

Second-Hand Consumption and the Circular Economy: Exploring the Factors Driving Sustainable Consumption Among Young Consumers



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ABSTRACT

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In the context of the growing sustainable consumer market and the transition toward a circular economy, second-hand consumption has emerged as a vital solution for promoting environmental responsibility. This study aims to explore the factors influencing young people's second-hand consumption behavior, particularly with a focus on comparing online and offline distribution channels. Based on the Theory of Planned Behavior (TPB), the research model examines key determinants, including perceived behavioral control (PBC), perceived risk (PR), environmental concern (EC), perceived economic benefits (PEB), and subjective norms (SN), while utilizing purchase intention as a mediating variable for actual purchasing behavior. The methodology employs a quantitative survey and analysis using Partial Least Squares Structural Equation Modeling (PLS-SEM), based on data collected from Vietnamese youth. The results reveal that PEB are the strongest driver of second-hand purchase intentions, followed by PBC, SN, and EC, whereas PR shows no significant impact. Furthermore, purchase intention significantly influences actual behavior, particularly within online environments. This study contributes to the literature by expanding and validating the TPB framework in a specific emerging market context. Practically, the findings provide valuable insights for policymakers and businesses to develop responsible consumption strategies that align with modern sustainable culture trends.

1. INTRODUCTION

In the context of the world witnessing a strong shift towards sustainable development models, the consumption behavior of young people has increasingly become a widely researched topic in the fields of marketing, sociology, and consumer management. One of the prominent trends clearly reflecting the change in perception and behavior among young consumers is second-hand shopping. This is no longer an individual behavior or confined to financial considerations but has become a conscious consumption choice, linked to sustainable consumption values across multiple aspects such as economics, society, and the environment. This trend increasingly demonstrates its role in promoting circular consumption, minimizing resource waste, and reflecting a shift in the consumption value system of the younger generation. This is particularly relevant in developing economies oriented towards sustainable development, such as Vietnam, where the young population constitutes a large proportion and internet penetration is steadily increasing.

The widespread adoption of e-commerce platforms, online marketplaces, and mobile applications has formed a multi-channel distribution ecosystem, where online and traditional offline channels have become two typical forms of second-

hand shopping behavior among young consumers. Each distribution channel offers distinct experiences, motivations, and barriers, thereby raising questions about the impact of psychological, social, and environmental factors on consumer behavior within each channel. In this context, understanding and comparing second-hand shopping behavior across these two channels holds significant practical importance, both theoretically and empirically, especially in assisting managers, businesses, and policymakers in developing effective strategies targeting young consumers.

Many previous studies have employed the Theory of Planned Behavior (TPB) proposed by Ajzen [1] as a foundational framework to develop and explain consumer behavior, including behaviors related to sustainable consumption and second-hand shopping [2-6]. These studies have indicated that perceived economic benefit (PEB) is the strongest factor influencing purchase decisions, followed by perceived behavioral control (PBC), i.e., the perception of control and accessibility regarding products, which also plays a pivotal role in shaping consumers' purchase intentions. At the same time, perceived risks (PR) and subjective norms (SN) have been identified as significant factors influencing this sustainable consumption trend. Furthermore, an individual's level of awareness and commitment to environmental issues

has been documented to positively affect environmentally friendly consumption behaviors, including purchasing second-hand items [7, 8].

However, a review of the existing literature reveals several significant gaps. Primarily, most studies focus on second-hand shopping behavior in general, without clearly distinguishing between online and offline behaviors – two forms that differ considerably in terms of consumer experience and expectations. Secondly, the number of empirical studies in Vietnam remains limited, despite it being a dynamic and potential market. Thirdly, few studies have assessed the role of purchase intention in translating cognitive factors into actual behavior within an omnichannel consumption context. Building upon this basis, the present study is designed to address these existing gaps and contribute to expanding the TPB theoretical framework by integrating new elements suitable for the modern consumer context.

This study aims to achieve three main objectives: (1) to identify and measure the influence of factors such as PEB, PR, PBC, SN, and environmental concern (EC) on young people's intention to purchase (INT) second-hand items; (2) to examine the mediating role of purchase intention in driving actual consumption behavior; and (3) to compare the differences between the two consumption modes: online and offline, thereby uncovering specific behavioral characteristics for each channel. The research questions are: Which factors exert the strongest influence on Vietnamese youths' INT second-hand clothing? Does this intention genuinely translate into actual behavior? And do the impacts of these factors differ between the two distribution channels?

