

## Factors Influencing the Intention to Use Digital Banking Services Among Generation Z in Hanoi

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**ABSTRACT:** This study aims to examine the factors influencing users' intention to adopt digital banking services. The proposed research model includes five independent variables: perceived usefulness, ease of use, customer service, security, and social influence. Data were collected from 300 respondents and analysed using SPSS through reliability testing (Cronbach's Alpha), exploratory factor analysis (EFA), correlation analysis, and multiple regression analysis.

The results indicate that all five factors have a positive and statistically significant impact on users' intention to use digital banking services. Among them, perceived usefulness has the strongest effect, followed by security, customer service, social influence, and ease of use. The model explains 63.4% of the variance in usage intention. Based on the findings, several managerial implications are proposed to enhance the adoption of digital banking services.

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**KEYWORDS:**

Digital banking, Generation Z, usage intention, Technology Acceptance Model (TAM), Hanoi

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### 1. INTRODUCTION

The Fourth Industrial Revolution has fundamentally transformed the global financial and banking landscape, including in Vietnam. According to data from the State Bank of Vietnam, as of early 2025, more than 90% of personal financial transactions at major banks have been conducted through digital channels, with the total value of cashless payments reaching a record high of over VND 295 million billion in 2024. Digital transformation is no longer an option but has become a matter of survival for traditional banks. Hanoi, as one of the country's leading economic and educational centres, hosts a dense network of universities and modern office complexes, creating a large Generation Z population (born between 1997 and 2012). According to a report by Decision Lab, Gen Z currently accounts for approximately 25% of the workforce in Vietnam and is becoming a strategic target segment for financial institutions. Unlike previous generations, Gen Z are "digital natives," with over 95% owning smartphones and spending an average of 6–7 hours per day online.

However, despite their high level of technological readiness, capturing this customer segment in Hanoi still presents several challenges. A recent survey indicates that although up to 80% of Gen Z individuals have bank accounts, the rate of frequent usage of advanced features—such as online savings, investment, or insurance services via banking applications—remains relatively low and has significant room for growth. The intense competition between traditional banks and "challengers" such as e-wallets and neobanks requires institutions to better understand the key factors driving young users' intention to adopt digital banking services. Although digital banking is not a new topic, in-depth studies focusing on the psychological characteristics, behaviors, and specific barriers of Gen Z in a unique market like Hanoi remain limited. Most existing research has only provided general assessments across all age groups or at a national level, failing to capture the distinctive lifestyle and expectations of young people in the capital. Based on this context, this study aims to address the following research question: What factors influence the intention to use digital banking services among Gen Z in Hanoi, and to what extent do these factors impact such intention?

## 2. THEORETICAL FRAMEWORK AND RESEARCH MODEL

### 2.1. Key Concepts

Digital banking refers to the integration of digital technologies into all banking activities, enabling customers to conduct transactions 24/7 via the Internet and mobile devices. This concept is often confused with electronic banking (e-banking). In fact, digital banking represents a more advanced stage, requiring the application of cutting-edge technologies such as Artificial Intelligence (AI), Big Data, Blockchain, Application Programming Interfaces (API), and Regulatory Technology (RegTech), thereby forming a comprehensive financial ecosystem.

Generation Z (Gen Z) refers to individuals born between approximately 1997 and 2012, who have grown up in a highly developed digital environment. This generation is also known by various terms such as iGeneration, Digital Natives, or the Internet Generation. Gen Z has brought significant changes in the way technology is approached and utilized, demonstrating strong awareness of social and environmental issues, as well as high expectations for digital experiences.

### 2.2. Theoretical Background

The Technology Acceptance Model (TAM), proposed by Davis (1989), is considered one of the most foundational and influential models in technology adoption research. According to TAM, behavioral intention to use a system is determined by two key cognitive factors: (1) Perceived Usefulness – the degree to which an individual believes that using a technology will enhance their performance and efficiency; and (2) Perceived Ease of Use – the degree to which an individual believes that using the technology will be free of effort.

