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User Experience as a Predictor of E-commerce Continuation Intention in Indonesia: Examining the Role of Shopping Orientation as a Moderator

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Abstract

Background: The integration of Stimulus-Organism-Response (SOR) framework and Technology Acceptance Model (TAM) is still in need of improvement, particularly in studies examining individual behavior in Indonesian e-commerce context. A common challenge in e-commerce adoption is individual willingness and intention to adopt, which is influenced by previous user experience. Consequently, there is a need for the establishment of standard to measure user experience in e-commerce.
Objective: This study aims to measure the post-adoption experience of e-commerce user, which will shape attitude and influence future continuance intention (CI).
Methods: This study integrated SOR and TAM frameworks, followed by the collection and analysis of data from 263 respondents using Structural Equation Modeling-Partial Least Squares (SEM-PLS). Among the four hypotheses proposed, two represented novel contributions to the existing literature.
Results: The results showed a positive and significant influence of Interaction Experience (IE), Sense Experience (SE), and Flow Experience (FE) on Attitude Toward Using (ATU). The data analysis also indicated a positive and significant effect of ATU on Continuance Intention (CI). However, the influence of ATU on CI became insignificant when moderated by Shopping Orientation (SO).
Conclusion: Based on the results, not all hypotheses proposed in this study are supported. However, the results provide both theoretical and practical contributions.

Keywords: SOR, TAM, User Experience, Continuance Intention, e-commerce

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I. INTRODUCTION

The adoption of technology in shopping is a new habit for modern society, which is a key factor causing the rapid growth of e-commerce. In line with the development of e-commerce in recent years, various studies have been conducted to understand user behavior. Some of these studies have shown the importance of design and management of features in e-commerce platform [1], [2]. while others focus on predicting behavior by incorporating both affective and cognitive dimensions [3], [4], [5]. A common challenge in the adoption of technology, including e-commerce, fundamentally relates to the individual willingness and intention for adoption [6]. This implies that the success of e-commerce platform can be measured by the number of user or volume of transactions. However, there is a perspective that initial adoption of e-commerce does not guarantee long-term success or sustained use [7].

The online environment is an essentially complex issue that can influence individual behavior in different ways continuously. In this process, individuals typically acquire knowledge intentionally [8], which is stored in memory and becomes an experience [9]. Therefore, individual behavior based on experience is important to study and understand [10], [11]. Previous literature observed that individual behavior developed in line with the encountered experience [12] or in response to environmental changes [13]. Stimulus-Organism-Response (SOR) theory [14] was

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initially developed to explore individual behavior changes that correlated with environmental changes. This theory dominates the literature in measuring behavior based on experience in the online environment, such as in website visitors [15], [2], [16], [17], retail consumers [18], [19], mobile shopping platform [20], [21], or food delivery applications [22].

Previous studies discussed user experience of e-commerce in relation to their behavior [16], [18], [19], [20], [21]. However, e-commerce variables were treated separately without establishing standard for measuring user experience, showing the need for further investigation. The use of e-commerce based on experience can vary significantly among individuals, which presents distinctive challenges. This experience relates to individual acceptance of the technology. Technology Acceptance Model (TAM) [23] is frequently used in studies to investigate user acceptance of technology [24], [25], [26]. Some previous reports generally elaborated on TAM by adding external variables [27], [28]. While others integrated the model with SOR theory to provide a holistic understanding of user behavior, combining emotional responses (SOR) and cognitive evaluations (TAM) [29], [30]. However, the literature using the integrated SOR-TAM framework is relatively limited. In some studies that integrated SOR-TAM framework, significant gaps were found. For example, one study tended to focus on specific applications without considering the broader complexity of e-commerce user behavior [30]. Meanwhile, another report emphasized consumer purchase intentions in India without considering the element of user experience [29]. The importance of platform characteristics and user experience in shaping consumer behavior has also been investigated, combining these factors into a holistic analytical framework [19][31].

Based on the background above, this study aims to examine the continuance intention of e-commerce user in line with the perceived experience. The experiment incorporates shopping orientation, considering the responses of e-commerce user after experiencing effects on behavioral continuance. Shopping orientation shows the enjoyment of hedonic consumption and the necessity of conducting process efficiently (utilitarian) [32]. Moreover, this study also adds practical value in understanding how user experience and shopping orientation influence the continuance intention of e-commerce usage. The analysis focuses on multisensory experience in e-commerce context, such as combining visual, auditory, and haptic feedback, which are increasingly incorporated to enhance user engagement and satisfaction. For example, visual elements like high-resolution product images and responsive design, auditory feedback during transactions, and haptic feedback in mobile applications contribute to a more immersive and interactive shopping experience.