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Perceived behavioral control

According to the TPB, PBC is one of the three key factors explaining the formation of an individual's intention and serves as a precursor to their actual behavior. In several studies related to sustainable consumption, like green product consumption, Yadav and Pathak [9] demonstrated that the likelihood of consumers adopting this behavior increases in accordance with their perceived sufficiency of requisite conditions, time, and purchasing opportunities. Kumar [8] and Laheri et al. [10] indicated that consumers are more motivated to buy products when they believe they are capable of doing so. Moreover, research also concluded that PBC strongly influences buyers' intentions in this context [5, 11]. Regarding second-hand purchasing behavior [12], PBC refers to consumers' perception of how easy it is to purchase second-hand goods. This “perceivability of ease” encompasses the availability and diversity of pre-owned inventory, store accessibility, and the consumer's ability to evaluate secondhand items, ... Given the burgeoning prevalence of e-commerce, these convenience-related factors have become pivotal in differentiating consumer purchase intentions [13]. While online channels significantly enhance PBC by offering 24/7 accessibility and sophisticated search filters, offline channels necessitate physical mobility and a greater investment of time [14].

Therefore, the author proposes the hypothesis that consumers with a higher level of PBC are more inclined to purchase secondhand products:

H1: *PBC has a significantly positive influence on consumers' INT secondhand products.*

2.2 Perceive risk

PR is a state that arises in consumers when they try to avoid unforeseen consequences resulting from their shopping behavior, and it ranks among the most pivotal for elucidating and anticipating consumer actions [15]. The theory of PR has been increasingly applied in studies on consumers' green purchasing behaviors, such as recycled products [16] and green products [17]. In research on secondhand product consumption behavior, studies all indicate that PR significantly influences this consumption trend, with concerns potentially arising from various aspects such as hygiene, aesthetics, and psychology [18-20]. In online shopping environments, PR is frequently heightened due to the inherent inability to physically inspect goods prior to purchase and the potential susceptibility to fraudulent transactions [21]. Conversely, offline channels tend to mitigate these concerns by facilitating direct sensory evaluation [6]. Nevertheless, an elevated level of PR serves as a deterrent that significantly diminishes purchase intentions across both distribution channels [22]. The higher the PR, the less likely consumers are to purchase such products, this conclusion was supported by previous studies [11, 19, 23]. Building upon these findings, the author proposes the following hypothesis:

H2: *PR has a negative impact on consumers' INT secondhand products.*

2.3 Environmental concern

With the growing consumer interest in environmental issues [7, 24, 25], the concept of EC has garnered increasing attention. EC encapsulates an individual's awareness of environmental problems, coupled with their support for addressing them and their personal readiness to contribute to protection efforts [26]. Many authors have incorporated this factor into the TPB to explain consumers' sustainable purchase intentions [24], demonstrating that ECs drive the INT eco-friendly products such as secondhand products [8] and green products [27]. Building upon these empirical foundations, it is theoretically grounded to posit that higher levels of EC correlate with a stronger intention to consume secondhand goods. This relationship, however, may exhibit variance across distribution channels; for instance, online platforms frequently amplify the “green” dimension of secondhand consumption through targeted marketing, potentially rendering environmental motivations more salient for online shoppers than for those engaging in traditional brick-and-mortar transactions [28]. Notwithstanding potential fluctuations in magnitude and intensity, this study hypothesizes a positive influence of EC on secondhand purchase intentions across both online and offline modalities, as formulated below:

