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A STUDY ON THE IMPACT OF THE FOMO EFFECT ON GEN Z'S ONLINE SHOPPING DECISIONS IN HANOI, VIETNAM

UM ESTUDO SOBRE O IMPACTO DO EFEITO FOMO NAS DECISÕES DE COMPRA ONLINE DA GERAÇÃO Z EM HANÓI, VIETNÃ

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Abstract
The study was conducted to evaluate the fac affecting the Fear of Missing Out (FOMO) and extent to which this phenomenon influences the on shopping decisions of Generation Z in Ha Vietnam. Based on the findings, the study propo solutions to promote healthy and sustainable consu behavior. The authors employed a combinatior research methods, including literature review, prim data collection, survey research, descriptive statist analysis, and quantitative analysis through reliabi testing, Exploratory Factor Analysis (EF Confirmatory Factor Analysis (CFA), and regress modeling. Data were collected from 397 v responses from Gen Z consumers in Hanoi who prior experience with online shopping activities.
The research results indicate that factors such promotional programs, scarcity and urgei frequency of social media usage, and social m influence all have a direct and positive impact FOMO. Furthermore, the study confirms that FO acts as a key psychological driver, exerting strongest positive influence on impulsive on shopping decisions among young consumers Generation Z. The findings also reveal that on social pressure and marketing stimuli significa shape consumer behavior in the digital environm

Resumo
O estudo foi realizado para avaliar os fatores que afetam o medo de ficar de fora (FOMO) e até que ponto esse fenômeno influencia as decisões de compra online da Geração Z em Hanói, no Vietnã. Com base nos resultados, o estudo propõe soluções para promover um comportamento de consumo saudável e sustentável. Os autores empregaram uma combinação de métodos de pesquisa, incluindo revisão de literatura, coleta de dados primários, pesquisa por meio de questionários, análise estatística descritiva e análise quantitativa por meio de testes de confiabilidade, Análise Fatorial Exploratória (EFA), Análise Fatorial Confirmatória (CFA) e modelagem de regressão. Os dados foram coletados a partir de 397 respostas válidas de consumidores da Geração Z em Hanói que já tinham experiência prévia com atividades de compras online.
Os resultados da pesquisa indicam que fatores como programas promocionais, escassez e urgência, frequência de uso das redes sociais e influência das redes sociais têm um impacto direto e positivo sobre o FOMO. Além disso, o estudo confirma que o FOMO atua como um importante motivador psicológico, exercendo a

Based on these results, the study recommends businesses adopt responsible marketing strate while encouraging young consumers to strengt financial discipline and rational consumption habit order to minimize impulsive purchasing behavior contribute to the development of a sustainable commerce environment.

Keywords: FOMO Effect. Online Shopp Decisions. Generation Z. E-Commerce. Consu Behavior.

influência positiva mais forte sobre decisões impulsivas de compras online entre os jovens consumidores da Geração Z. As conclusões também revelam que a pressão social online e os estímulos de marketing moldam significativamente o comportamento do consumidor no ambiente digital. Com base nesses resultados, o estudo recomenda que as empresas adotem estratégias de marketing responsáveis, ao mesmo tempo em que incentivam os jovens consumidores a fortalecer a disciplina financeira e hábitos de consumo racionais, a fim de minimizar o comportamento de compra impulsivo e contribuir para o desenvolvimento de um ambiente de comércio eletrônico sustentável.

Palavras-chave: *Efeito FOMO. Decisões de Compra Online. Geração Z. Comércio Eletrônico. Comportamento do Consumidor.*

1 INTRODUCTION

In the context of digital transformation and the rapid development of e-commerce, the shopping habits of Vietnamese consumers, especially Generation Z, are undergoing significant changes. The explosion of social media and shopping-integrated platforms such as Shopee and TikTok Shop has created a highly interactive environment that easily triggers the psychological effect known as FOMO (Fear of Missing Out). With characteristics such as sensitivity to trends and strong influence from online interactions, FOMO is significantly reshaping the consumer behavior of Gen Z, encouraging them to make rapid purchasing decisions that are sometimes made without careful consideration.

Although FOMO has been recognized as an important psychological factor influencing consumer decision-making, in-depth studies on its impact on individual consumers and investors in the Vietnamese market, particularly in major economic and cultural centers such as Hanoi, remain relatively limited. Previous studies have mainly focused on international contexts or examined FOMO from the broader perspective of social media usage in general. The authors identify several specific research gaps as follows:

First, there is a lack of comprehensive theoretical integration within a specific

contextual setting. Existing studies mainly approach the decision-making process from a rational perspective, such as the Technology Acceptance Model (TAM), without deeply examining the application and extension of these theories to explain the situational and emotional aspects generated by FOMO in the modern e-commerce environment.

Second, there has been limited research focusing specifically on Generation Z in key urban areas. Hanoi, which is home to a large number of technologically savvy young consumers, still lacks studies that clearly identify the psychological factors and objective conditions (such as livestreaming and flash sales) that directly influence their actual purchasing decisions rather than merely their purchase intentions.

Recognizing these research gaps, the authors conducted an analysis of the impact of the FOMO effect on the online shopping decisions of Generation Z in Hanoi. Through a quantitative survey involving 397 samples and analytical models such as Exploratory Factor Analysis (EFA) and linear regression using SPSS and AMOS software, the study proposes recommendations aimed at promoting safe consumer behavior and supporting businesses in developing effective communication strategies.

The study expects to confirm that convenience, scarcity, and social interaction pressure are key factors driving impulsive purchasing decisions. Based on these findings, businesses and marketing strategists can design communication campaigns that align with the psychological characteristics of Generation Z. A proper understanding and moderate utilization of FOMO, combined with social responsibility, will help young consumers develop smarter purchasing behaviors and contribute to building a healthy and sustainable e-commerce environment in the digital era.

