al., 2024). In the transition from cash based payments to electronic payments, effort expectancy emphasizes the simplicity and convenience of the payment process. When effort expectancy is perceived to be high, users are more likely to feel comfortable with the technology and display a stronger willingness to move away from cash toward electronic payment methods during transactions (Purwandari et al., 2022).

*Proposition 3. A high level of consumers' effort expectancy leads to an intention to switch from cash payments to electronic payments*.

Critical Mass (CMS) refers to the social influence exerted on users' decisions to adopt or switch technologies. This concept captures the idea that an individual's decision to use a particular application or service, such as electronic payment, is shaped by the behavior of other users. In the context of transitioning toward electronic payments, critical mass implies that when the majority of one's friends or relatives move from cash based payments to electronic alternatives, the individual is more likely to follow this shift (Purwandari et al., 2022). As the number of users of a service increases, it further attracts additional users while encouraging the abandonment of traditional methods, thereby highlighting critical mass as a distinctly social Pull factor.

*Proposition 4. A high level of consumers' critical mass leads to an intention to switch from cash payments to electronic payments*.

T aken together, these configurational propositions provide the theoretical foundation for applying fsQCA to explore alternative causal pathways leading to Vietnamese consumers' switching intention in the electronic payment context.

**3. Research methodology**

Following Ragin (2008), fsQCA is a methodological approach that provides a robust explanation of the relationships between conditions and outcomes by examining necessity and sufficiency relationships.

***3.1. Data and sample***

A structured questionnaire was developed and distributed to consumers in Vietnam who possess adequate experience and understanding of both cash based and electronic payment methods. Data collection was conducted between March and April 2025. A total of 105 fully valid responses were obtained, which is considered sufficient for fsQCA analysis in line with prior methodological guidance (Pappas & Woodside, 2021).

***3.2. Measurement scales***

The measurement items for Economic Benefit Expectancy, Performance Expectancy, Effort Expectancy, and Critical Mass each consist of four observed variables, while Switching Intention is measured using five observed variables. All measurement scales were adapted from Purwandari et al. (2022). Each item was assessed using a five point Likert scale ranging from 1, strongly disagree, to 5, strongly agree.

**4. Research results**

First, the reliability and validity of the measurement scales were assessed using SmartPLS 3 software. The results indicate that three observed variables, namely CMS3 (outer loading = 0.577), EBE4 (outer loading = 0.680) and PEX4 (outer loading = 0.664), did not meet the recommended threshold of 0.7 and were therefore removed from the model. The remaining constructs satisfied reliability requirements, with the lowest Cronbach's alpha value reaching 0.740. Based on these results, the condition variables and the outcome variable were constructed by calculating the mean scores of their respective observed indicators.

Subsequently, the analysis was continued using fsQCA software. The first step involved calibrating the raw data into fuzzy set membership scores ranging from 0 to 1 (Ragin, 2008). In this calibration process, values of 1 and 0 represent full membership and full non membership in a set, respectively, while a value of 0.5 indicates the crossover point. Under the direct calibration approach, three qualitative anchors are required to determine the degree of fuzzy set membership for each case, corresponding to full membership, partial membership, and full non membership. In this study, threshold values of 0.90, 0.50, and 0.05 were adopted as the three anchors to transform the data into log odds scores bounded between 0 and 1 (Ragin, 2008). Following calibration,

threshold values were further identified using SPSS software, as reported in Table 1.

**Table 1: Compute thresholds at SPSS**

| | | EBE | PEX | EEX | CMS | SWI |
|---|---|---|---|---|---|---|
| N | Valid | 105 | 105 | 105 | 105 | 105 |
| | Missing | 0 | 0 | 0 | 0 | 0 |
| Percentiles | 5 | -1.29600 | -1.96740 | -1.58000 | -1.66000 | -1.4797 |
| | 50 | 0.06600 | 0.01500 | -0.14100 | 0.22400 | 0.0890 |
| | 90 | 1.42700 | 1.28000 | 1.29800 | 1.16300 | 1.4700 |

*Source: Authors' calculations based on survey data.*

In the subsequent step, a truth table was constructed to enumerate all logically possible combinations of causal conditions and their corresponding case configurations. The truth table was then refined based on two criteria, namely frequency and consistency (Pappas et al., 2019b; Ragin, 2008). Given a sample size of 105 observations, the minimum frequency threshold was set at three cases, while retained configurations were required to account for more than 80 percent of the total observations. Configurations with a proportional reduction in inconsistency (PRI) value of 0.5 or lower were further excluded from the analysis (table 2).