H3: *EC has a positive impact on consumers' INT secondhand products.*

2.4 Perceived economic benefits

PEB represent one of the primary reasons consumers choose to purchase secondhand goods online [29]. Borusiak et al. [7] further examined this phenomenon and identified three key factors influencing online secondhand shopping: price,

product evaluation, and bargaining potential. The motivation behind consumers' preference for secondhand products often stems from cost-efficiency considerations [20], and Turunen and Leipämaa-Leskinen [30] emphasized that the appeal of secondhand goods lies in their perceived affordability, as they are typically priced significantly lower than new alternatives. Supporting this trend, Park and Lin [4] observed a substantial increase in secondhand sales in recent years, with economic factors being the most commonly cited rationale for this shift. Notably, the emergence of online shopping has provided consumers with novel avenues for cost optimization. While the primary advantage of offline establishments lies in the facilitation of immediate price negotiation, online platforms offer superior price transparency and the capacity for seamless comparative analysis across multiple vendors [31]. Consequently, although discrepancies may arise in the formation of purchase intentions between online and offline channels, the influence of PEB remains consistently positive across both modalities [14]. Building upon these empirical foundations, the author proposes the following hypothesis:

H4: *PEB exert a positive influence on consumers' INT secondhand products.*

2.5 Subjective norm

The concept of SN describes a psychological state wherein an individual's decision-making is swayed by the anticipated judgments of key individuals within their social milieu [32]. Both the Theory of Reasoned Action (TRA) and the TPB posit that SN significantly shape an individual's intentions and behaviors [33]. Rausch and Kopplin [34] argued that SN positively influence consumption intention, including pre-purchase decision-making processes. This perspective is further supported by Garas et al. [35], who conclude that opinions from individuals whom consumers perceive as personally important are more likely to influence their behavior. If consumers perceive that purchasing a particular product would be socially unacceptable, they are less inclined to buy it. Moreover, previous studies have consistently shown that SN are closely associated with socially responsible behaviors, particularly in collectivist cultures [2, 24]. This relationship was demonstrated in a study conducted in China, which found that individuals' INT second-hand clothing increased when they observed others engaging in the same behavior [36]. Furthermore, the recent proliferation of “thrift haul” culture across digital platforms has catalyzed a

significant socio-cultural paradigm shift, transitioning secondhand consumption from an activity driven by economic necessity to a fashionable and socially sanctioned endeavor [37]. As social legitimacy increases, individual intentions to participate in the circular economy undergo a corresponding escalation [38]. This phenomenon provides the theoretical basis for the following hypothesis:

H5: *SN have a positive impact on consumers' INT secondhand products.*

2.6 Intention to purchase

The TPB posits that human intentions are formed through the careful consideration of available information. There is a significant positive correlation between intention and actual behavior [39, 40]. This perspective was previously demonstrated in the previous studies [41, 42], which emphasized that the willingness to interact with a product is a crucial precursor leading to an actual purchase behavior. Simultaneously, these studies also regard purchase intention as playing a pivotal role in guiding purchasing behavior. The strongest correlation between intention and behavior occurs when both are measured under identical conditions for each of these elements [43]. Consequently, general intentions predict general behaviors, while specific intentions determine specific behaviors [43]. In other words, intention is the most proximal and direct determinant of actual behavior.

Within the context of secondhand shopping behavior research, the conversion from purchase intention to actual behavior is anticipated to be more seamless within online environments, facilitated by the “one-click” transactional convenience [44]. Conversely, offline procurement may be impeded by spatio-temporal constraints, such as geographical distance or restricted retail operating hours [45]. However, while the magnitude of the intention-behavior conversion may fluctuate due to channel-specific determinants, the positive foundational relationship between intention and actual purchasing behavior remains invariant [42]. Consequently, this study proposes the following hypotheses:

H6: *Purchase intention influences online secondhand buying behavior (ONL).*

H7: *Purchase intention influences offline secondhand buying behavior (OFF).*

Based on the assumptions outlined above, Figure 1 presents the finalized proposed theoretical model framework.