2 LITERATURE REVIEW

Online shopping decisions have become a central concept in modern consumer behavior research, reflecting profound changes driven by digital technology. Unlike traditional purchasing models, online shopping is a complex process involving cognitive, emotional, and behavioral activities, in which consumers interact with products through images, digital descriptions, and community reviews (Xiao & Myers, 2025). The online environment, characterized by rapid information transmission, high interactivity, and the constant emergence of consumer stimuli, has significantly shortened consumers'

decision-making time. This has blurred the boundary between planned purchasing and impulsive buying, making purchasing decisions increasingly emotional, situational, and strongly influenced by social pressure.

Online shopping decisions are not homogeneous but are manifested in various forms, most notably purchase frequency decisions, impulsive buying decisions, and spending decisions. In the context of digitalization, shopping frequency is no longer limited to satisfying essential needs but has evolved into a daily entertainment habit. In particular, impulsive buying decisions—unexpected and unplanned purchases—are becoming increasingly common under the influence of strategies such as flash sales, livestream selling, and product scarcity notifications. The consequences of this high purchasing frequency and impulsive behavior are directly reflected in spending decisions, as the amount of money allocated to online shopping often exceeds individuals' planned budgets.

These consumer characteristics are especially evident among Generation Z, the first generation to grow up alongside the Internet and social media. For Gen Z, online shopping is an essential part of digital life, occurring with continuous frequency. The most prominent characteristic of this consumer group is their high level of impulsiveness; they are likely to make rapid purchasing decisions based on visual stimuli and time pressure rather than long-term rational consideration (Huang, 2016). Moreover, Gen Z is highly sensitive and vulnerable to the psychological effect of FOMO (Fear of Missing Out). The constant flow of information on social media causes them to worry about falling behind trends or missing attractive offers. Although Gen Z generally has strong access to information and awareness of smart consumption, they often experience a conflict between rational thinking and actual behavior, leading to spending beyond their financial limits merely to satisfy temporary emotions and the desire for social belonging.

In this context, the FOMO effect has emerged as a core psychological mechanism shaping online shopping decisions. Fundamentally, FOMO refers to a pervasive feeling of anxiety arising when individuals perceive that they are missing out on valuable or enjoyable experiences that others are having (Przybylski *et al*., 2013). In the e-commerce environment, this effect is formed and amplified by three main factors. First is the perception of scarcity and time limitation. Based on Commodity Theory (Brock, 1968), messages such as "limited quantity" or countdown timers create a sense of urgency,

increasing the perceived value of shopping opportunities and forcing consumers to act immediately. Second is social influence and social comparison. Drawing on Social Comparison Theory (Festinger, 1954), consumers tend to adjust their behavior according to friends, KOLs, or the majority through social proof. Observing others owning certain products creates strong psychological pressure, motivating individuals to consume in order to avoid social exclusion. Third is emotionally driven shopping motivation. The feeling of "winning" when obtaining a good deal, combined with the fear of missing promotional opportunities, intensifies excitement and completely outweighs rational and utilitarian evaluations, thereby shaping favorable attitudes and encouraging impulsive purchasing decisions.

To explain the mechanism underlying purchasing decisions in the digital environment, many studies commonly employ the Technology Acceptance Model (TAM) as a theoretical foundation. According to Davis (1989), TAM suggests that perceived usefulness (PU) and perceived ease of use (PEOU) determine users' attitudes and intentions toward using a system. Although TAM has strong explanatory power for rational and planned decisions, it reveals limitations when applied to the modern online shopping context, where emotions and social pressure dominate consumer behavior. TAM does not fully capture immediate psychological impacts, particularly the influence of FOMO on Generation Z consumers. Therefore, within this context, TAM serves mainly as a foundational reference regarding technological utility.

Instead, this study adopts the Stimulus–Organism–Response (S-O-R) model proposed by Mehrabian and Russell (1974) as the primary theoretical framework to comprehensively explain online shopping decisions. From the S-O-R perspective, online environmental factors (Stimulus – S), such as scarcity messages, flash sales, community reviews, and KOL-generated content, function as powerful stimuli. When exposed to these stimuli, consumers' internal states (Organism – O) generate cognitive and emotional responses, with FOMO playing a central role. Feelings of fear of missing out, pressure to conform socially, and hedonic motivation trigger a strong sense of urgency. As a result, consumers produce behavioral responses (Response – R), specifically impulsive online purchasing decisions.

In summary, the systematization of Generation Z's shopping characteristics, the nature of the FOMO effect, and the integration of this psychological factor into the S-O-

R theoretical framework help fill the gaps left by traditional rational models. These theoretical foundations confirm that online shopping decisions today are not merely the acceptance of convenient technology, but rather emotional responses to the pressures of the digital environment, thereby providing a solid basis for developing the research model and subsequent hypothes.

3 RESEARCH HYPOTHESIS

Based on the theoretical foundation and the synthesis of previous studies, this research proposes a model grounded in the Stimulus–Organism–Response (S-O-R) framework combined with the extended Technology Acceptance Model (TAM). This approach explains consumers' online shopping decisions, particularly those of Generation Z, as outcomes of stimuli from the digital environment mediated through internal emotional states, rather than as purely planned decisions. Specifically, environmental and social marketing stimuli, including Promotional Programs (PRO), Social Influence (SI), and Scarcity/Urgency (SU), are considered factors that intensify the fear of missing out on opportunities. In this model, FOMO serves as a mediating psychological variable that transforms the effects of these external factors into Online Buying Decisions (OB). In addition, the model also emphasizes the direct impact of Social Media Usage Frequency (SMU) on purchasing decisions without necessarily being mediated by the FOMO state.

