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Online Savings Intention of Individual Customers: The Moderate Role of Mental Accounting

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Abstract

Based on the extended theory of planned behavior, this study aims to explore the factors influencing individual customers' online savings intentions and evaluate the moderating role of mental accounting. A quantitative research method is employed through a linear regression model using the hierarchical approach. The analysis of 310 samples reveals that attitudes, subjective norms, perceived behavioral control, financial benefits, the safety of savings deposits, and the bank's image positively impact individual customers' intention to save online. Additionally, mental accounting positively moderates the relationship among financial benefits, perceived behavioral control, and the safety of savings deposits regarding online savings intentions, while negatively affecting the relationship between subjective norms and online savings intentions. Furthermore, mental accounting was found to have no moderate role in influencing the relationship between a bank's image and individual customers' online savings intentions. The findings of this study provide a foundation for implications aimed at promoting modern, safe, and sustainable saving habits in the digital economy of an emerging market like Vietnam.

Keywords: *Mental Accounting, Save Online, Individual Customers, Intention, Vietnam.*

Introduction

In the context of substantial digital transformation, technology has profoundly changed the way people access and use financial services. Online banking services, in general, and online savings products, in particular, are a form of depositing savings through digital platforms such as bank websites or mobile applications, rather than conducting direct transactions at a counter, and are receiving increasing attention, becoming a significant trend. These services enable customers to deposit, settle, or renew their accounts easily without needing to visit a physical branch. Compared to traditional savings, online savings offer numerous significant benefits that help optimize transaction time, provide flexibility in personal financial management, ensure safety with advanced security technology, and offer preferential interest rates. Furthermore, this approach serves as both a tool and a solution for banks to reduce operating costs and expand their customer reach.

Although online savings offer many benefits, not all customers are willing to use this service (Nguyen, 2025). Research by Swacha-Lech and Solarz (2019) indicates that customers with good mental accounting can distinguish between fixed and floating interest rates, as well as between term and demand deposits, and can identify hidden terms in financial products. A customer with strong accounting knowledge tends to grasp the distinctions between types of savings, calculate benefits and costs accurately, and identify potential risks associated with

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online transactions. Conversely, individuals with limited mental accounting may find information about financial products abstract and challenging to understand, which increases feelings of insecurity and hesitation in decision-making (Mahapatra & Mishra, 2020). However, surprisingly, there are very few empirical studies on the role of mental accounting in the business activities of banks in general and online savings services in the Vietnamese market. This article represents the first study to explore the intention of Vietnamese individual customers to save online under the moderate influence of mental accounting.

This research serves as a crucial foundation for banks to develop a more suitable customer engagement strategy tailored to varying levels of financial literacy. Additionally, the study offers practical recommendations for creating programs that enhance personal financial capabilities to encourage modern, safe, and sustainable saving habits in the digital economy.

Literature Review and Hypothesis Development

Related Concepts

A savings deposit refers to money that an individual places in a credit institution, which will be fully repaid both in principal and interest according to the agreement (State Bank of Vietnam, 2018). According to Do et al. (2022), savings are a popular form of financial investment, relatively safe, and carry a lower level of risk than many other investment channels such as stocks, real estate, or cryptocurrencies. Beyond the accumulation function, savings also reflect the rational and planned consumption trend of individuals in increasingly volatile economies.

Online savings deposits are a way to save money through digital platforms provided by banks, allowing customers to make transactions quickly and conveniently without visiting the transaction counter (Nguyen, 2025). Bui et al. (2020) emphasizes that online savings reflect customers' use of smart technology applications, particularly mobile banking or internet banking, to make deposits without needing to go to a bank branch. This trend results from the digital transformation in the banking and finance sector, as banks continually develop digital functions to meet the growing demand for flexibility, speed, and user experience (Ha, 2021). According to Tran et al. (2024), online savings are a type of deposit that customers can make entirely through a bank's digital application, without physically visiting a branch or transaction counter. Customers can open a savings account, check interest rates, close accounts, or renew deposits anywhere and anytime, with just simple operations on an electronic device with an Internet connection. Online savings allow customers to transfer money from a current account to a savings account directly through e-banking platforms. All transactions in this process are encrypted, securely stored, and traceable in real-time, enabling clients to effectively manage their savings portfolios (Do et al., 2021). Thus, online savings represent a modern savings deposit service, implemented entirely on a digital technology platform, ensuring flexibility, safety, security, and compliance with current legal regulations.

According to Hisrich et al. (2002), intention reflects the motivating factor that influences an individual's behavior and indicates the level of effort that individual is willing to invest in performing that behavior. In other words, if the intention to engage in a particular act is stronger, the likelihood that the act is actually carried out increases. Kotler and Armstrong (2004) argue that intention is formed during the period when consumers assess purchasing choices by using a specific set of criteria to compare and select the optimal option. According to Ajzen (1991), intention is the closest and most significant predictor of actual behavior, reflecting both subjective motivation and the individual's commitment to action. From the perspective of

consumer behavior, the intention to save online represents the level of readiness, desire, and intention of individual customers to choose saving through digital banking platforms rather than traditional methods (Tran et al., 2024).