Although e-commerce platform cannot replicate physical sensory experience such as touch or smell, the multisensory features significantly influence user attitude by enhancing their Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). The integration of multisensory elements in SOR-TAM constitutes a novelty in this study. To achieve the objective, Structural Equation Modeling (SEM) was applied with Partial Least Squares (PLS) as the primary analytical method, using surveys to gather quantitative data on user satisfaction and perceived experience. The method allowed for a comprehensive analysis of how various factors, such as user experience and emotional responses, influence the intention to continue using platform. By examining the relationships, this study aimed to uncover the key drivers of continuance intention behavior among Shopee user. Despite being the leading e-commerce platform in Indonesia, the context of Shopee has not been extensively explored in SOR-TAM framework. There are also limited studies on behavior based on experience among e-commerce user in the country. Currently, there is no report that combines elements of e-commerce user experience in Indonesia with shopping orientation in SOR-TAM framework, representing another novelty in this study.

II. Literature Review

A. Hypothesis Development

This study measures the influence of user experience post-adoption on continuance intention by integrating SOR and TAM frameworks. SOR framework emphasizes the measurement of behavior (response) influenced by attitude (organism) and stimulus. Several variables are used as stimuli, including Interaction Experience (IE), Sense Experience (SE), and Flow Experience (FE), which are derived from Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) from TAM framework. IE, SE, and FE were selected as stimuli based on the correlation with PU and PEOU, which are critical determinants in user experience framework [33]. Specifically, IE shows how user engages with platform's interactive features, which are associated with PEOU, influencing the ease of use as well as navigation. SE, which focuses on sensory aspects such as the visual and auditory features of platform, correlates with PU, enhances user perception regarding value and utility. FE is influenced by both PEOU and PU, which are assessed based on user immersion and enjoyment during interaction, a concept closely related to the flow state [24]. These dimensions of user experience are essential for influencing both PU as well as PEOU, and are selected due to their correlation with broader framework of TAM and the psychological experience of user in an interactive environment [23].

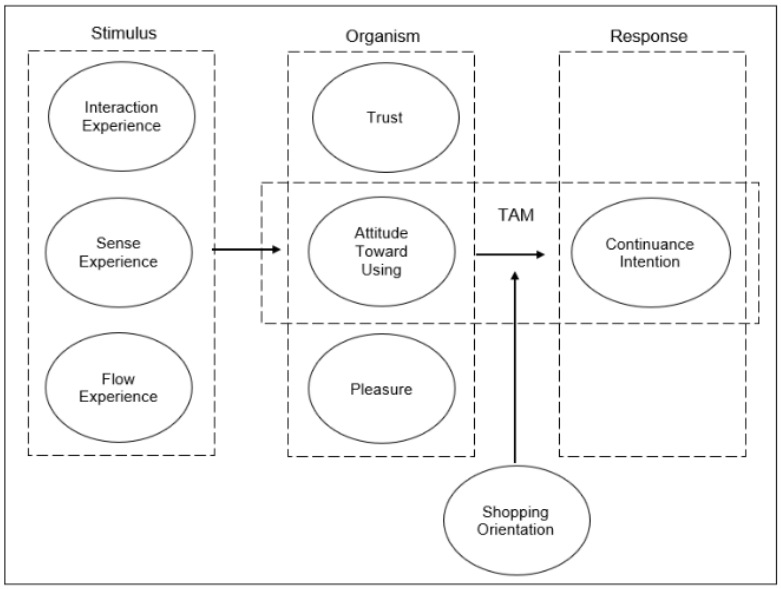

Fig. 1 Study Conceptual Model

The measurement of PEOU comprises the ease of operation, including sensory aspects such as display features and interactivity [28]. PEOU is also assessed using ease indicators that can enhance user desire, which is associated with subjective concentration and enjoyment, commonly referred to as flow [24]. When using technology, display features and interactive capabilities facilitates ease of use and enhance PU by providing tangible benefits.

TAM identifies Attitude Toward Using (ATU) as the initial acceptance before engaging in behavior. In the response section, this study uses Continuance Intention (CI), derived from Actual Use (AU) in TAM framework. The results are supported by previous studies, suggesting that user behavior is not limited to the intention to use but extends to future reuse or the continued use of technology [5], [34]. Additionally, this study also adds shopping orientation as a moderator variable, which constitutes another novelty, with overall conceptual model shown in Fig. 1.