**Table 2: Analysis of sufficiency**

| Solutions | Raw Coverage | Unique Coverage | Consistency |
|---|---|---|---|
| EBE_C*~EEX_C*CMS_C | 0.351695 | 0.0324244 | 0.885436 |
| EBE_C*PEX_C*CMS_C | 0.618091 | 0.298821 | 0.955024 |
| Solution Coverage: 0.650516 | | | |
| Solution Consistency: 0.928478 | | | |

*Source: Authors' calculations based on survey data.*

The fsQCA results identify two sufficient configurational pathways leading to the presence of switching intention toward electronic payments (SWI_C). The first configuration indicates that the joint presence of Economic Benefit Expectancy (EBE_C) and Critical Mass (CMS_C) is sufficient to trigger switching intention even when Effort Expectancy (~EEX_C) is low, with high consistency, suggesting a compensatory pathway in which perceived benefits outweigh perceived costs. The second configuration shows that when Economic Benefit Expectancy (EBE_C), Performance Expectancy (PEX_C), and Critical Mass (CMS_C) are simultaneously high, switching intention emerges in a strong and stable manner, as reflected by very high consistency and substantial coverage. At the overall level, these two configurations account for the majority of cases exhibiting high switching intention and demonstrate strong consistency, underscoring the robustness of the model's explanatory power. Notably, Economic Benefit Expectancy (EBE_C) and Critical Mass (CMS_C) consistently appear across both configurations, indicating their central role in shaping switching intention, whereas Performance Expectancy (PEX_C) and low Effort Expectancy (~EEX_C) function as substitutable conditions, thereby reinforcing the configurational logic of equifinality inherent in the fsQCA approach.

Following the approach proposed by Pappas et al. (2019b), this study explicitly distinguishes between core and peripheral conditions within each configuration to facilitate result interpretation. Specifically, a filled circle (●) indicates the presence of a condition, whereas a crossed circle (⊗) denotes the absence or negation of that condition. In addition, the size of the symbols reflects the role of each condition, with large circles (●) representing core conditions and small circles (●) indicating peripheral ones, while blank cells signify conditions that are not relevant to a given configuration. Accordingly, Table 3 presents the causal configurations identified by the fsQCA analysis that are sufficient for the presence of high switching intention toward electronic payments.

**Table 3: Configurations Leading to the Presence of Switching Intention**

| Configuration | Solution | |
|---|---|---|
| | 1 | 2 |
| Economic Benefit Expectancy | ● | ● |
| Performance Expectancy | | ● |
| Effort Expectancy | ⊗ | |
| Critical Mass | ● | ● |

*Source: Authors' calculations based on survey data.*

## 5. Conclusion and managerial implications

### *5.1. Conclusion*

This study aims to examine how pull related factors interact to shape Vietnamese consumers' intention to switch from cash based payments to electronic payments. The fsQCA results confirm that all four conditional variables, namely Economic Benefit Expectancy, Performance Expectancy, Effort Expectancy, and Critical Mass, are associated with switching intention. However, rather than operating in isolation, these factors combine into multiple distinct configurational or causal recipes that predict high switching intention. The findings highlight causal asymmetry, indicating that the presence or absence of the same conditions, such as Performance Expectancy or Effort Expectancy, may lead to high switching

intention depending on how they are configured with other causal factors. Notably, Economic Benefit Expectancy and Critical Mass emerge as central causal conditions, as they consistently appear across all identified configurations leading to high switching intention. Based on these results, the study provides important insights for developing managerial strategies aimed at strengthening Vietnamese consumers' intention to shift from cash payments to electronic payments.

