Research Article

THE NEXT-GENERATION SHOPPER: A STUDY ON GENERATION Z'S PERCEPTION OF AI IN ONLINE SHOPPING IN VIETNAM

Anh Ngoc Phuong Nguyen, *Thu Nguyen Anh Dong and Cao Minh Man

School of Business, International University, Vietnam National University, Linh Xuan Ward, Ho Chi Minh City, Vietnam.

ABSTRACT

In Vietnam, online shopping platforms are increasingly integrating artificial intelligence (AI) to personalize user experiences and enhance customer interactions. However, empirical evidence on how Generation Z perceives and accepts AI-enabled shopping technologies remains limited. This study investigates the impact of AI on online purchase intention among Vietnamese Gen Z using an adapted Technology Acceptance Model. A quantitative approach was employed, with data collected from 372 valid responses via an online survey. SPSS and SmartPLS 4.0 were used to analyze the data using Partial Least Squares Structural Equation Modeling. The results indicate that exposure to AI, knowledge about AI, and use of AI significantly influence perceived usefulness and perceived ease of use, which in turn positively affect purchase intention. Moreover, perceived usefulness and perceived ease of use mediate the relationships between AI-related factors and purchase intention. These findings suggest that familiarity with and functional benefits of AI enhance consumers' willingness to engage in AI-powered online shopping. This study offers practical implications for online retailers by highlighting how effective AI implementation can improve user experience and strengthen purchase outcomes.

Keywords: artificial intelligence; perceived ease of use; perceived usefulness; purchase intention; Technology Acceptance Model.

INTRODUCTION

Recent years have witnessed the rapid integration of artificial intelligence (AI) into e-commerce, fundamentally transforming how firms design shopping experiences and interact with consumers. By leveraging large-scale data and advanced algorithms, AI enables personalized recommendations, automated customer service, and enhanced decision support, thereby strengthening convenience, satisfaction, and purchase intention (PI) (Turki, 2025).

The strategic importance of AI adoption is underscored by the continued global expansion of e-commerce, with global retail e-commerce sales projected to reach approximately USD 6.88 trillion in 2026, representing a year-on-year growth rate of about 7.2% (Shopify, 2025).Within this context, Vietnam has emerged as one of ASEAN's fastest-growing e-commerce markets, supported by rapid digital transformation and widespread smartphone adoption.

Among online consumers, Generation Z represents a particularly influential segment. As digital natives, Gen Z exhibits strong expectations for personalization, interactivity, and seamless experiences, while showing limited responsiveness to standardized marketing approaches (Van den Bergh *et al.,* 2024). In Vietnam, Gen Z accounts for a substantial share of online shoppers, making them a critical group for understanding AI-enabled consumption behavior.

Although prior studies report positive effects of AI-powered tools on consumer attitudes and PI, traditional technology adoption models such as the Technology Acceptance Model (TAM) often conceptualize technology as a neutral tool and do not fully capture AI-specific experiential characteristics. Recent extensions of TAM have introduced AI-related variables such as exposure, usage, and knowledge; however, empirical validation remains limited, particularly in emerging markets like Vietnam.

Corresponding Author: Thu Nguyen Anh Dong,
School of Business, International University, Vietnam National University, Linh Xuan Ward, Ho Chi Minh City, Vietnam.

Accordingly, this study extends TAM by incorporating exposure to AI (EAI), use of AI (UOAI), and knowledge about AI (KAAI) as antecedents of perceived usefulness of AI (PUAI), perceived ease of use of AI (PEUAI), and PI. By focusing on Generation Z consumers in Vietnam, the study clarifies how AI-related experiences are translated into PI in AI-integrated online shopping environments.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Technology Acceptance Model and AI-Integrated Online Shopping among Generation Z

The TAM posits perceived usefulness (PU) and perceived ease of use (PEU) as the primary determinants of technology adoption (Davis, 1989). Despite the emergence of more comprehensive frameworks, TAM remains widely applied due to its parsimony and strong explanatory power.