B. User Experience and Shopping Orientation in E-commerce

User experience in adopting information technology plays a critical role in shaping their intention to use, revisit, or repurchase [4], [35]. It also represents how individuals behave in adopting technology, showing adoption or rejection of information. The increase in visits and transactions on e-commerce platform is closely related to the quality and functionality of the facilities provided [36]. Therefore, all the facilities provided by e-commerce platform enhance user experience [37]. This suggests that a positive user experience increases the likelihood of continuance intention behavior.

Shopping is one of the oldest human activities engaged in and characterized by a high degree of regularity and inclusion [39]. However, buyers' orientation toward this routine activity has increased, where innovations introduced by retailers and marketers have created a new paradigm in the purchasing process, influencing shifts in consumer shopping orientation [40], [41]. Shopping orientation is classified into two categories, namely fun and work shopper [42]. In essence, experienced shoppers derive entertainment and stimulation during their shopping experience, while task-focused shoppers feel a sense of achievement after effective purchases [43].

In this context, user experience plays a significant role in shaping shopping orientation. Therefore, e-commerce platform that offers both fun and efficient experience can appeal to both types of shoppers. For example, a site that combines personalized content, engaging visuals, and an easy checkout process caters to both hedonic and utilitarian shopping orientations. The overall user experience influences continuance intention and the type of shopping orientation user adopts. By creating a platform that appeals to both fun and work shoppers, e-commerce can enhance customer satisfaction and increase the likelihood of repeat visits and purchases.

C. SOR & TAM Framework

The formulation of SOR theory has served as a framework for understanding the complexity of human behavior, particularly in an online environment [18], [19], [20], [21]. SOR theory conceptualizes that when an individual

receives external stimulation, organism obtains an internal change before showing a behavioral response [14]. Furthermore, this theory consists of three core concepts, namely stimulus, organism, and response. In this study, SOR theory emphasizes the organism concept, focusing on user cognitive and emotional processes after experiencing a stimulus, which leads to a change in behavior (response).

TAM is a pioneering framework used for investigating user acceptance of technology based on past experience. TAM explains the general determinants of technology acceptance, providing insights into user behavior across diverse end-user computing technologies and populations [23], [38]. Numerous empirical studies have shown that TAM consistently accounts for a significant portion of usage intentions or behavior variance, typically approximately 40% [24], [25], [26], [27], [28].

Although many studies have been conducted to measure user behavior in online environment [6], [21], [37], there is still limited report on e-commerce user behavior, particularly in Indonesia, that integrates SOR and TAM. This study is among the first to calibrate IE, SE, and FE as stimuli (part of SOR), which are derivative from PEOU and PU from TAM framework. The analysis builds on the assumption that experiential factors such as IE, SE, and FE reflect user perceptions of ease and usefulness. Previous studies [28], [46], [47] have shown that PEOU and PU are strongly shaped by how user adopts platform. Therefore, IE, SE, and FE are positioned as stimulus variables in the integrated SOR-TAM framework, influencing ATU through PU and PEOU. This experience is derived from user perceptions of how easy platform is based on the interactions, sensory engagement, and immersion. The inclusion of IE, SE, and FE in this study aims to explore their role as key antecedents that influence user ATU technology, which influences their continuance intention.

D. Interaction Experience (IE)

IE refers to the ability of e-commerce platform to provide user-friendly interfaces, features, and customer service that facilitate ease of communication and usability. Examples include ease of navigation, personalized recommendations, and live chat or chatbot support. A positive IE, where user can easily navigate and engage with platform without frustration, enhances PEOU and leads to a favorable attitude towards the application, making it seem user-friendly and enjoyable. The relationship between interaction and attitude has been widely studied over time. In the current digital era, user typically no longer interacts with humans or have a physical experience with a particular website. However, interaction on the website helps to provide knowledge, reducing bias or uncertainty regarding the information presented [44]. Previous studies identified interactivity as a key determinant of user attitude [45]. The results suggest that information received, whether verbally or virtually, plays a crucial role in shaping user attitude. Other studies also reported that IE had a positive influence on ATU [46], [47]. The interactive experience in Shopee includes features such as live chat and a user-friendly interface, which enhances usability and increases customer engagement.