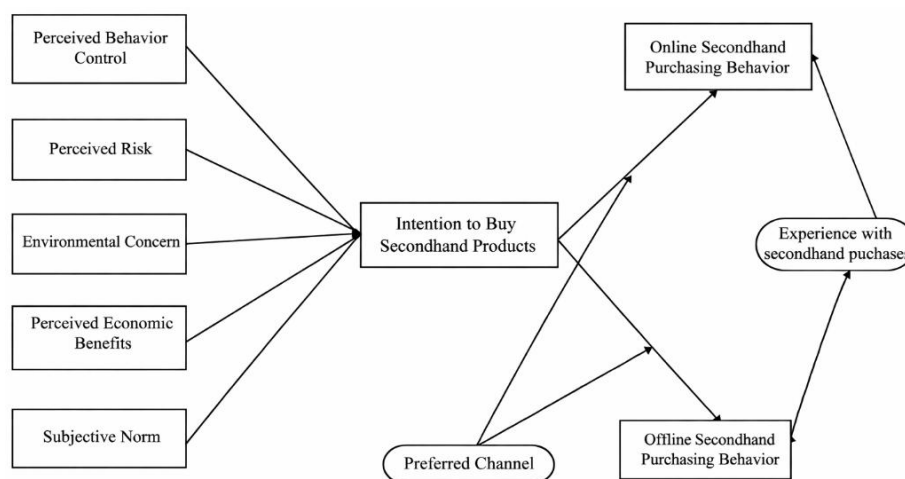


Figure 1. Proposed research model

3. METHODOLOGY

This study employs a quantitative method to test hypotheses developed based on the TPB, exploring the factors influencing the purchase intention and behavior of second-hand goods among Vietnamese youth across different distribution channels. For data collection, the study designed a survey questionnaire, which was developed based on established constructs from previous literature, particularly those pertaining to secondhand markets. The questionnaire was refined according to feedback from experts in the relevant sector to ensure clarity, relevance, and comprehensiveness, alignment with the cultural nuances and consumer behavioral patterns in Vietnam. The questionnaire included ten constructs, as outlined in Table A1. The research was conducted with young people in Vietnam – specifically those aged 18 to 35 – who are believed to have a significant interest in online consumption, sustainable fashion, and alternative consumption forms such as second-hand goods. This group also has high digital technology access and frequently uses social media platforms, online marketplaces, and e-commerce channels. To reach the research subjects, the authors used a combination of convenience sampling and purposive sampling to ensure respondents had experience and a clear awareness of second-hand shopping behavior.

In addition, to ensure accuracy in assessing causal relationships and to isolate the psychological impacts on consumer behavior, this study incorporates Shopping Experience (EXP) as a control variable and Preferred Shopping Channel (PC) as a moderator in the relationship between Intention and Behavior. The inclusion of EXP is justified by the fact that past experience is widely regarded as a critical indicator of consumption habits [46]. In behavioral research, habits can directly drive actual behavior without necessarily undergoing a conscious intentional process [47, 48]. By controlling for EXP, this study determines whether the secondhand purchasing behavior of young consumers truly stems from cognitive factors or is merely a repetition of prior experiences. Furthermore, based on the assumption that the strength of the conversion from intention to action may vary depending on an individual's innate preference for shopping channels [46], consumers may make divergent purchasing decisions dictated by their preferred channel attributes, such as multi-channel shopping behaviour [49]. PC is introduced as a moderating variable. Examining PC as a moderator allows the study to clarify whether channel preference acts as a “key” to narrowing the intention-behavior gap in sustainable consumption, thereby strengthening the empirical findings of the research.

Finally, the total valid sample obtained for the study was 412 questionnaires. The data collection process was conducted over four weeks via an online survey. The questionnaire was distributed through popular social media platforms in Vietnam such as Facebook, Zalo, and second-hand forums (e.g., Chợ Tốt, second-hand buying/selling groups, etc.). To increase the response rate, the authors attached a brief introduction outlining the research objectives, a commitment to data confidentiality, and the estimated completion time (approximately 5–7 minutes). Furthermore, screening questions were used to ensure respondents fit the target profile, including age verification and confirmation of prior purchase experience within the past 12 months.

Following data collection, the authors analyzed the data using SmartPLS 3.0 software. The data analysis involved three

main steps: Assessing the scale reliability, evaluating the measurement model, and evaluating the structural model. Additionally, a Multi-Group Analysis (MGA) was performed to compare the relationships within the model between two behavioral groups: online and offline.

4. RESULTS

4.1 Validity and reliability assessment

The validity and reliability of the model were carefully assessed through various criteria. The evaluation results of Outer Loadings showed that the coefficients of all observed variables exceeded 0.7, consistent with the recommendation of the study [50]. This demonstrates a robust relationship between the observed variables and their corresponding latent variables. This finding confirms that all observed variables are suitable for inclusion in the model, ensuring content validity.