The Theory of Planned Behavior (TPB), developed by Ajzen (1991) based on the Theory of Reasoned Action (TRA), posits that behavioural intention is influenced by three factors: Attitude toward the behaviour, Subjective Norms (or Social Influence), and Perceived Behavioural Control. In the context of this study, the factor “Social Influence” reflects the perceived social pressure from influential individuals such as family members, friends, colleagues, or online communities.

The Trust–Risk framework is incorporated due to the specific nature of digital banking, where transactions are intangible and conducted in an online environment. According to Pavlou (2003), trust acts as a “catalyst” that reduces uncertainty in online transactions. Featherman and Pavlou (2003) argue that perceived risk in digital banking extends beyond financial risk to include security risk, performance risk, and time risk.

### 2.3. Research Model and Hypotheses

Based on the aforementioned theoretical foundations, the authors propose a research model consisting of five factors influencing the intention to use digital banking services among Gen Z in Hanoi:

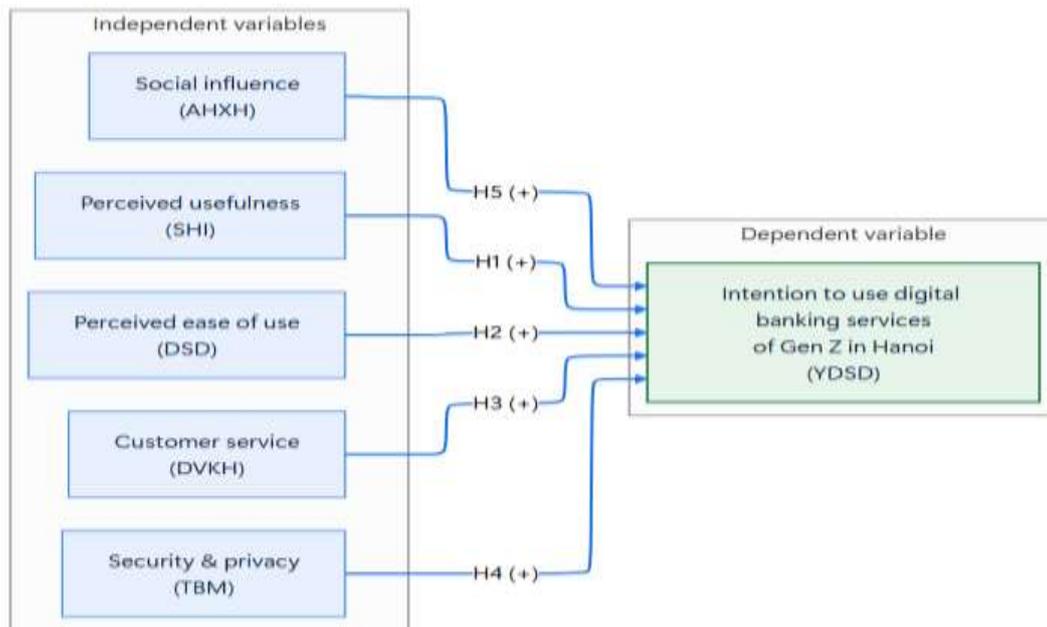
**Perceived Usefulness - SHI:** Reflects the extent to which users believe that digital banking helps them save time, reduce transaction costs, and improve personal financial management efficiency.

**Perceived Ease of Use - DSD:** Refers to the user-friendliness of the interface, simplicity of operations, and convenience of registration and usage processes.

**Customer Service - DVKH:** Includes the ability to resolve issues quickly and accurately, as well as the level of timely support provided through online channels.

**Security & Privacy - TBM:** Reflects users’ concerns regarding the potential leakage, theft, or misuse of their personal and financial information.

**Social Influence - AHXH:** Represents the degree to which individuals perceive pressure or expectations from others around them to use digital banking services.



**Figure 1: Proposed Research Model**

### 3. RESEARCH METHODOLOGY

#### 3.1. Research Procedure

The study was conducted in two stages. The first stage involved preliminary qualitative research to explore, adjust, and supplement observed variables for the measurement scales. The second stage consisted of formal quantitative research to collect data and test the measurement scales and research model.