The live chat feature allows user to receive quick responses to inquiries concerning stock availability, shipping, or the products offered. Real-time interactions through live chat also foster trust and reduce user hesitation in conducting transactions. Furthermore, sellers can offer customized solutions, allowing user to engage with Shopee platform more frequently. Based on these discoveries, the following hypothesis is proposed:

H1: IE has a significant influence on ATU

E. Sense Experience (SE)

SE refers to the sensory stimuli presented on e-commerce platform, such as colors, sounds, or animations. Examples of SE include high-quality product images, responsive mobile design, and sound effects during transactions. A positive SE, such as an appealing visual design or smooth animations, enhances PU, making user feels more engaged and comfortable, which leads to a favorable ATU of the application. Based on previous studies, technological advancements could produce SE perception without physical interaction [33]. This is because SE plays a crucial role in shaping attitude toward technology use, particularly in differentiating products or services. For instance, aesthetically appealing visuals on a digital platform can enhance user satisfaction and promote deeper engagement, fostering a more positive attitude [48]. Rich multisensory experience, such as visual and tactile elements, also improves memory retention and contributes to the formation of favorable attitude, particularly in using platform like Shopee.

A clean user interface with bright colors and strong contrasts can attract attention, thereby creating a pleasant emotional atmosphere. Another important feature is a distinctive jingle tone that is memorable and fosters an emotional connection with user. Therefore, the combination of background colors and sound that shapes Shopee platform overall appearance can establish positive connections with the shopping experience and motivate user to revisit the application. Although no previous studies have tested the influence of SE on ATU, the relationships represent a novelty in this study. Based on these discoveries, the following hypothesis is proposed:

H2: SE has a significant influence on ATU

F. Flow Experience (FE)

FE is an internal state where individuals experience enjoyment, become highly focused or concentrated, and lose self-control while using e-commerce platform. Examples include smooth checkout processes, gamification features, and personalized content that keeps user engaged. A positive FE increases both PEOU and PU, leading to greater satisfaction and engagement. As user finds experience effortless and rewarding, there is a high tendency to develop a favorable attitude towards the application and have a higher continuance intention, returning to platform. Attitude is widely recognized as a critical predictor of individual behavior [31]. Consumer flow experience influences their cognitive attitude toward a website and their willingness to revisit [3]. Previous studies had also provided empirical evidence of the significant influence of FE on ATU [49]. On Shopee, FE is believed to have a direct influence on user attitude, fostering changes in behavior. However, other studies have shown different results, indicating that FE can only influence ATU when mediated by PU or PEOU [28]. For instance, the flow state is triggered when user participate in flash sales or limited-time discounts. Countdown timers during discount events enhance user focus and sense of urgency. E-commerce platform also use a recommendation system that suggests products relevant to user searches. Personalization algorithms present products correlated with user interests, ensuring high relevance and maintaining engagement. Based on these discoveries, the following hypothesis is proposed:

H3: FE has a significant influence on ATU

G. Continuance Intention (CI) and Shopping Orientation (SO)

CI describes the post-adoption behavior, where a positive experience or internal evaluation leads to a positive response and continued use of e-commerce platform. Generally, e-commerce user behavior is related to shopping orientation [50], which is divided into work and fun shoppers [42], [43]. Previous studies have found empirical evidence that CI was influenced by ATU [22]. However, no studies tested the relationship between CI and ATU by incorporating SO as a moderating factor, representing a novelty in this study. Based on the discoveries, the following hypothesis is proposed:

H4: ATU has a significant influence on CI, moderated by SO

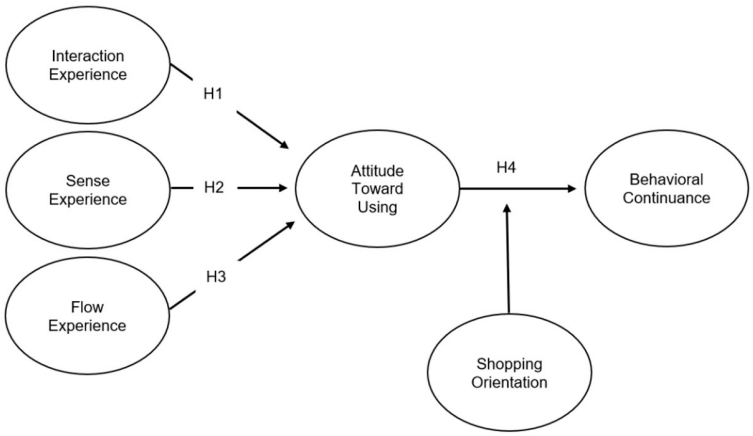

Fig. 2 Study Hypothesis Model

III. METHODS

A. Measurement Instrument

The measurement scales were developed from several sources to validate the indicators that formed the constructs in this study, as presented in Table 1. This study used 5 items to measure IE, adopted from previous studies [17], [51], 4 for SE [52], [53], and 4 for FE [2], [18], [52]. Additionally, 4 items each were used to measure ATU, adopted from [46], [27], CI from [4], [54], and SO from [50].