In AI-enabled commerce, PU and PEU continue to predict consumer attitudes and PIs. However, traditional TAM does not fully capture AI-specific characteristics such as personalization, adaptive learning, and autonomous interaction. As AI becomes embedded within digital shopping infrastructures, consumer evaluations increasingly reflect experiential interaction and cognitive understanding rather than usability alone.

These limitations are particularly salient for Generation Z consumers. As digital natives, Gen Z exhibits high technological fluency and strong expectations for personalized and seamless shopping experiences. AI-powered features such as recommendation systems and chatbots align closely with these expectations and play a central role in shaping online shopping behavior, especially in Vietnam's social commerce–dominated environment.

To address this gap, the present study adopts the TAM as the core framework and extends it by integrating EAI, UOAI, and KAAI to explain how PUAI and PEUAI translate into PI among Generation Z consumers.

Hypothesis Development

Exposure to AI and Cognitive Evaluations

Exposure to AI refers to the extent to which consumers encounter and interact with AI technologies in their daily lives. Prior research suggests that greater exposure enhances familiarity, reduces uncertainty, and strengthens positive evaluations of AI-enabled systems (Jenneboer *et al.,* 2022; Deveau *et al.,* 2023). Frequent exposure to AI-based applications is therefore expected to increase PU and PEU in online shopping contexts. On this basis, the following hypothesis is proposed.

H1: Exposure to AI positively influences perceived usefulness of AI in online shopping.

H2: Exposure to AI positively influences perceived ease of use of AI in online shopping.

Exposure to AI and Purchase Intention

Beyond cognitive evaluations, exposure to AI has been shown to directly influence behavioral intentions by enhancing enjoyment, trust, and perceived value (Bhagat *et al.,* 2023; Qin *et al.,* 2022). As consumers become more accustomed to AI-driven interactions, they are more likely to develop favorable intentions toward AI-integrated online shopping. Therefore, the following hypothesis is proposed:

H3: Exposure to AI positively influences Gen Z consumers' purchase intentions toward AI-integrated online shopping.

Use of AI

Use of AI captures the extent to which individuals actively employ AI-enabled technologies in their daily routines. Prior studies indicate that prior usage experience strengthens acceptance of similar technologies by increasing confidence and perceived reliability (Paschen *et al.,* 2019; Aiolfi, 2023). Accordingly, frequent use of AI is expected to positively influence both cognitive evaluations and PIs. On this basis, we hypothesize that:

H4: Use of AI positively influences purchase intention toward AI-integrated online shopping.

H5: Use of AI positively influences perceived usefulness of AI.

H6: Use of AI positively influences perceived ease of use of AI.

Perceived Usefulness, Perceived Ease of Use, and Purchase Intention

Consistent with TAM, PU and PEU are central determinants of technology adoption. In AI-enabled shopping environments, consumers are more likely to intend to purchase when AI systems are perceived as beneficial, efficient, and easy to interact with (Yeo *et al.,* 2022; Hyun *et al.,* 2022). On this basis, the following hypotheses are proposed:

H7: Perceived usefulness of AI positively influences purchase intention.

H8: Perceived ease of use of AI positively influences purchase intention.

Knowledge about AI

Knowledge about AI reflects consumers' understanding of AI capabilities, functions, and limitations. Prior research demonstrates that higher levels of AI knowledge reduce perceived risk, enhance trust, and strengthen positive evaluations of AI-based services (Chen *et al.,* 2022; Yen & Chiang, 2021). Consequently, AI knowledge is expected to influence both cognitive perceptions and PIs.

Accordingly, this study hypothesizes that:

H9: Knowledge about AI positively influences purchase intention.

H10: Knowledge about AI positively influences perceived usefulness of AI.

H11: Knowledge about AI positively influences perceived ease of use of AI.