Mental Accounting

The concept of mental accounting was first introduced by Thaler in 1980 and subsequently further developed by numerous scholars concerning customer intent and behavior. According to Tran and Nguyen (2013), accounting constitutes not only a pivotal activity within businesses but, for individuals as well, entails the mental engagement and intellectual consideration necessary to assess and evaluate daily financial behaviors. This can also be classified as an accounting activity, specifically referred to as mental accounting. Nguyen (2022) delineates mental accounting as the capacity to understand, reason, and effectively apply accounting and financial principles when evaluating, analyzing, and making personal financial decisions. Mental accounting encompasses an understanding of essential concepts, including the calculation of interest rates, the depreciation of monetary value over time, the identification of financial risks, budgeting, cost-benefit comparisons, and the analysis of financial information to facilitate optimal decision-making (Lusardi & Mitchell, 2014). However, mental accounting involves not only identifying information but also the ability to process, analyze, and interpret accounting and financial data from an individual perspective to aid decision-making. According to Huston (2010), individuals with strong financial skills can plan, save, and invest more effectively. Especially in the digital environment, where users conduct financial transactions online, mental accounting serves as a "thinking filter," helping individuals evaluate financial choices based on costs and benefits, risks and profits, and timing. According to Milkman and Beshears (2009), mental accounting enables individuals to categorize money into different groups but may lead to irrational spending and investment decisions.

Analytical Framework

The study employs Ajzen's (1991) theory of planned behavior to predict individual customers' intentions to save online in Vietnam. According to this theory, individual customers' intentions to save online are formed by three factors: attitudes, subjective norms, and perceived behavioral control.

Furthermore, the author conducted a group discussion with several individual customers and bankers in Hanoi, as well as consulting experts in the fields of finance and accounting, to ensure the identification of relevant factors suitable for the research context. Additionally, the author has performed a comprehensive review of domestic studies related to the topic of online savings, including works by Le and Bui (2014), Do et al. (2021), Nguyen (2022), Cao (2023), Tran et al. (2024), and Lam and Le (2025). The findings indicate that, apart from the three factors within the Theory of Planned Behavior (TPB) model, individual customers' intentions to deposit online savings are influenced by several factors, including financial benefits, the security of savings deposits, and the reputation of banking institutions. Furthermore, the study investigates the moderating role of mental accounting in the relationship between the independent variables and the online savings intentions of individual customers in Vietnam. The analytical framework is illustrated as presented in Figure 1 below:

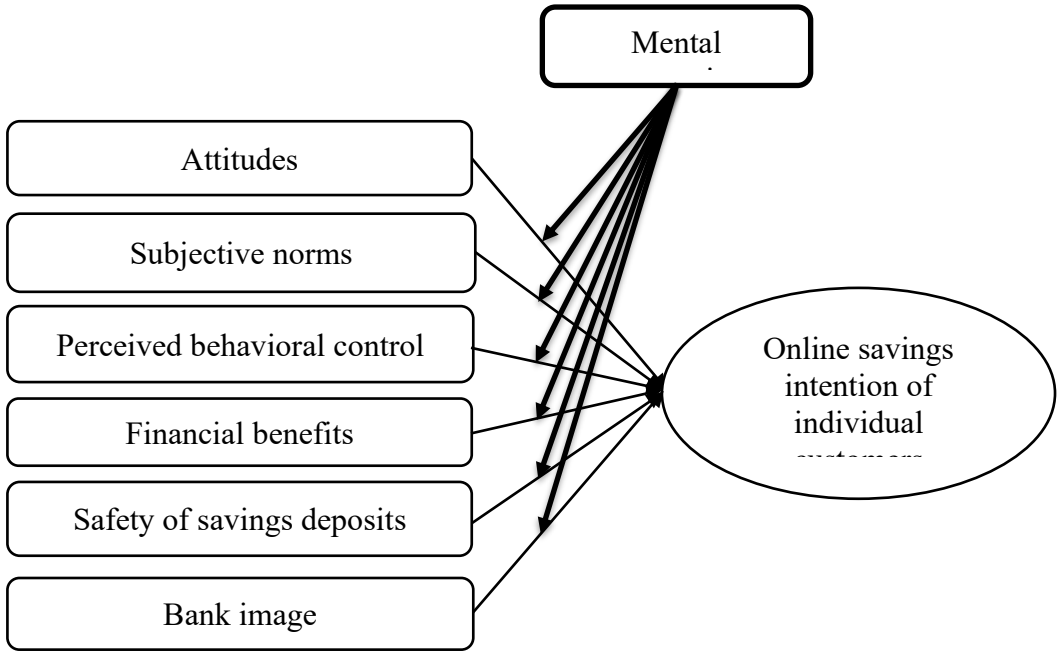

Figure 1: Analytical Framework

Source: Recommended by the author

Hypothesis Development

Customers' attitudes reflect their personal views, evaluations, and feelings towards online savings. Typically, individual customers are driven by sentiments associated with convenience, profitability, safety, and efficiency when comparing online savings to traditional savings options. Subjective norms denote the social influences that individuals perceive from significant figures in their lives, such as friends, relatives, or bankers. According to Van (2018), prior to making a decision to deposit savings, customers frequently consult familiar sources or bank officials to acquire further information, experience, and assurance, thereby bolstering their confidence in utilizing online savings channels. Perceived behavioral control pertains to the self-assuredness and autonomy of individual customers regarding the depositing of savings online, including their ability to comprehend and effectively utilize technology platforms, understand transaction processes, and have confidence in the security of the e-banking system. Based on the aforementioned arguments, the proposed research hypotheses are outlined as follows:

H1: Attitudes positively affect online savings intention of individual customers.

H2: Subjective norms positively affect online savings intention of individual customers.

H3: Perceived behavioral control positively affect online savings intention of individual customers.