Scale reliability was evaluated based on Cronbach's Alpha and Composite Reliability [51]. Nonetheless, Hair et al. [51] pointed out that Cronbach's Alpha suffers from several drawbacks as a traditional method, potentially distorting reliability estimates. Hence, greater emphasis is placed on the Composite Reliability coefficient (ρ_a), which is considered more preferable and appropriate for this study [52].

The evaluation results of Composite Reliability (ρ_a) indicated that the eight measurement scales constructed in the study had Composite Reliability (ρ_a) values ranging from 0.700 to 0.881, all below 0.95, meaning there was no redundancy among the observed variables [51]. Furthermore, these values were all greater than 0.7, meeting the reliability requirement, and it can be concluded that the scales exhibit good internal consistency.

Next, the author assessed the convergent validity of the eight measurement scales mentioned above. This evaluation was based on the analysis of the Average Variance Extracted (AVE) index in Table 1. It can be observed that the EC scale had the strongest convergence with an AVE value of 0.704, while the SN scale had the weakest convergence (0.527). However, all scales had AVE values greater than 0.5, satisfying the research condition proposed by authors [53].

Subsequently, in evaluating the discriminant validity of the scales, the author employed the Heterotrait-Monotrait (HTMT) ratio method developed by Henseler et al. [54]. The analysis results in Table 2 showed that all pairs of measurement scales in the model had HTMT values below 0.85, indicating that the latent variables shared minimal variance with each other, ensuring discriminant validity [54]. Among them, the PR-PBC scale pair had the lowest HTMT value (0.071), followed by PR-ONL (0.135), ONL-OFF (0.200), SN-PR (0.266), and PR-EC (0.267), demonstrating excellent discriminant validity.

4.2 Evaluation of the structural model

The author assessed multicollinearity across the nine measurement scales by analyzing the Variance Inflation Factor (VIF). A VIF value of 5 or higher indicates significant multicollinearity that may distort structural model results, while values between 3 and 5 signal a moderate level of concern [52]. Conversely, VIF values below the threshold of 3 suggest minimal or no multicollinearity issues.

Table 1. Reliability and validity testing

Construct	Item	Outer Loading	Cronbach's Alpha	Composite Reliability (rho a)	Composite Reliability (rho c)	Average Variance Extracted (AVE)
Perceived Behavioral Control (PBC)	PBC1	0.745	0.698	0.700	0.833	0.625
	PBC2	0.844				
	PBC3	0.779				
Environmental Concern (EC)	EC1	0.852	0.860	0.881	0.905	0.704
	EC2	0.855				
	EC3	0.881				
	EC4	0.763				
Subjective Norm (SN)	SN1	0.710	0.700	0.703	0.816	0.527
	SN2	0.708				
	SN3	0.779				
	SN4	0.704				
Perceived Risk (PR)	PR1	0.880	0.848	0.870	0.897	0.687
	PR2	0.873				
	PR3	0.814				
	PR4	0.739				
Perceived Economic Benefits (PEB)	PEB1	0.785	0.697	0.728	0.829	0.618
	PEB2	0.838				
	PEB3	0.733				
	INT1	0.783				
Intention to Purchase (INT)	INT2	0.777	0.818	0.820	0.880	0.648
	INT3	0.848				
	INT4	0.810				
	ONL1	0.836				
Online Secondhand Buying Behavior (ONL)	ONL2	0.706	0.852	0.869	0.893	0.627
	ONL3	0.802				
	ONL4	0.800				
	ONL5	0.807				
	OFF1	0.831				
Offline Secondhand Buying Behavior (OFF)	OFF2	0.763	0.836	0.840	0.891	0.672
	OFF3	0.879				
	OFF4	0.801				

Source: Compiled by the author from survey data

Table 2. Discriminant validity (Heterotrait-Monotrait (HTMT))

	EC	INT	OFF	ONL	PBC	PEB	PR
EC							
INT	0.082						
OFF	0.484	0.593					
ONL	0.396	0.656	0.200				
PBC	0.308	0.692	0.282	0.598			
PEB	0.464	0.783	0.638	0.520	0.513		
PR	0.267	0.280	0.502	0.135	0.071	0.625	
SN	0.582	0.638	0.420	0.512	0.635	0.463	0.266