Mediating Role of Perceived Usefulness and Ease of Use

Building on TAM, PU and PEU are expected to function as mediating mechanisms through which AI-related antecedents influence PI. Prior studies confirm that AI experience and usage affect behavioral intentions indirectly via these cognitive evaluations (Bhagat *et al.,* 2023). Based on this reasoning, the following mediation hypotheses are formulated:

H12: Perceived usefulness of AI mediates the relationships between (a) exposure to AI, (b) use of AI, (c) knowledge about AI, and purchase intention.

H13: Perceived ease of use of AI mediates the relationships between (a) exposure to AI, (b) use of AI, (c) knowledge about AI, and purchase intention.

Research Model

Based on the proposed hypotheses, a conceptual model is developed linking AI-related antecedents (EAI, UOAI, KAAI), cognitive evaluations (PUAI, PEUAI), and PI toward AI-integrated online shopping among Generation Z consumers (Figure 1).
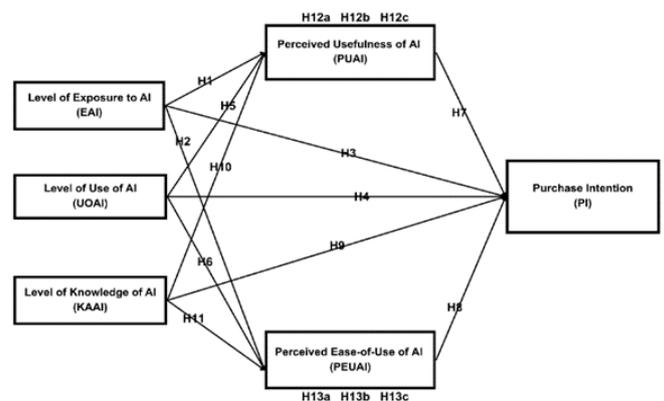

Figure 1 Proposed Research Model

RESEARCH METHODOLOGY

This study adopts a quantitative, cross-sectional research design to examine Generation Z consumers' PI toward AI-integrated online shopping in Vietnam. Data were collected using a structured questionnaire adapted from well-established and validated measurement instruments in prior research on AI, technology

acceptance, and consumer behavior. All measurement items were originally developed in English and subsequently translated into Vietnamese using a back-translation procedure to ensure linguistic clarity and conceptual equivalence.

Responses were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). A convenience sampling approach was employed, yielding 372 valid responses from Generation Z consumers with prior experience using AI-enabled online shopping features. Partial Least Squares Structural Equation Modeling using SmartPLS 4.0 was applied due to the model's predictive orientation and the presence of multiple mediation relationships. Measurement reliability, convergent validity, and discriminant validity were assessed prior to testing the structural relationships. Bootstrapping with 5,000 resamples was used to examine the significance of direct and indirect effects.

The constructs and corresponding measurement items were adapted as follows. Exposure to AI was measured using items adapted from prior studies examining individuals' encounters with AI technologies in everyday contexts (Ameen *et al.,* 2021; Jenneboer *et al.,* 2022; Bawack*et al.,* 2022), capturing the frequency and nature of respondents' interactions with AI-enabled applications and services. Knowledge about AI was assessed using items adapted from research on consumers' understanding of AI concepts and functionalities (Ahmed *et al.,* 2020; Malhotra & Ramalingam, 2023), reflecting respondents' self-assessed level of AI knowledge. Use of AI was measured using items adapted from multiple studies on AI adoption and usage in consumer contexts (Paschen *et al.,* 2019; Bhagat *et al.,* 2023; Yin & Qiu, 2021; Aiolfi, 2023; Nicolescu & Tudorache, 2022; Yeo *et al.,* 2022), capturing the extent to which respondents actively integrate AI technologies into their daily routines.