B. Data Collection

According to a recent survey by Momentum Work, Shopee was the most-visited e-commerce platform in 2023, surpassing Tokopedia, which was previously in the top position. Another study by Google, Temasek, and Bain & Company in 2023 showed that the growth in e-commerce traffic in Indonesia had driven a 75.6% increase in gross

merchandise value (GMV), with Shopee accounting for the largest share. Based on these facts, studies including end user of Shopee have become more relevant.

TABLE 1
CONSTRUCTION MEASUREMENTS AND ITEMS

Construct	Code	Item
Interaction Experience	IE1	The interactivity of platform interface
	IE2	The ability of platform to provide information
	IE3	Availability of features for user communication
	IE4	Admins are always available to provide assistance
	IE5	Admins give special attention when issues arise
Sense Experience	SE1	The aesthetics of platform colors
	SE2	The harmony of background sounds on platform
	SE3	Flexibility of product display on platform
	SE4	Detailed product descriptions or reviews on platform
Flow Experience	FE1	Full concentration
	FE2	Deep involvement while using platform
	FE3	Experience of enjoyment
	FE4	Time passes quickly
Attitude Toward Using	ATU1	Satisfaction beyond expectations
	ATU2	Feeling more attached to platform
	ATU3	Having an affinity for platform
	ATU4	Forming a positive perspective
Continuance Intention	CI1	Visiting platform in the future
	CI2	Continuing to use platform
	CI3	Recommending platform
	CI4	Actively talking about platform positive features
Shopping Orientation	SO1	Seeking information to compare prices
	SO2	Selecting lower prices
	SO3	Selecting the most comfortable place to shop
	SO4	More efficient use of time

This study used a survey method with a quantitative design to collect descriptive or numerical data from the sample [55]. The population was carefully considered, comprising all end user of Shopee who have made purchases using a personal account, reside in Indonesia, and were aged 17 years or older. Since the study team did not have access to know the exact number of end user of Shopee with these criteria, the actual population size was unknown. To determine the sample size, this study used the formula [56] with a confidence level of 95%, leading to a minimum sample size of 196 respondents.

The questionnaire was distributed online, and the study team enlisted the assistance of Shopee affiliates who also acted as enumerators. This method was selected to ensure that the questionnaire was distributed more randomly with the assistance of enumerators. From May 20 to June 19, 2024, data collection was conducted using convenience sampling. The measurement scale used in this study was semantic differential scale [57]. Out of 307 responses collected, 44 responses were excluded due to incompleteness or failure to meet the criteria, leaving 263 valid questionnaires.

IV. RESULTS

Table 2 shows the demographics of respondents in this study. Based on gender, the majority were women, with the predominant age group ranging from 23 to 28 years old. Most respondents had been using Shopee for approximately 5 years, and when encountering a problem, the majority were assisted by the admin. Additionally, 178 reported using other e-commerce platform in addition to Shopee. Table 3 shows respondents' demographics based on domicile, employment status, and most frequently visited product categories. Based on the results, the majority reside in East Java and were primarily private employees. Most respondents frequently visited the women's fashion category on Shopee.

A. The Measurement Model (Outer Model)

The measurement model was analyzed using SEM with SmartPLS version 3, consisting of Reliability, Convergent Validity, and Discriminant Validity. The purpose of the test was to ensure that the constructs were measured reliably and validly. Specifically, reliability was assessed using Composite Reliability (CR) and Cronbach's Alpha (CA). CR assessed the internal consistency of the indicators measuring a latent construct and was used to determine how well the items in the model reliably reflected the underlying construct. CR was considered acceptable when the value exceeded 0.70, showing that the measurement model was consistently reliable across multiple indicators. Furthermore,

CA was used to determine internal consistency reliability, evaluating how well a set of items measures a single latent construct. The value of CA ranged from 0 to 1, with a higher value indicating greater reliability. A value of 0.60 or higher was generally considered acceptable in social science studies. As shown in Table 4, the instrument was considered to meet composite reliability after achieving a coefficient greater than 0.7 and internal consistency reliability with CA value greater than 0.60 [59].