#### 3.2. Qualitative Research

In-depth interviews were conducted with 18 individuals from Generation Z who are living, studying, and working in Hanoi. The participants included students, full-time employees, and individuals who both study and work, all of whom have prior experience using digital banking services. The interview questions focused on participants' perceptions of the five factors in the proposed research model.

#### 3.3. Quantitative Research

##### *Scale Development:*

A five-point Likert scale (1 – Strongly disagree to 5 – Strongly agree) was used for all observed variables. Specifically:

- Perceived Usefulness: 4 observed variables
- Perceived Ease of Use: 4 observed variables
- Customer Service: 3 observed variables
- Security and Privacy: 3 observed variables
- Social Influence: 4 observed variables
- Usage Intention: 3 observed variables

##### *Data Collection:*

An online survey was conducted using Google Forms and distributed to Gen Z groups in Hanoi via social media platforms such as Facebook and Zalo. A convenience sampling method combined with the snowball sampling technique was employed. A total of 325 responses were collected, of which 300 valid responses remained after data cleaning and were used for analysis.

##### *Data Analysis:*

The SPSS software was used to perform data analysis, including descriptive statistics, reliability testing using Cronbach's Alpha, Exploratory Factor Analysis (EFA), Pearson correlation analysis, and multiple regression analysis.

### 4. RESEARCH RESULTS AND DISCUSSION

#### 4.1. Qualitative Research Findings

The results from in-depth interviews indicate that most participants highly appreciate the role of the factors in the proposed model:

- **Perceived Usefulness (16/18 agreed):** Users frequently utilize digital banking on a daily basis for money transfers, bill payments, and QR code scanning. One participant shared: *"I use digital banking almost every day. Transferring money to*

friends only takes a few seconds; I no longer need to queue at ATMs like before.” Many respondents also mentioned the ability to manage personal finances through expense tracking features.

- **Perceived Ease of Use (14/18 agreed):** Gen Z participants value intuitive interfaces and clear layouts. As one student noted: “If an app has too many steps, I immediately feel discouraged. Having to confirm multiple times for a transfer is time-consuming.” Some respondents admitted that they had stopped using certain applications due to confusing interfaces and difficulty in navigating functions.
- **Customer Service (13/18 agreed):** Participants who had encountered issues appreciated the responsiveness and problem-solving efficiency. One respondent stated: “Once my account was locked, I contacted support via the app and received quick assistance, which increased my trust in the bank.”
- **Security and Privacy (16/18 agreed):** This is considered a top concern. Security measures such as biometric authentication (fingerprint, Face ID), OTP verification, and transaction notifications are highly valued. One participant remarked: “If I hear about a data breach, I would immediately consider switching banks,” reflecting a high sensitivity to security risks.
- **Social Influence (12/18 agreed):** This factor plays a significant role during the initial adoption stage, particularly through referral programs. However, continued usage decisions depend more on personal experience.

Additionally, some participants suggested that the “habit of using cash” remains a psychological barrier, as it allows for easier expense control and is still preferred for many small transactions.

## 4.2. Quantitative Research Results

### 4.2.1. Sample Characteristics

**Table 1: Sample Characteristics**

Category	Group	Frequency	Percentage (%)
<b>Gender</b>	Male	82	27.3
	Female	210	70.0
	Others	8	2.7
<b>Occupation</b>	Students	249	83.0
	Employees	25	8.3
	Freelancers	14	4.7
	Self-employed	4	1.3
	Others	8	2.7
<b>Income</b>	< 5 million VND	224	74.7
	5–10 million VND	32	10.7
	10–15 million VND	23	7.7
	> 15 million VND	21	7.0

*Source: Authors' research findings*

As presented in Table 1, the research sample consists of 300 observations, with females accounting for a higher proportion (70.0%), while males represent 27.3%. In terms of occupation, students make up the majority (83.0%), followed by employed individuals (8.3%) and freelancers (4.7%).