Financial benefits refer to high interest rates and low service fees. Studies by Levesque and McDougall (1996) and Ha and Ha (2014) demonstrate that attractive interest rates are the most significant factor influencing customers' savings decisions. According to Tran et al. (2020),

interest rates play a crucial role in helping banks compete and retain customers who deposit their savings online. Online savings interest rates are often higher than traditional savings rates, allowing customers to optimize their capital without incurring intermediary fees or experiencing waiting times (Hariyanto et al., 2022). Meanwhile, service costs refer to the expenses customers must pay to utilize the services offered by the bank. As Nguyen (2022) notes, customers often tend to seek and compare the cost benefits of various services provided by banks, ultimately opting for those with lower costs. Furthermore, Hariyanto et al. (2022) emphasize that online savings not only eliminate costs such as transaction fees, travel expenses, and waiting times, but also help individuals optimize their personal capital by enabling proactive control over terms, renewals, and interest rates at any time. Based on these points, the research hypothesis is proposed as follows:

H4: Financial benefits positively affect online savings intention of individual customers.

The safety of savings deposits is a stable condition, free from harm or risk, as well as unexpected financial outcomes when participating in customers' investment activities. Transactions at banks are often sensitive because they are directly related to customers' financial resources. According to Le and Nguyen (2021), a sense of security reflects customers' expectations of stability, security, and the ability to control risks during financial transactions. Research by Hedayatnia and Eshghi (2011) shows that customers tend to choose banks based on their sense of economic safety and security. Especially in light of the rapid development of digital banking, this factor becomes even more significant as customers increasingly lack direct contact with bank employees and are reliant on the digital system. Feeling safe is one of the key factors influencing a customer's choice to use digital banking services. According to Nguyen and Nguyen (2008), safety and reliability are the core components in shaping the quality of customer perception of e-banking services. When customers believe that their deposits are protected by layers of encryption, multi-factor authentication, and are secured by a guarantee policy from the bank (such as deposit insurance or legal mechanisms), they are generally more willing to engage in online savings. Based on the above arguments, the proposed research hypothesis is as follows:

H5: The safety of savings deposits positively affect online savings intention of individual customers.

The bank image refers to the overall impression that customers retain about the bank through their interactions, experiences, and brand recognition. It encompasses customer perceptions, feelings, and attitudes regarding the bank's characteristics, values, and reliability. According to Le and Nguyen (2021), customers often prioritize banks that exhibit a professional, large-scale, and friendly service style and actively engage in social activities. It is especially true in the digital banking environment, where trust is a crucial factor in shaping customer behavior. Ngo and Hoang (2021) note that customers tend to save at banks with reputable brands, a long operational history, and robust security systems. Nguyen (2022) argues that a bank's image manifests through various tangible and intangible aspects, including participation in community programs, sponsorship of major events, and the implementation of unique and appealing promotional campaigns, corporate culture, brand reputation, professionalism, customer care, and the overall appearance of the building, interior layout, and employee attire. These factors contribute to the initial impression that shapes the customer's long-term perception of the bank. The bank's image cannot be established quickly; rather, it results from a gradual accumulation process. A bank with a clear, impressive, and distinctive image will leave a strong impression on customers, thereby enhancing brand awareness and increasing the likelihood that customers will choose to

utilize its products and services. Based on the above arguments, the research hypothesis is proposed as follows:

H6: The bank image positively affect online savings intention of individual customers.

According to Tran and Nguyen (2013), mental accounting is a method that enables individuals to navigate the process from recognition, synthesis, and analysis, thereby managing personal cash flow effectively and ensuring the proper use of limited financial resources. Thaler (1980), who introduced this concept, also argues that mental accounting occurs in each person's mind, serving to organize, evaluate, and regulate financial behavior based on the categorization of specific revenues, expenditures, and consumption goals. In the context of digitizing banking services, particularly online savings, customers often must make financial decisions independently without direct advice or guidance from employees. This requires customers to self-assess factors such as interest rates, information security, bank brand reputation, and opportunity costs. Customers who have a strong mental accounting are likely to evaluate these factors rationally, leading to more informed and effective savings decisions. Conversely, customers with lower levels of mental accounting may be more susceptible to emotional influences, media promotions, or family influences during the decision-making process. Based on these arguments, the research hypothesis is proposed as follows:

H7: Mental accounting plays a moderate role in the relationship among (1) attitudes, (2) subjective norms, (3) perceived behavioral control, (4) financial benefits, (5) safety of savings deposits, (6) bank image, and the online savings intention of individual customers.

Methodology

The preliminary scale is developed by synthesizing and selecting information from domestic and foreign studies in the overview section, incorporating a total of 29 observed variables. The author held a discussion group with several individual customers, bankers, and consulting experts to evaluate the scale's suitability for the object and purpose of the study before the formal survey. The results for the factors in the preliminary scale received high approval. However, some observation variables need adjustment to ensure the scale is specific and easy to understand, preventing confusion for respondents. The study utilized a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

The study selected the optimal ratio of 10:1, as recommended by Hair et al. (2010), for exploratory factor analysis (EFA), which necessitated a sample size of 290. However, the author formally surveyed 350 questionnaires to account for unsatisfactory responses that might affect results during the data cleansing process. The study utilizes a convenient non-probability sampling method, distributing the survey online to individual customers who have used online savings deposit services at commercial banks in Hanoi from February 2025 to March 2025. The results yielded 310 usable responses, which were eligible for analysis.