Based on the model structure and the underlying theoretical foundations, the study proposes the following hypotheses:

H1: Promotional Programs (PRO) have a positive impact on the FOMO effect.

H2: Scarcity/Urgency (SU) has a positive impact on the FOMO effect.

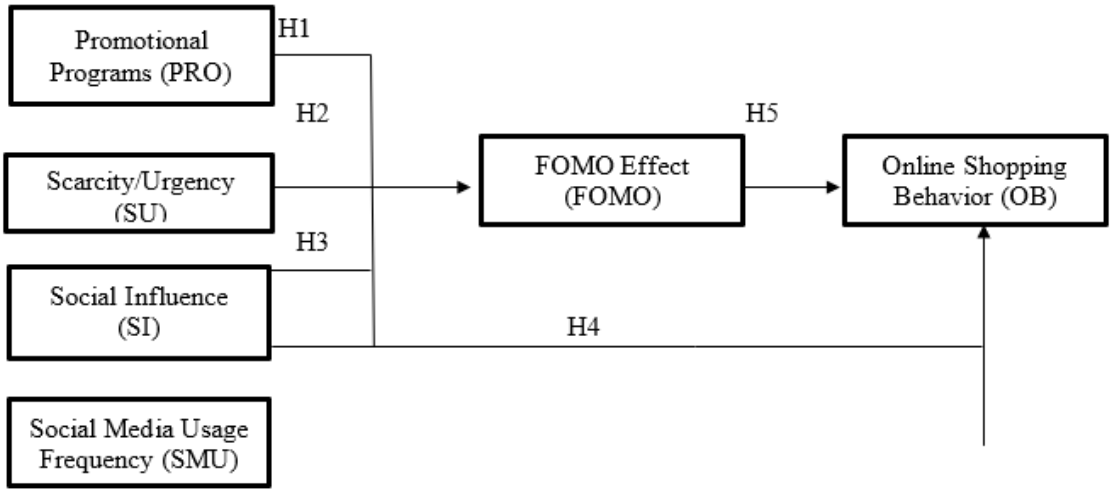
H3: Social Influence (SI) has a positive impact on the FOMO effect.

H4: Social Media Usage Frequency (SMU) has a positive impact on online shopping decisions.

H5: The FOMO effect has a positive impact on online shopping decisions.

Figure 1

Proposed Research Model



Source: Authors' compilation.

4 DATA AND METHODOLOGY

4.1 Qualitative research method

The research process was implemented through two main stages, beginning with a qualitative research approach in the form of desk research. The purpose of this stage was to generalize the theoretical foundation, develop the research model, establish hypotheses, and design a preliminary measurement scale suitable for the context of Generation Z in Hanoi. The authors synthesized and analyzed both domestic and international studies related to the FOMO effect, online shopping decisions, and influencing factors such as Promotional Programs (PRO), Social Influence (SI), Scarcity/Urgency (SU), and Social Media Usage Frequency (SMU). The results of the desk research enabled the inheritance and adaptation of measurement scales from previous studies. All wording was carefully reviewed and refined to develop an official questionnaire that ensures clarity, comprehensibility, and the accurate measurement of concepts within the proposed model.

4.2 Quantitative research method

In the quantitative research stage, the primary objective was to collect large-scale primary data in order to evaluate the reliability and validity of the measurement scales, test the hypotheses regarding the relationships among variables, and examine the overall fit of the research model. The survey subjects were consumers belonging to Generation Z (born between 1997 and 2012) who are currently living, studying, or working in Hanoi, primarily students and young employees, and who had made at least one online shopping transaction within the previous six months. The study employed a combination of random and convenience sampling methods. Data were collected through an online survey using Google Forms, distributed via social media platforms, personal email, and community groups. Out of 452 distributed questionnaires, 397 valid responses were collected, Modeling (SEM) analysis. The questionnaire utilized a five-point Likert scale to measure respondents' levels of agreement (ranging from "Strongly Disagree" to "Strongly Agree") and levels of influence (ranging from "Very Low" to "Very High").

All valid data were subsequently coded and processed using SPSS 26.0 and AMOS 20 through a rigorous statistical analysis procedure. The process began with descriptive statistics, including frequency and percentage analyses, to provide an overview of the demographic characteristics of the sample. Next, the reliability of the measurement scales was evaluated using Cronbach's Alpha coefficient in order to eliminate inappropriate variables, ensuring that the Alpha coefficient reached at least 0.7 and the corrected item-total correlation exceeded 0.3. After the measurement scales met the required standards, Exploratory Factor Analysis (EFA) was conducted to reduce observed variables and identify the factor structure. Subsequently, Confirmatory Factor Analysis (CFA) was applied to test the goodness-of-fit of the measurement model, convergent validity ($AVE \geq 0.5$), and composite reliability ($CR \geq 0.7$). In addition, the study employed Independent Sample T-Test and One-way ANOVA to examine differences in online shopping decisions among different demographic groups. Finally, Covariance-Based Structural Equation Modeling (CB-SEM) was utilized to evaluate the overall fit of the theoretical model and test causal relationships through standardized regression coefficients (β) and the coefficient of determination (R^2).