TABLE 2
RESPONDENT DEMOGRAPHICS

Aspect	Description	Frequency
Gender	Men	84
	Women	179
	Total Respondent	263
Age	17 – 22	35
	23 – 28	79
	29 – 34	57
	35 – 40	63
	41 – 47	16
	48 – 53	7
	54 – 59	3
	60 – 65	1
	66 – 71	2
Duration of Use (Years)	1	20
	2	21
	3	44
	4	35
	5	60
	6	30
	7	18
	8	21
	9	14
Assistance when found problems	Admin or Operator	155
	Others people	56
	FAQ feature	52
Other E-Commerce Uses	Yes	178
	No	85
Province	East Java	119
	East Kalimantan	34
	DKI Jakarta	22
	West Java	21
	Riau islands	13
	Central Java	7
	Banten	5
	West Nusa Tenggara	3
	South Sumatera	3
	South Kalimantan	2
	Lampung, North Kalimantan, Southeast Sulawesi, Central Sulawesi, Aceh, West Sumatera	6
	No answer	28
Occupation	Private sector employees	88
	Student	68
	Government employees	47
	Housewife	37
	Entrepreneur	23
Most frequently visited	Woman's Fashion	64
	Personal Care and Beauty	45
	Home Goods	34
	Men's Fashion	28
	Hobbies and Collectibles	21
	Food and Beverages	17
	Electronics	16
	Computers and Accessories	8
	Baby Fashion	7
	Mother and Baby	7
	Muslim Fashion	6
	Health	4
	Automotive	4
	Watches	2

TABLE 4
RELIABILITY

Variable	Cronbach's Alpha	Composite Reliability
Interaction Experience	0.945	0.952
Sense Experience	0.947	0.955
Flow Experience	0.973	0.980
Attitude Toward Using	0.950	0.964
Continuance Intention	0.963	0.973
Shopping Orientation	0.951	0.965

Convergent Validity and Discriminant Validity were used to measure validity, which was determined using Average Variance Extracted (AVE), loading factor, and cross-loading. AVE value of 0.50 or higher indicated adequate convergent validity, showing that the latent variable explained more than half variance of the indicators. In this study, a loading factor threshold greater than 0.70 was used [58]. As shown in Table 5, the loading factor values were greater than 0.70, indicating that the items were valid. Further evaluation was conducted by comparing discriminant validity with AVE. The results showed that each construct shared more variance with its indicators than with others, meeting the discriminant validity criteria. The measurement model was also assessed based on cross-loading with constructs.

TABLE 5
DISCRIMINANT VALIDITY

	IE	SE	FE	ATU	CI	SO
IE1	0.860	0.593	0.351	0.513	0.485	0.404
IE2	0.846	0.593	0.347	0.503	0.467	0.358
IE3	0.845	0.536	0.286	0.463	0.472	0.459
IE4	0.866	0.590	0.399	0.554	0.537	0.460
IE5	0.827	0.697	0.599	0.586	0.602	0.426
SE1	0.648	0.878	0.529	0.565	0.600	0.411
SE2	0.680	0.892	0.571	0.649	0.580	0.404
SE3	0.586	0.858	0.457	0.576	0.512	0.460
SE4	0.581	0.869	0.481	0.598	0.548	0.513
FE1	0.484	0.586	0.943	0.582	0.553	0.340
FE2	0.428	0.535	0.940	0.479	0.472	0.282
FE3	0.449	0.540	0.959	0.531	0.491	0.314
FE4	0.445	0.546	0.943	0.480	0.481	0.297
ATU1	0.563	0.608	0.468	0.878	0.689	0.541
ATU2	0.496	0.568	0.543	0.872	0.690	0.450
ATU3	0.553	0.643	0.555	0.872	0.703	0.483
ATU4	0.544	0.549	0.336	0.847	0.713	0.604
CI1	0.514	0.544	0.483	0.734	0.894	0.619
CI2	0.540	0.581	0.523	0.762	0.907	0.575
CI3	0.576	0.605	0.477	0.734	0.930	0.648
CI4	0.575	0.586	0.431	0.683	0.884	0.677
SO1	0.509	0.514	0.282	0.581	0.662	0.891
SO2	0.445	0.514	0.351	0.569	0.664	0.909
SO3	0.425	0.398	0.288	0.525	0.595	0.881
SO4	0.324	0.309	0.192	0.366	0.465	0.782