The research uses the above quantitative analysis method through SPSS 26 software. The analysis steps include: reliability testing through Cronbach's Alpha coefficient, exploratory factor analysis (EFA), correlation analysis, and MMR regression analysis. In addition, to demonstrate the moderate role of mental accounting in the relationship between factors and online savings deposit intentions of individual clients, the study uses a combination of Bootstrap techniques on the Hayes Process Macro to affirm the moderate relationship. The research model is represented by three regression equations as follows:

(1) The regression equations illustrate the impact of independent variables on the dependent variable:

$OSI = \beta_0 + \beta_1*cAtt + \beta_2*cSN + \beta_3*cPBC + \beta_4*cFB + \beta_5*cSSD + \beta_6*cBI$

(2) The regression equation expresses the impact of the independent variable and the moderating variable (independent variable) on the dependent variable:

$OSI = \beta_0 + \beta_1*cAtt + \beta_2*cSN + \beta_3*cPBC + \beta_4*cFB + \beta_5*cSSD + \beta_6*cBI + \beta_7*cMA$

(3) The regression equations illustrate the impact of independent variables, moderating variable, and interacting variables on the dependent variable:

$OSI = \beta_0 + \beta_1*cAtt + \beta_2*cSN + \beta_3*cPBC + \beta_4*cFB + \beta_5*cSSD + \beta_6*cBI + \beta_7*cMA + \beta_8*cMA.Att + \beta_9*cMA.SN + \beta_{10}*cMA.PBC + \beta_{11}*cMA.FB+ \beta_{12}*cMA.SSD + \beta_{13}*cMA.BI$

In which:

OSI (Dependent variable): Online savings intention of individual customers

MA (Moderating variable): Mental accounting

Independent variables (X_i): Attitudes (Att), Subjective norms (SN), Perceived behavioral control (PBC), Financial benefits (FB), Safety of savings deposits (SSD), Bank image (BI)

Interacting variables: Mental accounting and attitudes (MA.Att), Mental accounting and subjective norms (MA.SN), Mental accounting and perceived behavioral control (MA.PBC), Mental accounting and financial benefits (MA.FB), Mental accounting and safety of savings deposits (MA.SSD), Mental accounting and bank image (MA.BI).

β_k: Regression coefficients

Results and Discussion

The results of the analysis in Table 1 show that female customers represent a larger proportion (60%) compared to male customers, indicating that females are more interested in online savings and tend to use digital financial services more. Regarding income, the group earning between 10 million and less than 15 million accounts for the highest proportion (41.3%), followed by the group earning from 5 to less than 10 million (31.3%), while those with an income of 15 million and above represent the lowest rate (27.4%). Thus, middle-income individuals exhibit a greater interest in saving online, possibly due to the need to save and optimize bank interest rates. In terms of education, the majority of survey participants possess a college or intermediate degree (64.2%), followed by postgraduates (21%) and university graduates (14.8%). The predominance of those with a college or intermediate level suggests that these individuals are employed stably and have a desire to accumulate finances through digital channels. Regarding occupation, office workers make up the largest proportion (36.1%), followed by the self-employed (33.9%) and civil servants or state employees (30%). This highlights that the unskilled and private sector are significantly interested in online savings.

Characteristics		**Frequency**	**Ratio**
Gender	Male	124	40.0
	Female	186	60.0
Income	5 to fewer than 10 million VND	97	31.3

Characteristics		**Frequency**	**Ratio**
	10 to fewer than 15 million VND	128	41.3
	15 million VND or more	85	27.4
Education	University	46	14.8
	College or intermediate	199	64.2
	Postgraduates	65	21.0
Occupation	Office workers	112	36.1
	Civil servants or state employees	93	30.0
	Self-employed	105	33.9

Table 1: Demography of Respondents

Source: Analysis results from SPSS26

The results of the descriptive analysis showed an average value between 3.75 and 4.11, reflecting the consensus and positive evaluation of customers regarding the items in the questionnaire. The safety of savings deposits factor has the highest mean value (4.11), demonstrating that banks are effectively implementing security policies, which instills high trust among customers when making online savings transactions. The intention to save online also reached a high mean value (4.02), indicating that this modern financial behavior is garnering attention and a willingness to be adopted by individual customers. Subjective norms (3.97), bank image (3.93), financial benefits (3.86), and attitudes (3.81) were also positively evaluated by customers, showing influences from the social environment, perceived benefits, brand perception, and personal emotions on behavioral intentions. Perceived behavioral control had the lowest mean value (3.75), suggesting that customers are not particularly confident or feel they lack the necessary capacity to perform savings transactions online (see Table 2).

Measurement scales	**Min**	**Max**	**Mean**	**SD**
Attitudes	1.00	5.00	3.81	0.71
Subjective norms	1.00	5.00	3.97	0.78
Perceived behavioral control	1.00	5.00	3.75	0.65
Financial benefits	1.00	5.00	3.86	0.69
Safety of savings deposits	1.00	5.00	4.11	0.77
Bank image	1.00	5.00	3.93	0.73
Mental accounting	1.00	5.00	3.84	0.70
Online savings intention of individual customers	1.00	5.00	4.02	0.62

Table 2: Descriptive Analysis

Source: Analysis results from SPSS26

The reliability test results indicate that the Cronbach's Alpha coefficient for scales greater than 0.7 meets the requirements set by Hair et al. (2010), demonstrating that the scales possess high intrinsic consistency. Simultaneously, the total variable correlation coefficient exceeds 0.3, reflecting the degree of close association between each observed variable and the overall scale. Additionally, if the variable type's Cronbach's Alpha coefficient is lower than the total Cronbach's Alpha, it indicates that none of the observed variables diminish the overall reliability of the scale. Therefore, the scales achieve the reliability and discriminant values necessary for

exploratory factor analysis (EFA) in the next step (see Table 3).