Regarding income, most respondents earn less than VND 5 million per month (74.7%), indicating that the sample primarily reflects a young population with relatively limited financial capacity.

These characteristics are consistent with Generation Z—individuals who have high levels of technological access but relatively low financial capacity. As a result, their usage behavior tends to be strongly influenced by perceived benefits and user experience.

### 4.2.2. Reliability Analysis of Measurement Scales

The reliability test results indicate that all six measurement scales demonstrate good internal consistency, with Cronbach's Alpha coefficients ranging from 0.832 to 0.929, exceeding the acceptable threshold of 0.7. All item–total correlation coefficients are greater than 0.3. No observed variables were removed, and all 21 items meet the requirements for inclusion in the Exploratory Factor Analysis (EFA).

Notably, the *Social Influence* scale achieved the highest Cronbach's Alpha coefficient (0.929), indicating a very high level of internal consistency among its observed variables. This finding highlights the significant role of social factors in shaping users' perceptions, particularly in the context of Generation Z, who are frequently influenced by social media and online communities.

**Table 2: Reliability Analysis (Cronbach's Alpha)**

Construct	Items	Cronbach's Alpha
Perceived Usefulness (SHI)	4	0.884
Perceived Ease of Use (DSD)	4	0.899
Customer Service (DVKH)	3	0.872
Security & Privacy (TBM)	3	0.832
Social Influence (AHXH)	4	0.929
Usage Intention (YDSD)	3	0.854

*Source: Authors' research findings*

#### 4.2.3. Exploratory Factor Analysis (EFA)

**Table 3: KMO and Bartlett's Test**

Measure	Value
KMO (Independent variables)	0.824
Bartlett's Test (Sig.)	0.000
KMO (Dependent variable)	0.722
Bartlett's Test (Sig.)	0.000

*Source: Authors' research findings*

The results of the Exploratory Factor Analysis (EFA) for the independent variables indicate that the KMO coefficient is 0.824 ( $> 0.5$ ) and Bartlett's Test of Sphericity is statistically significant (Sig. = 0.000  $< 0.05$ ), confirming that the data are suitable for factor analysis.

Similarly, the EFA results for the dependent variable are also satisfactory, with a KMO value of 0.722 and a statistically significant Bartlett's Test (Sig. = 0.000  $< 0.05$ ).

**Table 4: Total Variance Explained**

Factor	Eigenvalue	Variance Explained (%)	Cumulative (%)
1	6.214	31.070	31.070
2	3.482	17.410	48.480
3	2.104	10.520	59.000
4	1.892	9.460	68.460
5	1.917	9.584	78.044

*Source: Authors' research findings*

According to Table 4, five factors were extracted with Eigenvalues greater than 1, and the total variance explained reached 78.044%, which is significantly higher than the minimum threshold of 50%. This indicates that the model has strong explanatory power for the variation in the data.

Notably, Factor 1 alone explains up to 31.07% of the variance, which is considerably higher than the remaining factors. This suggests the presence of a dominant factor that plays a significant role in shaping users' perceptions.

**Table 5: Rotated Factor Matrix (EFA)**

Factor	Observed Variables (Factor Loadings)
Social Influence	AHXH1–AHXH4 (0.863–0.935)
Perceived Ease of Use	DSD1–DSD4 (0.840–0.875)
Perceived Usefulness	SHI1–SHI4 (0.773–0.886)
Customer Service	DVKH1–DVKH3 (0.843–0.881)
Security & Privacy	TBM1–TBM3 (0.828–0.840)

*Note: Factor loadings  $> 0.7$*

*Source: Authors' research findings*

The rotated component matrix in Table 5 shows that all factor loadings are greater than 0.7, with no significant cross-loadings observed. This confirms that the measurement scales achieve good convergent validity as well as discriminant validity.

#### 4.2.4. Correlation and Regression Analysis

The Pearson correlation matrix in Table 6 shows that all independent variables are positively correlated with the dependent variable (usage intention), and all relationships are statistically significant at the 1% level ( $p < 0.01$ ).