Perceived usefulness of AI in sales and marketing contexts was measured using items derived from prior literature on AI-enabled personalization and decision support (Campbell *et al.,* 2020; Liang *et al.,* 2020; Nagy & Hajdu, 2021; Deveau *et al.,* 2023). Perceived ease of use of AI was assessed using items adapted from established TAM-based and AI commerce studies (Moriuchi, 2019; Liang *et al.,* 2020), reflecting the degree to which respondents perceive AI-integrated online shopping platforms as intuitive and effortless to use. Purchase intention toward AI-integrated online shopping was measured using items adapted from prior consumer behavior and AI adoption research (Bhagat *et al.,* 2023; Yeo *et al.,* 2022), capturing respondents' willingness to purchase products or services facilitated by AI in the future.

All measurement items were adapted from prior empirical studies that have been widely used and validated across diverse contexts, thereby ensuring content validity and construct reliability.

DATA ANALYSIS

Sample Characteristics

After data screening, a total of 372 valid responses were retained for analysis from the initial 391 questionnaires. All retained respondents met the eligibility criterion of having prior experience with AI-integrated online shopping features.

The sample primarily consisted of Generation Z consumers in late adolescence and early adulthood. Respondents aged 18–22 accounted for the largest proportion (45.2%), followed by those aged 23–28 (30.6%). Younger age groups (13–15 and 16–17) jointly

represented 24.2% of the sample. Female respondents accounted for 55.4%, while male respondents represented 41.7%, indicating a slightly female-dominant but relatively balanced sample.

Regarding occupation, university students constituted the largest group (40.1%), followed by employed respondents (33.9%) and students at lower educational levels (21.5%). Most respondents resided in Ho Chi Minh City (60.2%), followed by Hanoi (21.0%), reflecting the concentration of digital commerce activity in major urban areas.

In terms of online shopping behavior, the majority of respondents reported shopping online occasionally (52.7%) or frequently (23.9%). TikTok Shop emerged as the most frequently used platform, followed by Shopee, indicating the growing dominance of social commerce among Gen Z consumers. With respect to AI experience, customer support chatbots and personalized product recommendations were the most commonly encountered AI features, suggesting that AI adoption in e-commerce is primarily service- and recommendation-driven. Detailed demographic and behavioral characteristics are presented in Tables 1–7.

Table 1Age Distribution of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Age	13–15 years old	41	11.0	11.0	
	16–17 years old	49	13.2	13.2	
	18–22 years old	168	45.2	45.2	
	23–28 years old	114	30.6	30.6	
	Total	372	100.0	100.0	

Table 2Gender Distribution of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	155	41.7	41.7	
	Female	206	55.4	55.4	
	Prefer not to say	11	3.0	3.0	
	Total	372	100.0	100.0	

Table 3Occupational Status of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Job status	Student	80	21.5	21.5	
	University student	149	40.1	40.1	
	Employed	126	33.9	33.9	
	Other	17	4.6	4.6	

Table 4 Geographic Distribution of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Location	Ho Chi Minh City	224	60.2	60.2	
	Ha Noi	78	21.0	21.0	
	Other	70	18.8	18.8	
	Total	372	100.0	100.0	

Table 5 Frequency of Online Shopping

	Frequency	Percent	Valid Percent	Cumulative Percent
Online shopping frequency	Very frequently (6 times/month or more)	19	5.1	5.1
	Frequently (3–5 times/month)	89	23.9	23.9
	Occasionally (1–2 times/month)	196	52.7	52.7
	Rarely	68	18.3	18.3
	Total	372	100.0	100.0

Table 6 Online Shopping Platforms Used

	Frequency	Responses		
		N	**Percent**	**Percent of Cases**
Online shopping platforms	Shopee	165	34.1%	44.4%
	Lazada	49	10.1%	13.2%
	TikTok Shop	207	42.8%	55.6%
	Website/Brand application	35	7.2%	9.4%
	Other	28	5.8%	7.5%
Total		484	100.0%	130.1%