Table 1

Coding of Research Variable Attributes

Variable	Code	Research Items
Promotional Programs	PRO	PRO1: Discounts or vouchers make me more likely to make a purchase decision. PRO2: Free shipping or shipping fee incentives make me more likely to buy. PRO3: Flash sales/shocking deals make me want to buy immediately. PRO4: When there are attractive promotions, I tend to purchase more quickly than usual.
Social Influence	SI	SI1: Reviews and ratings on social media influence my purchasing decisions. SI2: Influencers/KOLs/TikTokers can make me want to buy a product. SI3: When I see many people purchasing or recommending a product, I am easily influenced to buy it as well. SI4: Trends on social media make me want to purchase products.
FOMO Effect	FOMO	FOMO1: I am afraid of missing out on good deals if I do not buy immediately. FOMO2: I feel anxious when I cannot purchase a product that is currently "trending." FOMO3: When I see others purchasing or posting products on social media, I feel pressured to buy as well. FOMO4: I feel uncomfortable when I miss an attractive shopping opportunity.
Social Media Usage Frequency	SMU	SMU1: I use social media frequently. SMU2: I access social media many times a day. SMU3: I spend a significant amount of time on social media every day. SMU4: I frequently encounter shopping/selling/advertising content on social media.
Scarcity/Urgency	SSU	SU1: When a product is labeled as "almost out of stock/limited quantity," I am more likely to buy immediately. SU2: When there is a countdown timer (only X minutes/hours left), I am more likely to buy immediately. SU3: Notifications such as "only a few items left/limited quantity" make me decide more quickly. SU4: Time or quantity pressure causes me to purchase without much consideration.
Online Shopping Decisions	OB	OB1: I frequently shop online. OB2: I prefer online shopping over in-store shopping. OB3: I often spend a large amount of money on online shopping. OB4: Online shopping is part of my daily habits.

Source: Compiled by the authors.

Table 2

Criteria for Evaluating the Measurement Model and Testing the Structural Model

Criteria	Condition	Source
Composite Reliability (CR)	CR ≥ 0,7	Hair *et al*. (2013)
Average Variance Extracted (AVE)	AVE ≥ 0,5	Chin (2010)
Comparison between the square root of AVE and correlation coefficients to assess discriminant validity	The square root of AVE must be greater than the correlation coefficients	Fornell and Larcker (1981)

Coefficient of Determination (R^2)	• Weak predictive power: $R^2 = 0.25$ • Moderate predictive power: $R^2 = 0.50$ • Strong predictive power: $R^2 = 0.75$	Hair *et al*. (2013)

5 RESULTS AND DISCUSSION

Table 3

Descriptive Statistics of the Research Sample's Demographic Characteristics

Criteria		**Frequency (People)**	**Percentage (%)**
Gender	Male	191	48,11%
	Female	206	51,89%
	Total	397	100,0
Year of Birth	1997-2003	101	25,5%
	2004-2012	296	74,5%
	Total	397	100,0
Monthly Income	Under 3 million VND	193	48,61%
	3–5 million VND	75	18,9%
	5–7 million VND	49	12,34%
	Above 7 million VND	80	20,15%
	Total	397	100,0
Monthly Expenditure	Under 2 million VND	164	41,3%
	2–4 million VND	124	31,23%
	4–6 million VND	48	12,1%
	Above 6 million VND	61	15,37%
	Total	397	100,0
Most Frequently Used Online Shopping Platforms	Shoppee	375	
	Tik Tok shop	317	
	Lazada	18	
	Tiki	10	
	Others	45	

Source: SPSS 26.0 Software.

The study was conducted to analyze the impact of the FOMO effect on the online shopping decisions of Generation Z in Hanoi. Research data were collected through an online questionnaire survey targeting individuals belonging to Generation Z who are currently living, studying, and working in Hanoi, Vietnam.

During the data collection process, the research team received 452 responses. After conducting data screening and cleaning, invalid questionnaires due to missing information, incomplete responses, or signs of inconsistent answers were removed. As a result, 397 valid questionnaires were retained for data analysis, corresponding to a usable response rate of 87.83%. Therefore, the official research sample of the study consists of 397 Generation Z individuals in Hanoi, Vietnam.

Table 4

Results of Measurement Scale Statistics

Observed Variables	Mean	Median	Mode
Promotional Programs (PRO)			
PRO1	3,4584	4,00	4
PRO2	3,4912	4,00	4
PRO3	3,5542	4,00	4
PRO4	3,2469	3,00	3
Social Influence (SI)			
SI1	3,5113	4,00	4
SI2	3,2242	3,00	3
SI3	3,2544	3,00	3
SI4	3,544	4,00	5
FOMO Effect (FOMO)			
FOMO1	3,6423	4,00	5
FOMO2	3,6448	4,00	5
FOMO3	3,7683	4,00	5
FOMO4	3,5793	4,00	4
Social Media Usage Frequency (SMU)			
SMU1	3,00	3,00	3
SMU2	3,1385	3,00	3
SMU3	3,3048	3,00	5
SMU4	3,3904	4,00	5

Scarcity/Urgency (SU)			
SU1	3,3854	3,00	3
SU2	3,2317	3,00	4
SU3	3,3426	3,00	3
SU4	3,6222	4,00	4
Online Shopping Decisions (OB)			
OB1	3,3577	3,00	3
OB2	3,4207	4,00	4
OB3	3,4106	3,00	4
OB4	3,6096	4,00	4

Source: SPSS 26.0 Software

The statistical results indicate that the observed variables achieved mean values ranging from 3.00 to 3.77 on a five-point Likert scale, reflecting moderate to relatively high levels of agreement among respondents. Among the variables, the FOMO Effect recorded the highest level of agreement (3.58–3.77), clearly demonstrating the respondents' fear of missing out. Other influencing factors, as well as the Online Shopping Decision (OB) variable, also obtained positive scores, indicating that the tendency to make online purchasing decisions occurs quite frequently. All variables achieved mean scores above 3.0, providing a valid and reliable basis for conducting subsequent in-depth analyses.

Table 5

Reliability Test Results of the Measurement Scales for Factors in the Model

No.	Factors	Cronbach's Alpha Coefficient	N
1	Promotional Programs	0,804	4
2	Social Influence	0,809	4
3	FOMO Effect	0,825	4
4	Social Media Usage Frequency	0,809	4
5	Scarcity/Urgency	0,83	4
6	Online Shopping Decisions	0,823	4

Source: SPSS 26.0 Software

The Cronbach's Alpha test results indicate that all six measurement scales achieved good reliability, with coefficients ranging from 0.804 to 0.830, exceeding the acceptable threshold of 0.7. Among them, the Scarcity/Urgency (SU) factor recorded the

highest reliability coefficient at 0.830. In addition, all 24 observed variables had Corrected Item–Total Correlation coefficients greater than 0.3. Therefore, no variables were removed, and the model retained all six factors, satisfying the requirements for subsequent analyses.