Sign	**Items**	**Cronbach's Alpha**	**Corrected Item-Total Correlation**	**Cronbach's Alpha if items deleted**
Attitudes				
Att1	I feel confident and positive about depositing savings online	0.796	0.654	0.780
Att2	Online savings help me manage my finances better		0.637	0.774
Att3	I believe that online savings provide more advantages than traditional savings		0.618	0.765
Subjective norms				
SN1	My family members support me in saving online.	0.803	0.572	0.791
SN2	I was encouraged by friends to send savings online.		0.557	0.776
SN3	The opinions of celebrities and knowledgeable individuals sparked my desire to save online.		0.539	0.745
SN4	The mass media promotes it, making me feel that online savings are appropriate.		0.510	0.723
Perceived behavioral control				
PBC1	I have enough time to learn and consider using an online savings service	0.847	0.685	0.833
PBC2	I control my use of online savings products		0.672	0.820
PBC3	I feel confident in depositing savings online		0.651	0.818
Financial benefits				
FB1	Online savings accounts provide more appealing interest rates than traditional savings accounts.	0.817	0.610	0.801
FB2	Saving money online helps reduce expenses like travel and waiting at the counter.		0.572	0.795
FB3	Online savings deposits help optimize the efficiency of utilizing idle funds.		0.551	0.784
FB4	Online savings assist		0.536	0.765

Sign	Items	Cronbach's Alpha	Corrected Item-Total Correlation	Cronbach's Alpha if items deleted
	customers in managing their personal finances more effectively.			
Safety of savings deposits				
SSD1	The bank has a robust security system to help ensure the safety of online savings transactions.	0.825	0.636	0.821
SSD2	The bank always has clear procedures in place to address any issues that may arise during the online savings deposit process.		0.623	0.814
SSD3	The bank has a strong payment capacity to instill a sense of security for customers.		0.617	0.802
Bank image				
BI1	The bank cultivates a professional and trustworthy image.	0.789	0.574	0.770
BI2	The bank offers significant community programs, grants, and social activities.		0.562	0.768
BI3	The employee's service style and manners foster a friendly and professional atmosphere.		0.541	0.753
BI4	The bank boasts a strong brand and a long-standing reputation.		0.532	0.741
BI5	The interface, branch design, and banking equipment contribute to a positive impression.		0.521	0.737
Mental accounting				
MA1	I carefully think and consider before making personal financial decisions.	0.828	0.635	0.819
MA2	I have a habit of tracking, recording, and analyzing my income and expenditures, as well as creating personal		0.587	0.804

Sign	Items	Cronbach's Alpha	Corrected Item-Total Correlation	Cronbach's Alpha if items deleted
	financial plans.			
MA3	I understand my income, expenses, and saving potential.		0.562	0.788
MA4	I recognize the benefits and risks of deciding to save online.		0.533	0.761
Online savings intention of individual customers				
OSI1	I am happy to recommend others to use online savings.	0.819	0.548	0.807
OSI2	I prioritize selecting the type of online savings when I need it.		0.539	0.792
OSI3	I believe that saving online is a sensible financial choice.		0.525	0.781

Table 3: Reliability Testing

Source: Analysis results from SPSS 26

The results of the EFA of independent factors were obtained for the second time after removing the two observed variables, BI2 and SN4, since they were associated with more than one factor and had a factor loading of less than 0.5. This indicates that the KMO coefficient reached 0.816, reflecting the data's suitability for conducting factor analysis. Bartlett's test, with a significance value of 0.000, demonstrates that the correlation between the observed variables is strong enough, ensuring the conditions for using EFA are met. The results of the rotation matrix revealed six extracted factors, with a total extraction variance of 79.488%, exceeding the recommended threshold of 50% as suggested by Hair et al. (2010). Additionally, the factor loading coefficient is greater than 0.5, indicating a high degree of convergent among the observed variables within the same factor (see Table 4).

KMO = 0.816		
Bartlett's Test	Approx. Chi-Square	10512.609
	Df	312
	Sig.	0.000

Items	Factor					
	1	2	3	4	5	6
FB3	0.815					
FB1	0.803					
FB2	0.794					
FB4	0.778					
Att2		0.802				
Att1		0.781				

Items	Factor					
	1	2	3	4	5	6
Att3		0.765				
BI1			0.823			
BI3			0.817			
BI4			0.800			
BI5			0.797			
SN1				0.799		
SN3				0.784		
SN2				0.776		
SSD1					0.810	
SSD2					0.787	
SSD3					0.763	
PBC3						0.784
PBC2						0.779
PBC1						0.756
% of Variance	39.175	42.677	58.321	65.145	72.261	79.488
Eigenvalue	4.126	3.781	3.157	2.069	1.987	1.104

Table 4: EFA of Independent Factors

Source: Analysis results from SPSS26

The dependent factor EFA results indicated that the KMO reached 0.803, meeting the conditions of being greater than 0.5 and less than 1. Bartlett's test shows a Sig. = 0.000 value, confirming that the observed variables are closely correlated with one another in the overall survey sample. The observed variables of the scale exhibit high factor loading, ranging from 0.793 to 0.824, demonstrating that they converge well on a single factor at the Eigenvalue of 1.988, with a total variance of 80.133%, reflecting a strong ability to explain the variability of the data (see Table 5).