Table 7 Frequency of AI-Integrated Online Shopping Features

	Frequency	Responses		
		N	**Percent**	**Percent of Cases**
AI Experience AI features	Customer support chatbot	195	41.3%	52.4%
	Voice assistant (Siri, Google Assistant)	46	9.7%	12.4%
	Personalized product recommendations	146	30.9%	39.2%
	Virtual try‑on / Image recognition	53	11.2%	14.2%
	Other	32	6.8%	8.6%
Total		472	100.0%	126.9%

Measurement Model Assessment

The reflective measurement model was evaluated prior to testing the structural relationships using SmartPLS 4.

Indicator Reliability

Indicator reliability was assessed using outer loadings. Following Hair *et al.,* (2017), indicators with loadings equal to or greater than 0.70 were considered acceptable. As shown in Table 8, all measurement items exhibited loadings ranging from 0.717 to 0.809, exceeding the recommended threshold. Therefore, all indicators were retained for further analysis, confirming that the observed variables adequately represent their respective latent constructs.

Table 8 Outer loading

	EAI	KAAI	PEUAI	PI	PUAI	UOAI
EAI1	0.780					
EAI2	0.735					
EAI3	0.777					
EAI4	0.780					
EAI5	0.793					
KAAI1		0.770				
KAAI2		0.790				
KAAI3		0.778				
KAAI4		0.783				
KAAI5		0.781				
PEUAI1			0.748			
PEUAI2			0.782			
PEUAI3			0.781			
PEUAI4			0.795			
PEUAI5			0.774			
PI1				0.768		
PI2				0.774		
PI3				0.774		
PI4				0.800		
PI5				0.782		
PI6				0.779		
PI7				0.740		
PUAI1					0.717	
PUAI2					0.742	
PUAI3					0.806	
PUAI4					0.796	
PUAI5					0.769	
UOAI1						0.757
UOAI2						0.759
UOAI3						0.809
UOAI4						0.799
UOAI5						0.793

Note: EAI = Exposure to AI; KAAI = Knowledge about AI; PEUAI = Perceived Ease of Use of AI; PI = Purchase Intention; PUAI = Perceived Usefulness of AI; UOAI = Use of AI.

Internal Consistency Reliability and Convergent Validity

Internal consistency reliability was assessed using Cronbach's alpha, rho_A, and composite reliability (CR). As presented in Table 9, all constructs demonstrated Cronbach's alpha and CR values above 0.80, indicating strong internal consistency (Nunnally & Bernstein, 1994).

Table 9 Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
EAI	0.831	0.832	0.881	0.598
KAAI	0.840	0.840	0.886	0.609
PEUAI	0.835	0.837	0.883	0.603
PI	0.888	0.889	0.913	0.599
PUAI	0.824	0.827	0.877	0.588
UOAI	0.843	0.845	0.888	0.614

Convergent validity was evaluated through Average Variance Extracted (AVE). All AVE values exceeded the recommended threshold of 0.50, ranging from 0.588 to 0.614, confirming that each construct explains more than half of the variance in its indicators. These results indicate satisfactory convergent validity across all constructs.

Discriminant Validity

Discriminant validity was assessed using both the Fornell–Larcker criterion and the Heterotrait–Monotrait (HTMT) ratio. As shown in Table 10, the square roots of AVE values for each construct exceeded their corresponding inter-construct correlations, satisfying the Fornell–Larcker criterion.

Table 10 Fornell-Larcker Criterion

	EAI	KAAI	PEUAI	PI	PUAI	UOAI
EAI	0.773					
KAAI	0.632	0.780				
PEUAI	0.600	0.608	0.776			
PI	0.628	0.611	0.614	0.774		
PUAI	0.636	0.601	0.621	0.632	0.767	
UOAI	0.600	0.579	0.594	0.590	0.597	0.784

Additionally, all HTMT values ranged from 0.679 to 0.767, well below the conservative threshold of 0.85 (Henseler *et al.,* 2015), as shown in Table 11. These findings confirm that the constructs are empirically distinct and that discriminant validity is well established.