Table 6

KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0,845
Bartlett's Test of Sphericity	Approx. Chi-Square	3585,709
	df	190
	Sig.	0,000

Source: SPSS 26.0 Software

The KMO analysis results for the independent variables presented in Table 5.4 show that the KMO value is 0.845, indicating that the dataset is appropriate for conducting Exploratory Factor Analysis (EFA). In addition, Bartlett's Test of Sphericity yielded a significance level of 0.000 (< 0.05) with a Chi-square statistic of 3585.709, demonstrating that the observed variables are correlated with one another within the population. According to the criteria proposed by Hair *et al*. (2014), these results confirm that the research data are entirely suitable for performing EFA analysis.

Table 7

Results of EFA Testing for the Factors

Pattern Matrix[a]					
	Component				
	1	2	3	4	5
FOMO1	0,864				
FOMO2	0,806				
FOMO3	0,760				
FOMO4	0,742				
SU1		0,862			
SU2		0,837			
SU3		0,771			
SU4		0,721			
SMU1			0,869		
SMU2			0,847		

SMU3			0,746		
SMU4			0,638		
SI1				0,843	
SI2				0,809	
SI3				0,785	
SI4				0,758	
PRO1					0,901
PRO2					0,851
PRO3					0,682
PRO4					0,590
Eigenvalue = 1,301					
Extracted Variance (%) = 66,881					

Source: SPSS 26.0 Software

The EFA analysis results (using Promax rotation) successfully converged the 20 independent observed variables into five factor groups as originally proposed (SMU, PRO, FOMO, SI, and SU) with Eigenvalues ≥1. All factor loadings were greater than 0.5, and the total extracted variance reached 66.881%, exceeding the standard threshold of 50%. These findings confirm that the measurement scales achieved good convergent validity and explained 66.881% of the variation in the dataset.

Table 8

KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0,798
Bartlett's Test of Sphericity	Approx. Chi-Square	553,987
	df	6
	Sig.	0,000

Source: SPSS 26.0 Software

Table 9

Results of EFA Testing for the Dependent Factors

Pattern Matrix[a]	
	Component
	1
OB1	0,849
OB2	0,829
OB3	0,796

OB4	0,759
Eigenvalue = 2,616	
Extracted Variance (%) = 65,390	

Source: SPSS 26.0 Software

The EFA analysis for the dependent variable demonstrated a high level of suitability, with a KMO coefficient of 0.798 and a significance level of Sig. ≤ 0.05. The total extracted variance reached 65.390% at an Eigenvalue = 2.616, which is greater than 1, and all factor loadings exceeded the threshold of 0.5. These results confirm that all four observed variables of the dependent construct fully satisfied the required standards and were retained for subsequent analyses.

Table 10

Model Fit Indices of the Overall Model

Index	Value	Evaluation Threshold	Assessment
CMIN/df	3,073	≤ 5	Acceptable
CFI	0,882	≥ 0,8	Good
GFI	0,862	≥ 0,8	Acceptable
RMSEA	0,072	≤ 0,08	Good

Source: Results of data analysis from AMOS 24.

The results of the Model Fit evaluation indicate that all major indices satisfied the required thresholds: CMIN/df = 3.073 (< 5), CFI = 0.882 (> 0.8), and RMSEA = 0.072 (< 0.08). The GFI index reached 0.862; although it is lower than the ideal threshold of 0.9, it is still considered acceptable (≥ 0.8) according to Baumgartner *et al*. (1995), due to the objective influence of sample size. Overall, the model demonstrates a good fit with the empirical data and is sufficiently reliable for hypothesis testing.

Table 11

Master Validity Test Results

	CR	AVE	MSV	MaxR(H)	SI	FOMO	OB	SU	SMU	PRO
SI	0.816	0.529	0.119	0.838	0.728					

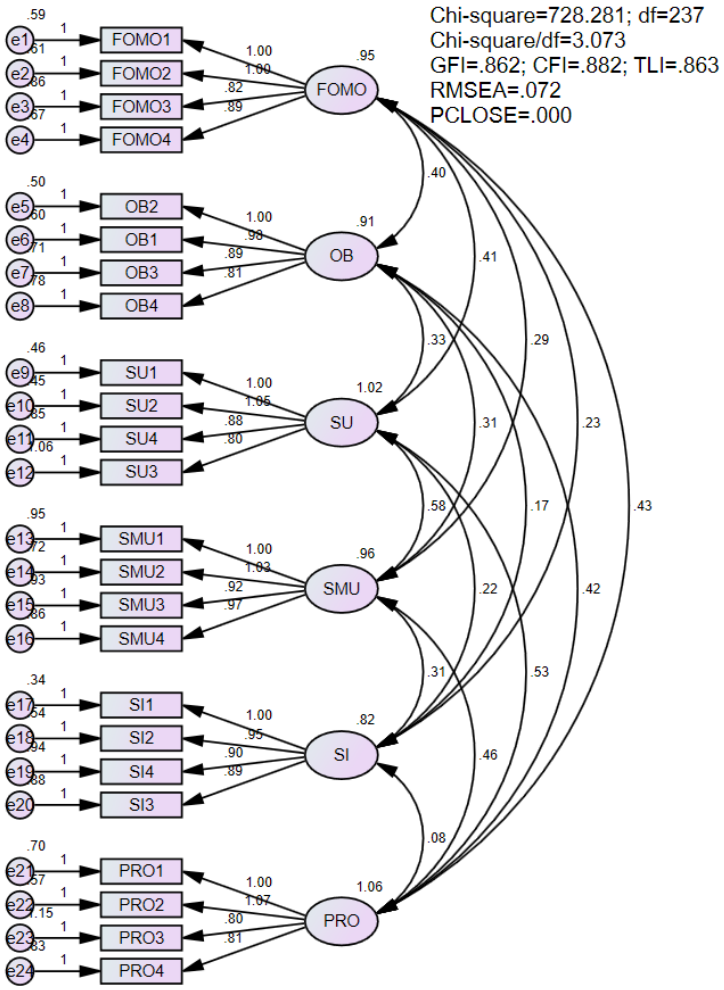
FOMO	0.827	0.546	0.184	0.835	0.266	0.739				
OB	0.825	0.543	0.184	0.834	0.202	0.429	0.737			
SU	0.836	0.564	0.347	0.861	0.241	0.417	0.341	0.751		
SMU	0.811	0.518	0.347	0.814	0.345	0.307	0.337	0.589	0.720	
PRO	0.814	0.526	0.257	0.834	0.085	0.424	0.425	0.507	0.455	0.726