Among them, Perceived Usefulness has the highest correlation coefficient ( $r = 0.662$ ), indicating that it has the strongest relationship with usage intention.

This is followed by Security and Privacy ( $r = 0.535$ ) and Service Quality ( $r = 0.473$ ), highlighting the important roles of trust and service experience in the digital environment.

**Table 6: Pearson Correlation Matrix**

VARIABLES	SHI	DSD	DVKH	TBM	AHXH	YDSD
SHI	1					
DSD	0.381**	1				
DVKH	0.326**	0.335**	1			
TBM	0.457**	0.252**	0.234**	1		
AHXH	0.258**	0.195**	0.151**	0.284**	1	
YDSD	0.662**	0.499**	0.473**	0.535**	0.427**	1

Note:  $p < 0.01$

Source: Authors' research findings

**Table 7. Multiple Regression Results**

Variables	Beta	t-value	Sig.	VIF
Perceived Usefulness (SHI)	0.372	8.784	0.000	1.461
Perceived Ease of Use (DSD)	0.196	5.000	0.000	1.257
Customer Service (DVKH)	0.207	5.402	0.000	1.198
Security & Privacy (TBM)	0.209	5.188	0.000	1.328
Social Influence (AHXH)	0.202	5.458	0.000	1.124

Source: Authors' research findings

The regression results in Table 7 provide deeper insights into the causal relationships between variables. All five factors have statistically significant positive effects on Usage Intention ( $p < 0.01$ ), confirming the validity of the proposed research model.

Perceived Usefulness has the strongest standardized coefficient ( $\beta = 0.372$ ), indicating that it is the most influential predictor. This reinforces the idea that functional benefits are the key determinant in technology adoption. Security & Privacy ( $\beta = 0.209$ ) and Customer Service ( $\beta = 0.207$ ) have comparable effects, suggesting that both trust and service experience play equally important roles. Interestingly, Social Influence ( $\beta = 0.202$ ) has a slightly higher impact than Ease of Use ( $\beta = 0.196$ ), which may indicate that peer influence still matters, even for a technologically confident generation.

The low VIF values ( $< 2$ ) confirm that multicollinearity is not an issue, ensuring the robustness of the regression results.

**Table 8. Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin–Watson
1	0.800	0.640	0.634	0.494	1.521

Note: Dependent variable: Usage Intention (YDSD). Predictors: SHI, DSD, DVKH, TBM, AHXH.

Source: Authors' research findings

The results presented in Table 8 indicate that the regression model demonstrates a high level of goodness-of-fit. Specifically, the multiple correlation coefficient ( $R = 0.800$ ) reflects a strong relationship between the independent variables and the dependent variable (usage intention – YDSD). The coefficient of determination ( $R^2 = 0.640$ ) shows that the independent variables explain 64.0% of the variance in the dependent variable. This represents a relatively high explanatory power in studies on consumer behavior. Additionally, the adjusted  $R^2$  (0.634) does not differ significantly from  $R^2$ , indicating that the model is stable and not overly influenced by the number of included independent variables. This confirms that the model is not artificially inflated in terms of goodness-of-fit. The remaining 36.6% of the variance in usage intention is explained by factors outside the model and random error. Moreover, the Durbin–Watson statistic ( $DW = 1.521$ ) falls within the acceptable range ( $1 < DW < 3$ ), indicating no evidence of first-order autocorrelation in the residuals, thereby satisfying one of the key assumptions of linear regression.

The regression results also support the proposed research hypotheses, providing a solid basis for further discussion in the subsequent section.

### 4.3. Discussion of Results

The findings of this study provide important insights into the factors influencing the intention to use digital banking services among Gen Z users.

*First*, Perceived Usefulness is identified as the most significant factor affecting Usage Intention. This result is consistent with the Technology Acceptance Model (TAM), which emphasizes the critical role of perceived benefits in driving user adoption. It suggests that users are more likely to adopt digital banking services when they perceive clear advantages such as convenience, efficiency, and time savings.