Scale	No.	Factor loading
Online savings intention of individual customers	OSI1	0.824
	OSI2	0.812
	OSI3	0.793
KMO = 0.803		
Bartlett's Test	Approx. Chi-Square	298.574
	df	3
	Sig.	0.000
% of Variance		80.133
Eigenvalue		1.988

Table 5: EFA of The Dependent Factor

Source: Analysis results from SPSS26

The EFA results of the regulator reveal a clear unifactorial structure, ensuring high convergence with a KMO coefficient of 0.793, which is greater than 0.5, and a Sig value from Bartlett's test that is less than 0.05. With an Eigenvalue greater than 1, the four observed variables converge strongly on a single factor, showing factor load coefficients ranging from 0.755 to 0.798, along with a total variance explained of 78.832% (see Table 6).

Scale		**No.**	**Factor loading**
Mental accounting		MA1	0.798
		MA4	0.772
		MA3	0.769
		MA2	0.755
KMO = 0.793			
Bartlett's Test	Approx. Chi-Square		329.415
	Df		4
	Sig.		0.000
% of Variance			78,832
Eigenvalue			1.906

Table 6: EFA Of The Moderate Factor

Source: Analysis results from SPSS26

The results of the correlation analysis indicated that the independent factors exhibited a positive and statistically significant linear relationship with the dependent factor, as the Sig value was less than 0.05 and the correlation coefficient greater than 0.5 met the standards recommended by Hair et al. (2010). Additionally, the correlation coefficient among the independent factors is at an acceptable level, and no unusually high values emerged, indicating that there is no sign of multicollinearity in the model. Furthermore, centering does not significantly alter the correlation values between these factors, so they qualify for regression analysis in the next step (see Table 7).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1)	1							
(2)	0.617**	1						
(3)	0.705**	0.301**	1					
(4)	0.643**	0.268*	0.328**	1				
(5)	0.728**	0.314**	0.199**	0.313**	1			
(6)	0.711**	0.275**	0.257*	0.219*	0.194**	1		
(7)	0.690**	0.332**	0.241**	0.208**	0.225**	0.272*	1	
(8)	0.752**	0.191**	0.206**	0.237**	0.213**	0.285*	0.249**	1
**significant at p < 0.05, **significant at p < 0.01* *Notes: (1) = Online savings intention of individual customers, (2) = Attitudes, (3) = Subjective norms, (4) = Perceived behavioral control, (5) = Financial benefits, (6) = Safety of savings deposits, (7) = Bank image, (8) = Mental accounting*								

Table 7: Correlation Analysis

Source: Analysis results from SPSS 26

The results of the regression analysis using the hierarchical method indicate that the model has significantly improved with each test step. In model 1, when only independent variables were included in the analysis, the R^2 reached 0.649, meaning these factors explained 64.9% of the variability in online savings intention. By adding the moderate variable in model 2, R^2 increases to 0.723, suggesting that mental accounting has a significant additional effect on the model. More importantly, in model 3, when the interactive variables are incorporated into the analysis, R^2 continues to rise to 0.791, while the adjusted R^2 reaches 0.785, demonstrating that the interactive variables play a strong moderating role and enhance the model's explainability. Therefore, model 3 is chosen to explain the results of the analysis in the following section. The Durbin–Watson coefficient ranges from 1.708 to 1.814, which falls within the acceptable range (from 1.5 to 2.5), indicating no residual autocorrelation in the model. The standard error of the estimate remains stable and does not fluctuate significantly between models, signifying that the estimation model is reliable (see Table 8).

Model	**R**	**R^2**	**Adjusted R^2**	**Std. Error of the Estimate**	**Durbin-Watson**
1	0.675	0.649	0.638	0.320	1.708
2	0.742	0.723	0.704	0.316	1.775
3	0.811	0.791	0.785	0.355	1.814

Table 8: Saturated Model Results

Source: Analysis results from SPSS26

The results of the hierarchical regression analysis for each model indicate that the VIP value across all models is low (less than 2), which suggests that there is no multicollinearity issue, thereby ensuring the model's reliability.

	Model 1		**Model 2**		**Model 3**	
	Beta	**VIP**	**Beta**	**VIP**	**Beta**	**VIP**
cAtt	0.219**	1.344	0.228**	1.143	0.235**	1.187
cSN	0.211**	1.296	0.205*	1.128	0.198**	1.196
cPBC	0.202*	1.117	0.214**	1.231	0.210**	1.120
cFB	0.243**	1.182	0.250*	1.215	0.256**	1.235
cSSD	0.226**	1.203	0.239**	1.197	0.231**	1.109
cBI	0.185*	1.175	0.207**	1.253	0.213*	1.264
cMA			0.226**	1.149	0.206**	1.218
cMA.Att					0.177*	1.255
cMA.SN					-0.128**	1.187
cMA.PBC					0.132*	1.245
cMA.FB					0.165*	1.233
cMA.SSD					0.191**	1.251
cMA.BI					0.143^{ns}	1.172
*significant at $p < 0.05$, **significant at $p < 0.01$, ^{ns}significant at $p > 0.05$						
a. Dependent Variable: OSI						

Table 9: Results Of Regression Weights of Models

Source: Analysis results from SPSS26

The regression equation based on the standardized Beta coefficient is written as follows:

OSI = 0.256*cFB + 0.235*cAtt + 0.231*cSSD + 0.213*cBI + 0.210*cPBC + 0.206*cMA + 0.198*cSN + 0.191*cMA.SSD + 0.177*cMA.Att + 0.165*cMA.FB + 0.132*cMA.PBC - 0.128*cMA.SN