A. Structural Model (Inner Model)

After assessing the measurement model, the next step was to evaluate the structural model, which examined the relationships between the latent variables. The evaluation of the structural model was conducted using the following metric, namely R-Square (R^2) measured the proportion of variance in the dependent variables that was explained by the independent variables. Higher R^2 values showed a better fit and greater explanatory power of the model. Meanwhile, Q-Square (Q^2) was used to assess the predictive relevance of the model. Q^2 value greater than 0 indicated that the model had predictive relevance for the dependent variables. In this study, R^2 value was used to measure Goodness of Fit. Based on the results, ATU was significantly influenced by IE, SE, and FE variables by 53.2%, showing a moderate to good fit of the model. Q^2 value was also calculated to be 0.96564, suggesting that the model had very good predictive relevance for the endogenous variables. This showed that 96.56% of the variation in the endogenous variables could be explained by the model, while the remaining 3.44% was described by external factors. Q^2 value suggested that the model was highly effective at predicting the outcomes with strong predictive power.

TABLE 6
CONVERGENT VALIDITY

Variable	Item	Loading Factor	AVE
Interaction Experience	IE1	0.848	0.798
	IE2	0.920	
	IE3	0.817	
	IE4	0.943	
	IE5	0.931	
Sense Experience	SE1	0.852	0.842
	SE2	0.906	
	SE3	0.963	
	SE4	0.945	
Flow Experience	FE1	0.971	0.925
	FE2	0.946	
	FE3	0.987	
	FE4	0.942	
Attitude Toward Using	ATU1	0.928	0.869
	ATU2	0.894	
	ATU3	0.955	
	ATU4	0.950	
Continuance Intention	CI1	0.980	0.902
	CI2	0.900	
	CI3	0.987	
	CI4	0.929	
Shopping Orientation	SO1	0.936	0.872
	SO2	0.961	
	SO3	0.951	
	SO4	0.886	

B. Hypothesis Testing

Table 7 shows the results of hypothesis testing, supporting the notion that IE significantly influences ATU in the use of Shopee (t-statistic = 2.674, p-value < 0.05), confirming H1. Additionally, SE had a positive and significant effect on ATU (t-statistic = 3.678, p-value < 0.05), confirming H2. FE was found to significantly influence ATU among Shopee user (t-statistic = 3.264, p-value < 0.05), leading to the acceptance of H3. The hypothesis testing results provided empirical evidence that ATU significantly affected CI (t-statistic = 5.171, p-value < 0.05), thereby supporting H4. However, an opposing result was observed for H5, which was not supported. This showed that ATU did not significantly influence CI when SO was included as a moderator (t-statistic = 0.849, p-value > 0.05).

TABLE 7
THE SIGNIFICANCE OF THE RELATIONSHIPS IN THE MODEL

Relationship Between Variables	*Original Sample* (O)	T *Statistics* (|O/STDEV|)	P *Values*	Result
IE -> ATU	0.246	2.674	0.008	Significant
SE -> ATU	0.387	3.678	0.000	Significant
FE -> ATU	0.206	3.264	0.001	Significant
ATU -> CI	0.373	5.171	0.000	Significant
ATU * SO -> CI	0.054	0.849	0.396	Not Significant

V. DISCUSSION

A. Hypothesis Measurement Result

This study showed results related to post-adoption technology behavior, with a specific focus on Shopee. The analysis focused on Shopee due to the distinctive features, such as live streaming and gamification, which provided a unique user experience not commonly found on other e-commerce platforms. As shown in Table 6, IE significantly and positively influenced ATU. This result supports previous studies conducted on different subjects [45], [46], [47].

One of the main factors driving the use of e-commerce was found to be the availability of the live streaming feature, which facilitated user interaction. User participating in live streaming sessions share experience, provide information [46], or exchange contacts. Emotional connections can sometimes arise during these moments, showing the need for social interaction [47]. The presence of interfaces equipped with chat features, product reviews, and personalized recommendations allows user to engage with the system, administrators, or others. The level of interactivity also influences the attitude of e-commerce user [45]. Additionally, there are various payment methods, such as Cash on Delivery (COD), ShopeePay, bank transfers, and PayLater, which shape a positive perspective. The Customer Care

feature on Shopee is considered to offer special attention to specific issues encountered by user. This suggests that e-commerce user attitude is determined by the perspective of interactivity experienced [45].