### *5.2. Managerial implications*

The findings indicate that Economic Benefit Expectancy and Critical Mass function as core conditions across both configurational pathways leading to switching intention toward electronic payments. This suggests that, for electronic payment service providers, perceived economic value should occupy a central position in user acquisition and retention strategies. Incentive mechanisms such as cashback schemes, transaction fee reductions, reward accumulation, or promotional linkages within broader consumer ecosystems should be designed in a consistent and sufficiently attractive manner to ensure that users clearly perceive tangible financial advantages over cash payments. The recurrent role of Critical Mass across configurations underscores the importance of network effects in shaping switching behavior. From a managerial perspective, this implies that firms should move beyond an exclusive focus on individual users and actively foster collective adoption dynamics. Strategies such as encouraging simultaneous participation by merchants and consumers, implementing referral programs, or offering community based rewards can accelerate diffusion. As electronic payment usage becomes more visible within users' social and commercial surroundings, psychological resistance to switching is likely to diminish substantially.

Second, the alternating presence of Performance Expectancy and Effort Expectancy across configurations indicates that these factors act as peripheral and substitutable rather than jointly necessary conditions. This finding implies the need for a differentiated and flexible strategic approach across user segments. For technologically experienced or early adopter users, emphasizing superior functionality, transaction speed, and overall efficiency may be sufficient to stimulate switching, even if the user interface is not fully optimized for simplicity. In contrast, for users who are more sensitive to learning effort, streamlining procedures, enhancing interface usability, and providing supportive guidance can compensate for weaker perceptions of performance or long term efficiency.

### *5.3. Policy implications*

From a public policy perspective, regulatory authorities may consider implementing financial incentive oriented measures, such as tax preferences, transaction fee subsidies, or co funding for promotional programs during the initial stages, in order to enhance citizens' Economic Benefit Expectancy when transitioning to electronic payments. In addition, mandating or actively encouraging the use of electronic payments in public services, education, healthcare, and public transportation can help generate a Critical Mass tipping point, which may subsequently stimulate broader adoption in the private sector and in everyday transactions.

Furthermore, policies aimed at promoting digital payment transformation should be structured in a multi layered and adaptive manner. Such policies need to balance efforts to improve system performance, including infrastructure development, processing speed, and reliability, with initiatives that lower user effort, such as interface standardization and process simplification. This flexible policy design allows interventions to be tailored to the characteristics of different population groups and to the varying stages of market development.

## References:

*Bansal, H.S.; Taylor, S.F.; St. James, Y. (2005). "Migrating" to new service providers: Toward a unifying framework of consumers' switching behaviors. J. Acad. Mark. Sci., 33, 96-115*

*Chang I-C, Shiau W-M, Lin C-Y, Shih D-H. (2023). Consumer Intentions to Switch On-Demand Food Delivery Platforms: A Perspective from Push-Pull-Mooring Theory. Journal of Theoretical and Applied Electronic Commerce Research, 18(4):2217-2232. https://doi.org/10.3390/jtaer18040111*

*Hsieh, P. J. (2021). Understanding medical consumers' intentions to switch from cash payment to medical mobile payment: A perspective of technology migration. Technological Forecasting and Social Change, 173, 121074.*

*Islam, M., Tamanna, A. K., & Islam, S. (2024). The path to cashless transaction: A study of user intention and attitudes towards quick response mobile payments. Heliyon, 10(15), e35302. https://doi.org/10.1016/j.heliyon.2024.e35302*

*Latupeirissa, J. J. P., Subanda, I. N., & Gorda, A. O. S. (2020). Antecedents of intention to use e-wallet: The development of acceptance model with PLS-SEM approach. Journal of Advanced Research in Dynamical and Control Systems, 12(7), 1416-1429.*

*Lee, E. (1966). A theory of migration. Demography, 3, 47-57*

*Lu, H. P., & Wung, Y. S. (2021). Applying transaction cost theory and push-pull-mooring model to investigate mobile payment switching behaviors with well-established traditional financial infrastructure. Journal of Theoretical and Applied Electronic Commerce Research, 16(2), 1-21. doi:10.4067/S0718-18762021000200102*

*Moon, B. (1995). Paradigms in migration research: Exploring "Moorings" as a schema. Prog. Hum. Geogr., 19, 504-524*

*Purwandari, B., Suriazdin, S. A., Hidayanto, A. N., Setiawan, S., Phusavat, K., & Maulida, M. (2022). Factors Affecting Switching Intention from Cash on Delivery to E-Payment Services in C2C E-Commerce Transactions: COVID-19, Transaction, and Technology Perspectives. Emerging Science Journal, 6(SpecialIssue),136-150.*