Thus, the intention of individual customers to deposit savings online is influenced by factors in descending order as follows: financial benefits, attitudes, safety of savings deposits, bank image, perceived behavioral control, and subjective norms. Additionally, mental accounting was found to have a direct positive effect on online savings intentions and a positive moderate effect that strengthened the relationship between attitudes, perceived behavioral control, financial benefits, and safety of savings deposits concerning the online savings intentions of individual customers. While the interaction factor between mental accounting and subjective norms has a negative regression coefficient, it is statistically significant ($p < 0.01$), indicating that mental accounting plays a negative moderating role by reducing the relationship between subjective norms and customers' online savings intention. It can be easily understood that subjective norms refer to the degree to which customers intending to save online feel pressure or expectations from others (such as family, friends, or society). At the same time, mental accounting relates to the level of financial understanding and knowledge that a customer possesses. When customers are highly financially literate, they are less influenced by social pressure or norms from others in their decision-making. Instead, they tend to make decisions based on knowledge, personal analysis, and reason rather than on opinions or expectations from those around them. A solid financial foundation often instills confidence in customers, prompting them to prioritize criteria such as the economic benefits they receive, safety, or the utility of services, rather than succumbing to "advice" or "social wishes." Furthermore, the interaction factor between mental accounting and bank image was found to be statistically insignificant, indicating that mental accounting does not moderate the relationship between bank image and online savings intention, as it is an emotional factor that is universal and not heavily influenced by financial expertise. Whether or not customers possess strong financial knowledge, the bank's image and reputation still retain a certain degree of influence over their intentions.

Int_1		**coeff**	**Se**	**t**	**p**
Mode	MA.Att	0.1673	0.0815	3.4573	0.0001
	MA.SN	- 0.1892	0.0692	4.5219	0.0000
	MA.PBC	0.1419	0.0744	3.8762	0.0004
	MA.FB	0.1275	0.0881	3.1338	0.0002
	MA.SSD	0.1368	0.0659	4.6975	0.0000
	MA.BI	0.1167	0.0763	4.2199	0.0800

Table 10: Results of Moderate Testing on Macro Process

Source: Analysis results from SPSS26

The results of the bootstrap analysis on Macro Process indicate that most interaction variables between mental accounting and independent factors have a statistically significant regression coefficient of 1% ($p < 0.01$), confirming that mental accounting plays a crucial moderate role in this relationship. The interactive variables MA.Att, MA.PBC, MA.FB, and MA.SSD all have positive regression coefficients and are statistically significant. This demonstrates that as

customer mental accounting increases, the influence of these independent factors on online savings intentions becomes stronger. In other words, customers with high financial literacy tend to evaluate and respond more positively to factors related to the benefits, control, and safety of financial products. Additionally, the interaction variable MA.SN shows a negative regression coefficient ($\beta = –0.1892$; $p < 0.01$), suggesting that high mental accounting diminishes the effect of social norms on behavioral intent. When customers possess good financial literacy, they make decisions based on reason and personal analysis rather than being swayed by social pressures and others' expectations. Furthermore, the interaction variable MA.BI is not statistically significant, with a Sig. value of 0.0800, which is greater than 0.05, indicating that mental accounting does not play a moderate role in the relationship between bank image and online savings intention. These results confirm that the bank image factor impacts all customer groups similarly, regardless of financial literacy.

Conclusion and Implications

This study employed the expanded theory of planned behavior to explain the intention to deposit savings online, using a sample drawn from individual customers of commercial banks in Hanoi city. The results indicate that the factors proposed in the analytical framework significantly impact individual customers' online savings intentions. This study offers implications for managers to promote the online savings deposit intentions of individual customers as follows:

First, banks need to continue maintaining preferential interest rate policies for online savings channels while also strengthening clear and transparent communication regarding interest rates, terms, accumulated benefits, and accompanying financial utilities (such as free flexible early withdrawals, accumulating points to redeem gifts, managing savings accounts online...). Customers with good financial awareness are often sensitive to actual interest rates; therefore, interest rate information should be presented in visual, easy-to-compare simulations to facilitate proactive decision-making.

Second, banks need to enhance communication regarding system security, deposit insurance policies, and account protection authentication layers. Integrating biometric authentication, OTP, data encryption, and AI technologies to help alert customers about abnormal transactions must be transparent to strengthen trust in the digital banking system.

Third, banks need to create financial education programs using infographics, animated clips, or online savings simulations to enhance financial knowledge for users, particularly middle-aged customers who are not employed in economics or finance.

Fourth, banks should prioritize providing comprehensive information grounded in clear data rather than solely depending on word-of-mouth marketing or brand ambassadors to engage highly knowledgeable customers.

Fifth, brand reputation and image experience are universal values that affect all customer segments. Therefore, the bank must continue to maintain a professional, friendly, transparent, and modern brand image through both the physical environment (branches, employees) and the digital environment (application interface, user experience, web design, etc.).

Sixth, mental accounting is not only a fundamental factor that helps customers make financial decisions with confidence, but also plays an important moderate role in many relationships between factors affecting behavioral intent. Therefore, banks should prioritize segmenting customers based on their level of financial literacy, allowing them to design marketing

campaigns, user manuals, and communication content that align with each level of accounting awareness, ultimately improving access efficiency and the conversion rate of actual saving behavior.