Source: Results of data analysis from AMOS 24.

The test results indicate that all measurement scales satisfactorily met the requirements for reliability and validity. Specifically, the Composite Reliability (CR) values of the constructs ranged from 0.811 to 0.836, exceeding the recommended threshold of 0.7 and confirming high internal consistency. Convergent validity was established as the Average Variance Extracted (AVE) values ranged from 0.518 to 0.564, surpassing the minimum threshold of 0.5 suggested by Hair *et al*. (2010). Finally, the measurement scales achieved discriminant validity according to the criteria of Fornell and Larcker (1981), since the Maximum Shared Variance (MSV) values were consistently lower than the AVE values, and the square roots of the AVE values were greater than all correlation coefficients among the constructs in the model.

Figure 2

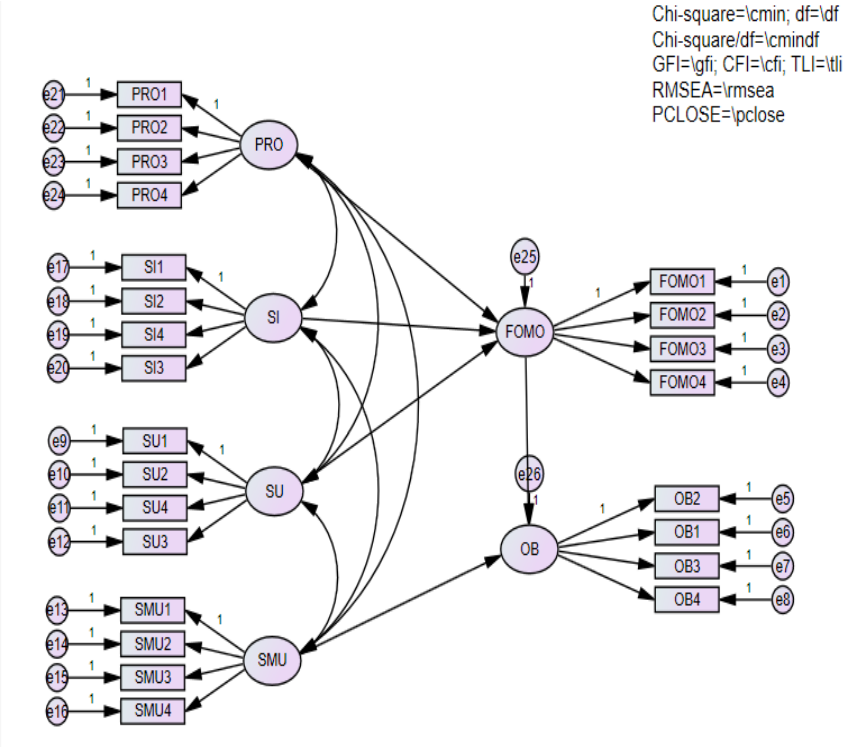
Standardized CFA Analysis Results



Source: Results of data analysis from AMOS 24

Figure 3

Standardized SEM Model Results



Source: Results of data analysis from AMOS 24

Table 12

Model Fit Indices of the SEM Model

Index	Value	Evaluation Threshold	Assessment
CMIN/df	3,077	≤ 5	Acceptable
CFI	0,880	≥ 0,8	Acceptable
GFI	0,860	≥ 0,8	Acceptable
RMSEA	0,072	≤ 0,08	Good

Source: Results of data analysis from AMOS 24

Table 13

Standardized Regression Coefficients and Hypothesis Testing Results

Relationship	Standardized Coefficient	P-value (Sig.)	Hypothesis	Testing Result
PRO → FOMO	0,311	***	H1	Accepted
SU → FOMO	0,215	0,002	H2	Accepted
SI → FOMO	0,189	***	H3	Accepted
SMU → OB	0,243	***	H4	Accepted
FOMO → OB	0,366	***	H5	Accepted

Source: Results of data analysis from AMOS 24

The relationship between PRO and FOMO has a standardized regression coefficient of 0.311 with a P-value P< 0.001, indicating that Promotional Programs (PRO) have a positive and statistically significant impact on FOMO. The relationship between SU and FOMO has a regression coefficient of 0.215 with P=0.002, demonstrating that Scarcity/Urgency (SU) positively influences FOMO. Similarly, the relationship between SI and FOMO has a coefficient of 0.189 with P<0.001, confirming that Social Influence (SI) exerts a positive effect on FOMO.