This study provided empirical evidence of the significant influence of SE on ATU, a relationship that has not previously been examined. Multisensory experience, such as visual and tactile elements, was used to create a holistic sensory experience for individuals that stimulated various senses. A previous study reported that in the online environment, measuring sensory experience required a specific evaluation [60]. The results supported the assumption that multisensory experience of e-commerce user must be realized with technological assistance to correlate with physical stores [33]. In this study, sensory experience on platform effectively and significantly stimulated positive feelings that shaped user attitude towards using Shopee. The combination of colors and the harmony of background sound on e-commerce platform contributed to a positive attitude in end user. Additionally, the flexibility of videos and detailed product descriptions showed positive contributions. Sensory experience on Shopee was believed to be the key factor in encouraging end user to continue using platform.

According to this study, FE played a significant role in shaping ATU. The result confirmed previous reports [2], [3], [31], although it is different from other studies [28]. E-commerce users who were about to make transactions (prospective buyers) benefit from or are assured of security based on previous user experience. For instance, user may read previous reviews through the Review feature before making purchase decisions, showing cognitive attitude [3]. Furthermore, e-commerce offers a Game feature that allows user to experience flow, promoting continuous activity with others. For example, in "Siram Tanaman" game, Shopee user is tasked with maintaining their plants and others. In this game, players are rewarded with benefits, such as coins or discounts, when their online pet plants grow well. However, for user without social interactions with other players, the game may be perceived as boring or pointless, leading to a reluctant engagement. This situation suggests that FE directly influences user attitude [2], [31].

According to the relationship between ATU and CI, the results showed a positive and significant influence between the two variables, consistent with previous studies [22]. However, when SO was included as a moderating variable, the influence of ATU on CI became statistically insignificant. SO refers to individual needs or preferences affecting the interaction with e-commerce platform. As shown in Table 3, most Shopee user in this study was categorized as Work Shoppers [42], [43] who focused on shopping needs and obligations as efficiently. When most respondents have a homogeneous shopping orientation, the moderating influence of SO becomes less apparent. Additionally, SO for Shopee user can change over time, which may have varying influences, suggesting a complex relationship between ATU, SO, and CI.

B. Contributions And Implications

Based on the analysis, not all proposed hypotheses are accepted, although the results contribute theoretically to the integration of SOR [14] and TAM [23] frameworks. This study shows influence of Organism on Response after receiving Stimulus, expanding the understanding of antecedents to individual attitude in TAM, which previously only included PU and PEOU. The results also confirm previous reports, providing valuable insights into e-commerce by emphasizing the importance of user experience elements (interactivity, sensory elements, and flow).

Practically, this study enhances the understanding of user positive ATU e-commerce, which can potentially influence the intention to revisit Shopee. However, a deep understanding of user SO is necessary, enabling businesses to develop more targeted marketing strategies. Promotional and communication methods also need to be correlated with various shopping preferences. Additionally, personalizing user experience by adjusting the interface and features based on individual preferences and needs plays a crucial role in enhancing positive attitude toward platform use. By supporting personal experience and preference, Shopee can strengthen user engagement and increase the likelihood of repeat usage.

C. Limitations and Future Study

Despite using a detailed method, this study has several limitations. First, Shopee data privacy protection policies restricted direct interaction with user. Second, respondent data were obtained through female Shopee affiliates who served as enumerators, which might have introduced sample coverage bias, as the study was limited to only 16 provinces. Third, the use of convenience sampling for online survey data collection introduced bias. This method substantially depended on respondents selected through availability and ease of access, rather than through a random or representative method. Therefore, future studies are recommended to address the limitations by incorporating a wider sample size.

VI. CONCLUSIONS

In conclusion, each construct measured in this study shows a positive coefficient. By integrating SOR-TAM framework, the proposed hypotheses, such as the influence of IE, SE, and FE on ATU, are found to be significant.

However, the influence of ATU on CI becomes statistically insignificant when SO is included as a moderating variable. This study shows the importance of understanding user experience as a multidimensional construct and the moderating role of shopping orientation in influencing continuance intention. The results provide valuable contributions to the measurement of post-adoption behavior of e-commerce user. Despite the significance, this study has limitations that should be addressed in future studies. One key limitation is the focus on user experience specific to Shopee, as results related to interactive features such as live streaming and gamification may not be applicable to another e-commerce platform. Therefore, future studies should explore a broader range of e-commerce platform, including those with varying interactive features, to assess the generalizability of the results. To mitigate sampling bias, using random sampling methods across diverse user groups would enhance validity. These areas for future studies could provide a deeper understanding of the factors influencing continuance intention in e-commerce, beyond the scope of this study.

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