Table 11 Heterotrait-Monotrait Ratio (HTMT)

	EAI	KAAI	PEUAI	PI	PUAI	UOAI
EAI						
KAAI	0.756					
PEUAI	0.717	0.722				
PI	0.730	0.707	0.711			
PUAI	0.767	0.721	0.747	0.737		
UOAI	0.714	0.685	0.706	0.679	0.713	

Structural Model Assessment

Collinearity Assessment

Potential multicollinearity among predictor constructs was assessed using inner Variance Inflation Factor (VIF) values. As reported in Table 12, all VIF values ranged from 1.742 to 2.207, which are well below the critical threshold of 5 (Hair *et al.,* 2017). These results indicate that multicollinearity is not a concern and that the estimated path coefficients are reliable.

Table 12 Inner VIF Values

	EAI	KAAI	PEUAI	PI	PUAI	UOAI
EAI			1.931	2.207	1.931	
KAAI			1.858	2.088	1.858	
PEUAI				2.089		
PI						
PUAI				2.169		
UOAI			1.742	1.973	1.742	

Explanatory Power (R²)

The explanatory power of the structural model was evaluated using R² and adjusted R² values. As shown in Table 13, the model explains 48.6% of the variance in PEUAI, 50.5% of the variance in PUAI, and 54.6% of the variance in PI. These values indicate moderate explanatory power, suggesting that the proposed model provides a meaningful explanation of Gen Z consumers' perceptions and behavioral intentions toward AI-integrated online shopping.

Table 13 R Square

	R Square	R Square Adjusted
PEUAI	0.490	0.486
PI	0.552	0.546
PUAI	0.509	0.505

Effect Size (f²)

Effect sizes were assessed using Cohen's (1988) f² criteria. As presented in Table 14, all f² values were below 0.15, indicating weak effect sizes. Although the structural paths are statistically significant, their individual contributions to explained variance are modest. This finding suggests that while AI-related factors play a meaningful role, additional variables may further enhance the explanatory strength of the model.

Table 14 f Square

	EAI	KAAI	PEUAI	PI	PUAI	UOAI
EAI			0.065	0.037	0.111	
KAAI			0.088	0.032	0.066	
PEUAI				0.034		
PI						
PUAI				0.045		
UOAI			0.085	0.023	0.080	

Predictive Relevance (Q²)

Predictive relevance was examined using the blindfolding procedure. As shown in Table 15, all endogenous constructs (PUAI, PEUAI, and PI) exhibited Q² values greater than zero, ranging from 0.288 to 0.325. According to Hair *et al.,* (2017), these values indicate medium predictive relevance, confirming that the model has adequate predictive capability.

Table 15 Q Square

	SSO	SSE	Q²(=1-SSE/SSO)
EAI	1860.000	1860.000	
KAAI	1860.000	1860.000	
PEUAI	1860.000	1324.854	0.288
PI	2604.000	1758.530	0.325
PUAI	1860.000	1313.863	0.294
UOAI	1860.000	1860.000	

Hypothesis Testing

Hypotheses were tested using bootstrapping with 5,000 resamples. All hypothesized direct relationships (H1–H11) were supported at p < 0.05, with positive and statistically significant path coefficients. Regarding PI, PUAI exerted the strongest effect (β = 0.209), followed by EAI (β = 0.192), PEUAI (β = 0.178), KAAI (β = 0.173), and UOAI (β = 0.143). These results indicate that Gen Z consumers' PIs are

primarily driven by their evaluation of AI's functional value rather than mere usage frequency.

For PEUAI, KAAI exhibited the strongest effect (β = 0.289), followed by UOAI (β = 0.276) and EAI (β = 0.252). This suggests that cognitive understanding of AI plays a more critical role than exposure alone in reducing perceived complexity.