Furthermore, the relationship between FOMO and OB has a standardized regression coefficient of 0.366 with P<0.001, indicating that the FOMO effect strongly influences Online Shopping Behavior (OB). The relationship between SMU and OB has a coefficient of 0.243 with P<0.001, showing that Social Media Usage Frequency (SMU) also has a positive impact on Online Shopping Behavior. Therefore, all relationships in the model are statistically significant at the 95% confidence level.

Table 14

Standardized Regression Coefficients of the Mediating Relationships in the Research Model

Hypothesis	Description	Indirect Relationship	P - value (Sig.)	Standardized Regression Coefficient	Result
H1	Promotional Programs (PRO) positively affect the FOMO effect	PRO → FOMO → OB	0,001	0,114	Accepted

	and indirectly influence online shopping decisions.				
H2	Scarcity/Urgency (SU) positively affects the FOMO effect and indirectly influences online shopping decisions.	SU → FOMO → OB	0,009	0,079	Accepted
H3	Social Influence (SI) positively affects the FOMO effect and indirectly influences online shopping decisions.	SI → FOMO → OB	0,003	0,069	Accepted

Source: Results of data analysis from AMOS 24

The Bootstrap test results confirm that the FOMO effect serves as an important mediating variable, as all indirect effects are statistically significant. Specifically, through the FOMO effect, Promotional Programs (PRO) indirectly influence online shopping decisions with a significance level of 0.001; Scarcity/Urgency (SU) exerts an indirect effect with a significance level of 0.009; and Social Influence (SI) has an indirect effect with a significance level of 0.003. These findings demonstrate that marketing stimuli and social pressure activate the fear of missing out, which in turn indirectly promotes the online shopping decisions of Generation Z consumers in Hanoi, Vietnam.

Table 15

Independent Samples Test for the Gender Group

		Levene's Test for Equality of Variances		**t-test for Equality of Means**						
		F	**Sig.**	**t**	**df**	**Sig. (2-tailed)**	**Mean Difference**	**Std. Error Difference**	**95% Confidence Interval of the Difference**	
									Lower	**Upper**
TONG PB	**Equal variances assumed**	0,715	0,398	0,984	395	0,326	0,09620	0,09777	-0,09602	0,28842
	Equal variances not assumed			0,988	371,901	0,324	0,09620	0,09753	-0,09522	0,28762

Source: Results of data analysis from AMOS 24

Table 16

Independent Samples Test for the Year-of-Birth Group

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
TONG PB	Equal variances assumed	9,599	0,002	-1,297	393	0,195	-0,14452	0,11144	-0,36361	0,07458
	Equal variances not assumed			-1.183	149,714	0,229	-0,14452	0,12220	-0,38587	0,09694

Source: SPSS 26.0 Software.

Table 17

Test of Homogeneity of Variances for the Income Group

Levene Statistic	df1	df2	Sig.
3.879	3	393	0,009

Source: SPSS 26.0 Software.

The Levene's Test results show that the significance value is Sig.=0.009< 0.05; therefore, the null hypothesis (H_0) of homogeneity of variances is rejected. This indicates that the variances among the income groups differ significantly from one another.

Table 18

ANOVA Table for the Income Group

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7,255	3	2,418	2,613	0,050
Within Groups	361,238	393	0,919		
Total	368,492	396			

Source: SPSS 26.0 Software.

The ANOVA analysis results indicate that the significance value is Sig.=0.050, which is approximately equal to the statistical significance threshold of 0.05. This suggests that there is a marginally significant difference in online shopping decisions among different income groups. The findings imply that income may play a certain role

in shaping consumers' online shopping decisions, as individuals with higher incomes are likely to have greater spending capacity for online shopping activities.

Table 19

Descriptive Statistics for Each Income Group

Income Group	N	Mean	Std, Deviation	Std, Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Under 3 million VND	193	3,3834	0,94615	0,06811	3,2491	3,5177	1,00	5,00
3–5 million VND	75	3,5533	0,85057	0,09822	3,3576	3,7490	1,50	5,00
5–7 million VND	49	3,7500	0,85999	0,12286	3,5030	3,9970	1,75	5,00
Above 7 million VND	80	3,3281	1,12691	0,12599	3,0773	3,5789	1,00	5,00
Total	379	3,4496	0,96464	0,04841	3,3544	3,5448	1,00	5,00

Source: SPSS 26.0 Software.

From Table 5.17, it can be observed that the descriptive statistics vary across different income groups. However, the mean values among the income groups do not differ substantially, indicating that despite differences in income levels, respondents demonstrate relatively similar levels of online shopping decision-making behavior.

Table 20

Test of Homogeneity of Variances for the Expenditure Group

Levene Statistic	df1	df2	Sig.
2,987	3	393	0,031

Source: SPSS 26.0 Software.

The Levene's Test results indicate that the significance value is Sig.=0.031<0.05; therefore, the null hypothesis (H_0) is rejected, meaning that the variances among the expenditure groups differ significantly from one another.

Table 21

ANOVA Table for the Expenditure Group

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5,789	5	1,930	2,091	0,101
Within Groups	362,703	393	0,923		
Total	368,492	396			

Source: SPSS 26.0 Software

The ANOVA analysis results show that the significance value is Sig.=0.101>0.05; therefore, the null hypothesis (H_0) is accepted. This indicates that there is no statistically significant difference in online shopping decisions among different income groups. Thus, income level does not create a significant difference in consumers' online shopping decisions within the research sample.