*Second*, Security & Privacy emerges as the second most influential factor. This reflects the growing concern of users regarding data protection and transaction safety in digital environments. Ensuring strong security mechanisms and transparent privacy policies is therefore essential for increasing user trust.

*Third*, Customer Service also plays a significant role in shaping user intention. This highlights the importance of responsive support, user-friendly interfaces, and effective problem resolution in enhancing customer experience.

*Interestingly*, Social Influence has a positive but relatively moderate impact, indicating that while peer and social factors do affect user behavior, Gen Z users tend to make more independent decisions compared to previous generations.

*Finally*, Perceived Ease of Use, although significant, has the lowest impact among the five factors. This may be explained by the fact that Gen Z users are already familiar with digital technologies, making ease of use a basic expectation rather than a decisive factor.

## 5. CONCLUSION AND POLICY IMPLICATIONS

### 5.1. Conclusion

This study has successfully identified and measured the impact of five factors on the intention to use digital banking services among Generation Z in Hanoi. The results confirm that all five factors have a positive influence, in which *Perceived Usefulness* is the most significant, followed by *Security and Privacy*, *Customer Service*, *Social Influence*, and *Perceived Ease of Use*. The research model demonstrates strong explanatory power (63.4%), indicating its suitability in the given research context.

### 5.2. Policy Implications

#### ***For commercial banks:***

*First*, banks should focus on enhancing the usefulness of digital banking services. Instead of limiting to basic functions such as money transfers and bill payments, banks should develop comprehensive digital ecosystems with personalized features such as smart financial management tools (expense tracking, budgeting), flexible investment/savings products for young users, and diverse payment integrations (QR codes, bill payments, online shopping). Regular updates based on user feedback will help maintain the attractiveness of these services.

*Second*, banks need to strengthen customer trust by improving security and customer service. In terms of security, greater investment is required in biometric authentication technologies (fingerprint, Face ID), multi-factor authentication, and real-time fraud detection systems. Transparency in privacy policies and personal data protection will help reduce users' perceived risks. Regarding customer service, banks should optimize in-app support channels, including AI-powered chatbots, 24/7 live assistance, and fast, accurate issue resolution.

*Third*, banks should effectively leverage social influence. Collaborating with key opinion leaders (KOLs) and universities to organize communication campaigns and product experience programs can be highly effective. Additionally, utilizing social media platforms such as TikTok and Instagram to build a modern, youthful brand image, along with attractive referral programs, can help attract new users.

*Fourth*, banks should design pricing policies and incentives that align with the financial capacity of Gen Z—primarily students and young professionals. Waiving or reducing basic transaction fees, especially for transfers and online payments, can encourage more frequent usage. Promotional programs such as cashback, reward points, and partnerships with retail, dining, and entertainment sectors can further enhance service appeal.

#### ***For government authorities:***

Regulatory bodies should continue to improve the legal framework related to digital banking and electronic payments, particularly in areas such as personal data protection and consumer rights. Establishing a transparent and secure legal environment will provide a solid foundation for the development of digital banking. At the same time, stronger supervision and measures to prevent online fraud and cybercrime are essential to ensure user safety.

#### ***For educational institutions:***

Universities and training institutions should promote digital financial literacy among students through courses, seminars, and workshops on digital banking, personal financial management, and information security. Equipping students—who represent the core of Gen Z—with essential knowledge and skills will enable them to use digital banking services more effectively and safely.

### 5.3. Limitations and Future Research Directions

This study has several limitations. First, the sample is limited to Generation Z in Hanoi, which may restrict the generalizability of the findings to other regions. Second, the study focuses only on usage intention and does not examine actual usage behavior. Third, although the model explains 63.4% of the variance in the dependent variable, there may be other relevant factors that have not been

included. Future research could expand the geographical scope, incorporate additional variables, and examine actual usage behavior to provide a more comprehensive understanding of digital banking adoption.

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