For PUAI, EAI (β = 0.325) emerged as the strongest determinant, highlighting the importance of repeated interaction and familiarity in shaping value perceptions. A summary of hypothesis testing results is provided in Table 16.

Table 16 Summary of Hypothesis Testing Results

Hypothesis	Path	Original Sample (O)	T-Value	P-Value	Result
H1	EAI → PUAI	0.325	6.722	0.000	Supported
H2	EAI → PEUAI	0.252	4.537	0.000	Supported
H3	EAI → PI	0.192	4.615	0.000	Supported
H4	UOAI → PI	0.143	3.620	0.000	Supported
H5	UOAI → PUAI	0.261	5.319	0.000	Supported
H6	UOAI → PEUAI	0.276	5.349	0.000	Supported
H7	PUAI → PI	0.209	5.023	0.000	Supported
H8	PEUAI → PI	0.178	4.130	0.000	Supported
H9	KAAI → PI	0.173	3.897	0.000	Supported
H10	KAAI → PUAI	0.244	4.883	0.000	Supported
H11	KAAI → PEUAI	0.289	5.436	0.000	Supported

Mediation Analysis

Mediation effects were examined using specific indirect effects obtained through bootstrapping. As shown in Table 17, all indirect paths were statistically significant (p < 0.05), supporting Hypotheses H12a, H12b, H12c, H13a, H13b, and H13c.

Table 17 The results of Specific Indirect Effects

	Relationships	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
H12a	EAI → PUAI →PI	0.068	0.017	3.967	0.000
H12b	UOAI → PUAI→ PI	0.055	0.017	3.298	0.001
H12c	KAAI → PUAI → PI	0.051	0.016	3.231	0.001
H13a	EAI → PEUAI → PI	0.045	0.015	3.045	0.002
H13b	UOAI → PEUAI → PI	0.049	0.016	3.110	0.002
H13c	KAAI → PEUAI → PI	0.051	0.016	3.254	0.001

Both PUAI and PEUAI significantly mediated the relationships between EAI, KAAI, UOAI, and PI. However, the indirect effects through PUAI were consistently stronger than those through PEUAI. This finding indicates that PU is the more influential psychological mechanism through which AI-related factors translate into PI among Gen Z consumers.

The results provide strong empirical support for the proposed research model. Exposure to AI, KAAI, and UOAI significantly influence Gen Z consumers' perceptions of usefulness and ease of use, which in turn drive PI toward AI-integrated online shopping. Although the direct effects are modest in magnitude, the mediation analysis highlights the central role of PU, reinforcing the relevance of the TAM in AI-enabled e-commerce contexts.

DISCUSSION AND IMPLICATIONS

Discussion of Findings

This study demonstrates that Generation Z consumers' PIs toward AI-integrated online shopping are primarily shaped through a value-based acceptance process. Among all predictors, PUAI exerts the strongest influence on PI, indicating that Gen Z evaluates AI less as a novel technology and more as a decision-support infrastructure embedded in everyday consumption.

Perceived ease of use remains significant but plays a secondary role, functioning largely as a baseline expectation rather than a decisive driver. This shift suggests an evolution of TAM mechanisms from adoption facilitation toward value extraction among digitally fluent consumers.

The findings further reveal differentiated roles of AI-related experiences. Exposure to AI primarily enhances PU through repeated and contextually relevant interaction, while KAAI most strongly reduces perceived complexity and strengthens ease-of-use perceptions. Use of AI, although significant, exerts weaker effects unless accompanied by meaningful exposure and understanding.

Mediation analysis confirms that PUAI and PEUAI partially mediate the relationships between AI-related experiences and PI, with PUAI serving as the stronger value-translation mechanism. The results extend TAM by reconceptualizing PUAI and PEUAI as dynamic mechanisms that transform experiential inputs into consumer value.