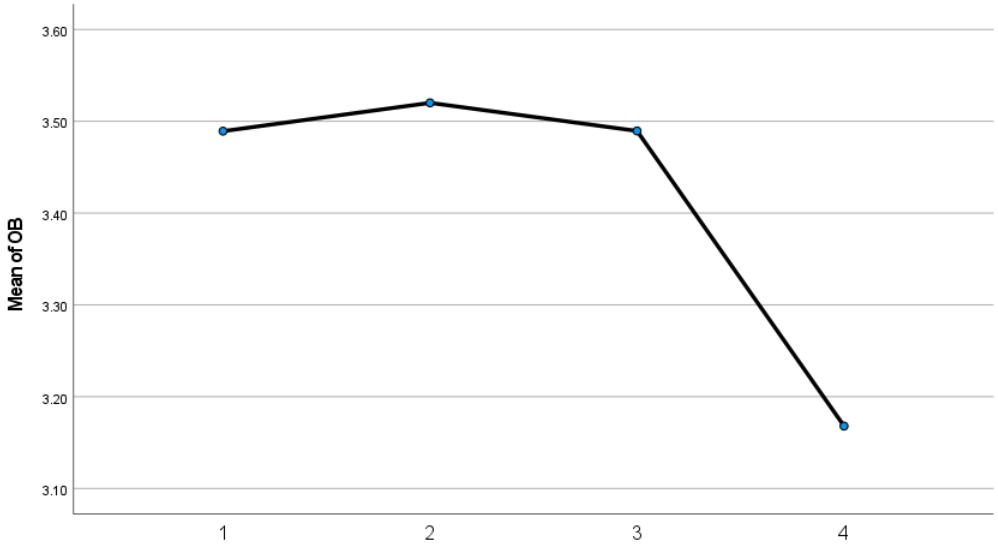
Table 22

Descriptive Statistics for Each Expenditure Group

Expenditure Group	N	Mean	Std, Deviation	Std, Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Under 2 million VND	164	3,4893	0,91777	0,07167	3,3478	3,6308	1,00	5,00
2–4 million VND	124	3,5202	0,96620	0,08677	3,3484	3,6919	1,00	5,00
4–6 million VND	48	3,4896	0,82989	0,11978	3,2486	3,7306	1,50	5,00
Above 6 million VND	61	3,1680	1,14175	0,14619	3,8756	3,4604	1,00	5,00
Total	397	3,4496	0,96464	0,04841	3,3544	3,5448	1,00	5,00

Figure 4

Descriptive Chart of Expenditure Groups



Source: SPSS 26.0 Software

From the descriptive statistics table, it can be observed that the mean values among the income groups do not differ significantly, ranging from 3.1680 to 3.5202. This indicates that the level of online shopping decision-making is relatively similar across different income groups. Overall, the analysis results suggest that income is not a factor that creates significant differences in consumers' online shopping decisions within this study.

6 CONCLUSION

The results of the PLS-SEM structural model analysis indicate a relatively strong explanatory power for the online shopping behavior of Generation Z in Hanoi, with an adjusted $R^2 = 0.457$. Among the factors, the FOMO effect exerts the strongest influence on online shopping decisions, with a standardized coefficient of β=0.366, suggesting that online social pressure encourages consumers to make rapid purchasing decisions in order to maintain their social standing within groups. In addition, Promotional Programs β=0.311 and Scarcity/Urgency β=0.215 function as direct "triggers" that activate the fear of missing out. Social Media Usage Frequency β=0.243 and Social Influence β=0.189 contribute to creating a "surrounding ecosystem" that intensifies herd behavior. In

contrast, rational technological factors such as Effort Expectancy, Subjective Norms, and Risk Acceptance do not exert significant effects, demonstrating that Generation Z's purchasing decisions are driven more strongly by emotional and irrational factors than by logical calculations.

Based on these findings, the study proposes several strategic solutions to leverage FOMO psychology. In terms of communication strategy, brands should optimize content according to "timeliness" by utilizing disappearing content formats such as Stories and short-form videos that encourage users to remain continuously engaged. At the same time, brands should amplify "social proof" through the experiences shared by Key Opinion Consumers (KOCs) in order to establish consumer norms. Regarding e-commerce platforms, personalized promotions through limited-time "exclusive" discount codes and the creation of "ownership privileges" (such as early product access) can stimulate urgent purchasing behavior. In UI/UX design, platforms should create a sense of "visual urgency" through countdown timers, warm color schemes, and real-time interaction notifications (e.g., "25 people are viewing this product") to maximize the FOMO effect.

For managers and marketers, optimizing the digital customer journey through "one-touch" payment processes is critically important in retaining customers when FOMO reaches its peak. Promotional strategies should focus on deep-discount flash sales during limited "golden hours" while ensuring transparency regarding scarcity through real data (e.g., "Only 2 products left"). Businesses should also build multi-channel communication ecosystems through livestreaming in order to capitalize on collective social excitement. However, brands must uphold ethical responsibility and avoid abusing "fake scarcity" or "false promotions," as Generation Z consumers are highly technologically aware and sensitive to deceptive marketing practices.

For young consumers, the study recommends establishing a "rational filter" through the 72-hour rule, which involves delaying purchases for three days to allow temporary feelings of urgency to subside. Generation Z should also proactively engage in "digital detox" practices by filtering out shopping-stimulating content and strengthening personal financial discipline through expense management applications. Most importantly, young consumers should aim to transform FOMO into JOMO (Joy of Missing Out) while adopting a green consumption mindset. Rejecting fast fashion and

prioritizing second-hand products can help Generation Z build confidence in their intrinsic values and reduce susceptibility to scarcity messages and social media trends.

Finally, the study acknowledges several objective limitations. The survey sample was restricted to Hanoi, which reduces the generalizability of the findings. In addition, traditional theoretical models may not fully capture the "irrational" nature of FOMO, while the collected data may have been affected by the timing of major online "Super Sale" campaigns. Therefore, future studies should expand comparative research across regions and generations, particularly including Generation Alpha, while incorporating additional psychological variables such as post-purchase cognitive dissonance and social media fatigue. These future directions will contribute to developing solutions aimed at reducing impulsive consumption pressure and promoting a healthier and more sustainable e-commerce environment.

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