References

Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179-211. http://dx.doi.org/10.1016/0749-5978(91)90020-T

Bui, N. V., Dao, D. T., Ha, N. K. G., Ngo, T. D., & Tran, N. Q. (2020 Factors Affecting Savings Deposit Decision of Individual Customers: Empirical Evidence from Vietnamese Commercial Banks. Journal of Asian Finance Economics and Business, 7(7), 293-302. http://dx.doi.org/10.13106/jafeb.2020.vol7.no7.293

Cao, M. Q. (2023). Factors affecting GEN Z customers' intent to use online savings products. International Journal of Advanced Multidisciplinary Research and Studies, 3(6), 707-711.

Do, H. L., Mai, D. T., Nguyen, D. C., Truong, M. H., Chu, N. L., & Tuong, P. T. (2021). Factors affecting individual customers' online savings deposit behaviours at Vietnamese commercial banks. International Journal of Social Science and Human Research, 4(4), 665-672. http://dx.doi.org/10.47191/ijsshr/v4-i4-13

Ha, N. K. G., & Ha, M. D. (2014). Evaluation of factors for choosing commercial banks in Ho Chi Minh City by the elderly. Journal of Economic Development, 280, 97-115. http://dx.doi.org/10.31219/osf.io/3da48

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis (7th ed.). Pearson.

Hariyanto, H., & Nafi'ah, B. (2022). Analysis of factors affecting saving intention in Islamic bank: The case in Indonesia. Jurnal Ilmiah Ekonomi Islam, 8(1), 28-38.

Hedayatnia, A., & Eshghi, K. (2011). Bank selection criteria in the Iranian retail banking industry. International Journal of Business and Management, 6(12), 222-231. http://dx.doi.org/10.5539/ijbm.v6n12p222

Hisrich, R. D., Peters, M. P., & Shepherd, D. A. (2002). Entrepreneurship (5th ed.). McGraw-Hill/Irwin.

Huston, S. J. (2010). Measuring financial literacy. Journal of Consumer Affairs, 44(2), 296-316.

Kotler, P., & Armstrong, G. (2004). Principles of marketing (10th ed.). Pearson Prentice Hall.

Lam, N. Q. N., & Le, T. H. (2025). Factors affecting the decision to deposit online savings of individual customers at BIDV Tra Vinh Branch. Economy and Forecast Review. Available at: https://kinhtevadubao.vn/cac-nhan-to-tac-dong-den-quyet-dinh-gui-tiet-kiem-online-cua-khach-hang-ca-nhan-tai-bidv-chi-nhanh-tra-vinh-30786.html

Le, T. H., & Nguyen, H. X. N. (2021). Factors affecting the individual customers' decision to open savings accounts at Saigon Joint Stock Commercial Bank - Tra Vinh branch. Industry and Trade Magazine, 15, 10-14.

Le, T. M., & Bui, T. T. (2014). Customer's intention to use online banking services in Vietnam. Journal of Banking Science & Training, 145, 12-18.

Levesque, T. J., & McDougall, G. H. (1996). Customer dissatisfaction: The relationship between types of problems and customer response. Canadian Journal of Administrative Sciences, 13(3), 264-276. http://dx.doi.org/10.1111/j.1936-4490.1996.tb00736.x

Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. Journal of Economic Literature, 52(1), 5-44.

Mahapatra, M. S., & Mishra, R. (2020). Behavioral influence and financial decision of individuals: A study on mental accounting process among Indian households. Cogent Economics & Finance, 8(1), 1-17. https://doi.org/10.1080/23322039.2020.1827762

Milkman, K. L., & Beshears, J. (2009). Mental accounting and small windfalls: Evidence from an online grocer. Journal of Economic Behavior & Organization, 71(2), 384-394. https://doi.org/10.1016/j.jebo.2009.04.007

Ngo, T. N., & Hoang, L. T. (2021). Factors affecting saving deposit decision of individual customers at Vietnam international commercial joint stock bank. Working Paper, 1(5), 1-13.

Nguyen, D. N. (2025). Study the factors that influence Gen Y customers' intention to save online. Journal of Science of Management and Technology, 32, 15-20.

Nguyen, Đ. T., & Nguyen, T. M. T. (2008). Scientific research on marketing: Application of SEM linear structure model. Vietnam National University Press, Ho Chi Minh City.

Nguyen, T. L. H. (2022). Mental accounting and personal financial behavior: A new approach. Journal of Accounting & Auditing, 10, 14-19.

Swacha-Lech, M., & Solarz, M. (2019). Mental accounting in the context of savings and credit decisions: Evidence from Poland. Argumenta Oeconomica, 2(43), 351-384.

Thaler, R. H. (1980). Toward a positive theory of consumer choice. Journal of Economic Behavior & Organization, 1(1), 39-60. https://doi.org/10.1016/0167-2681(80)90051-7

Tran, A. T., Nguyen, M. T., Nguyen, T. P. D., Nguyen, T. K. O., & Ho, N. C. (2024). Factors influencing the intention to make online savings among civil servants in Dong Thap province. In Proceedings of the 2024 International Conference on Fintech Development and Its Social Impact – International Experience and Implications for Vietnam (pp. 397–411). National Economics University Publishing House.

Tran, K. N., Le, T. N., Tran, T. K. T., Đao, T. T., & Bui, H. Đ. (2020). Factors affecting the savings deposit decision of individual customers at An Binh Commercial Joint Stock Bank - Can Tho branch. Journal of Scientific research and Economic development, 10, 117-133.

Van, L. P. (2018). Factors affecting the decision of individual customers to deposit money into commercial banks. Master's thesis, University of Economics Ho Chi Minh City.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly, 27(3), 425-478. https://doi.org/10.2307/30036540.