From a managerial perspective, firms should move beyond increasing AI usage frequency and instead prioritize meaningful exposure, transparency, and consumer understanding of AI functionality. Designing AI applications that deliver clear decision-support value and supporting consumer learning can more effectively translate AI capabilities into sustained PI.

Reinterpreting TAM in AI-Embedded Commerce Contexts

This study contributes to technology acceptance literature by reinterpreting the core mechanisms of the TAM within AI-embedded online shopping environments. Traditional TAM conceptualizes technology primarily as a functional tool whose adoption depends on users' assessments of usefulness and ease of use (Davis, 1989). However, the empirical findings of this study suggest that such a tool-oriented interpretation is increasingly insufficient in contexts where artificial intelligence is deeply embedded into digital commerce infrastructures.

For Generation Z consumers, AI is no longer perceived as a novel or optional technological feature but rather as an integral decision-support infrastructure that continuously mediates product discovery, evaluation, and purchasing processes. In line with recent scholarship on embedded and autonomous digital systems (Raiu & Mina-Raiu, 2023), AI in e-commerce functions less as a discrete system to be adopted and more as an invisible layer shaping everyday consumption decisions. As a result, acceptance is not driven by whether AI is usable, but by how effectively it translates experiential interaction into perceived value.

This reconceptualization is particularly evident in the differentiated roles of PUAI and PEUAI. While both constructs remain statistically significant, PEUAI emerges as a baseline expectation rather than a dominant driver of purchase intention. For digitally fluent Generation Z consumers, ease of use is largely taken for granted; AI-enabled interfaces are expected to be intuitive by default. This finding aligns with recent studies suggesting that usability loses its explanatory power as technologies mature and become standardized within everyday digital environments (de Boissieu & Baudier, 2023).

In contrast, PUAI plays a central role as a value-extraction mechanism through which AI-related experiences are translated into PI. Rather than reflecting a static belief about system performance, PU operates dynamically by capturing how AI enhances decision efficiency, reduces cognitive effort, and improves outcome quality in online shopping. This finding extends TAM by positioning PUAI as a mediating mechanism that converts exposure, usage, and knowledge of AI into actionable consumer value, particularly in high-choice, algorithm-driven retail environments.

Moreover, the stronger mediating role of PUAI relative to PEUAI suggests a shift in technology acceptance logic from adoption feasibility to value realization. This shift reflects broader changes in consumer–technology relationships, where acceptance is increasingly contingent upon perceived contribution to goal attainment rather than system accessibility alone. Within this framework, AI knowledge enhances consumers' ability to interpret and trust algorithmic outputs, while repeated exposure strengthens familiarity and reinforces value perceptions, collectively shaping PI through usefulness-based evaluations.

By reframing TAM within AI-integrated commerce contexts, this study demonstrates that technology acceptance among Generation Z is less about overcoming barriers to use and more about extracting meaningful value from embedded intelligent systems. This theoretical refinement enhances the applicability of TAM to contemporary digital environments and provides a foundation for future research examining AI acceptance as an ongoing value-translation process rather than a one-time adoption decision.

CONCLUSION AND LIMITATIONS

This study extends the TAM by incorporating AI-related experiential factors to explain Generation Z consumers' PIs in AI-integrated online shopping environments in Vietnam. The findings indicate that EAI, UOAI, and KAAI significantly shape PUAI and PEUAI, which in turn drive PI. Among these mechanisms, PU emerges as the most decisive determinant, reflecting a shift from adoption feasibility toward value extraction.

While the study offers robust insights, its generalizability is limited by the focus on urban Gen Z consumers and AI-intensive platforms. The cross-sectional design also restricts examination of dynamic changes in perception over time. Future research should adopt longitudinal designs, include diverse consumer groups, and integrate moderating factors such as privacy concerns or cultural orientation to further refine understanding of AI acceptance in e-commerce.

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