Source: Compiled by the author from survey data

Table 3. Collinearity statistics results

	VIF		VIF		VIF
EC1	2.316	ONL1	1.972	PR1	2.662
EC2	2.182	ONL2	1.577	PR2	2.917
EC3	2.423	ONL3	1.895	PR3	1.674
EC4	1.834	ONL4	2.186	PR4	1.568
INT1	1.548	ONL5	2.122	SN1	1.368
INT2	1.628	PBC1	1.356	SN2	1.376
INT3	2.062	PBC2	1.640	SN3	1.535
INT4	1.818	PBC3	1.334	SN4	1.420
OFF1	1.929	PEB1	1.456		
OFF2	1.507	PEB2	1.328		
OFF3	2.422	PEB3	1.331		
OFF4	1.904				

Source: Compiled by the author from survey data

The analysis results in Table 3 revealed that all observed variables across the eight measurement scales had VIF values below 3. Among them, variable PEB2 exhibited the lowest

VIF value (1.328), while PR2 had the highest VIF value (2.917), approaching but not exceeding the critical threshold of 3.

4.3 Hypothesis testing

4.3.1 Hypothesis testing for offline secondhand buying behavior model

As shown in Table 4, the coefficient of determination (R^2) for INT is 0.518, indicating that 51.8% of the variance in personal values is explained by the five independent variables in the model: PBC, PR, EC, PEB, and SN. The offline buying behavior (OFF) variable yielded an R^2 of 0.250, suggesting that INT explains 25% of the variance in OFF within the model.

Table 4. f^2 , R^2 , and Q^2 coefficients results of OFF

	f^2	R^2	Q^2
EC → INT	0.012	INT	0.518
EXP → OFF	0.000		
INT → OFF	0.309		
PBC → INT	0.088		
PC*INT → OFF	0.000		
PEB → INT	0.239	OFF	0.250
PR → INT	0.000		
SN → INT	0.053		

Source: Compiled by the author from survey data

Based on the R^2 analysis and following the criteria established by Henseler et al. [55], the R^2 value indicates that the predictive power of INT for the dependent variable is relatively modest. However, in practice, R^2 values vary across different research contexts and disciplines; furthermore, in Partial Least Squares Structural Equation Modeling (PLS-SEM), a low R^2 does not necessarily imply that the model is ineffective or lacks significance [56]. The R^2 values in this study, hovering around 25%, may stem from the inherent complexity of factors influencing real-world shopping behavior. Consumers' decisions to purchase secondhand products offline can be influenced by numerous external factors, such as the diversity of physical stock, store location,

time constraints, and perceived tangible quality. Consequently, the predictive accuracy and practical significance of the model are not diminished by these moderate R^2 values.

The effect size (f^2) of the independent variables on the dependent variables mostly ranges from 0.012 to 0.309, indicating small to medium effect sizes. Notably, the relationship from INT (INT → OFF) exhibits the largest effect size ($f^2 = 0.309$), confirming the decisive role of intention in driving actual behavior. Regarding the antecedents of intention, PEB (PEB → INT) shows a medium effect ($f^2 = 0.239$), while PBC (PBC → INT) and SN (SN → INT) demonstrate small effect sizes of 0.088 and 0.053, respectively. This highlights the dominant influence of economic factors on consumer intention; while social relationships and personal resource control do exert influence, their contribution to consumer decision-making remains modest. At a lower level, EC (EC → INT) has a minimal effect size ($f^2 = 0.012$), suggesting its limited contribution to explaining the variance in intention. Conversely, the relationships for PR (PR → INT) and EXP (EXP → OFF) both yielded $f^2 = 0.000$, implying that these factors do not play a significant role in the formation of intention or offline secondhand purchasing behavior within this specific sample.

Regarding the predictive relevance of the model for INT and OFF, the Q^2 coefficients are 0.328 and 0.161, respectively. Falling within the 0.15 – 0.35 range, these values indicate medium predictive relevance, confirming that the model possesses adequate predictive power and statistical fit.

For the structural model assessing the dependent variable OFF showed on the Figure 2, the model includes the dependent variable OFF, with independent variables comprising PBC, EC, SN, PR, PEB, and the mediating variable INT. Following statistical conventions and the guidelines [52], a p-value less than 0.05 indicates a statistically significant relationship at a 95% confidence level.

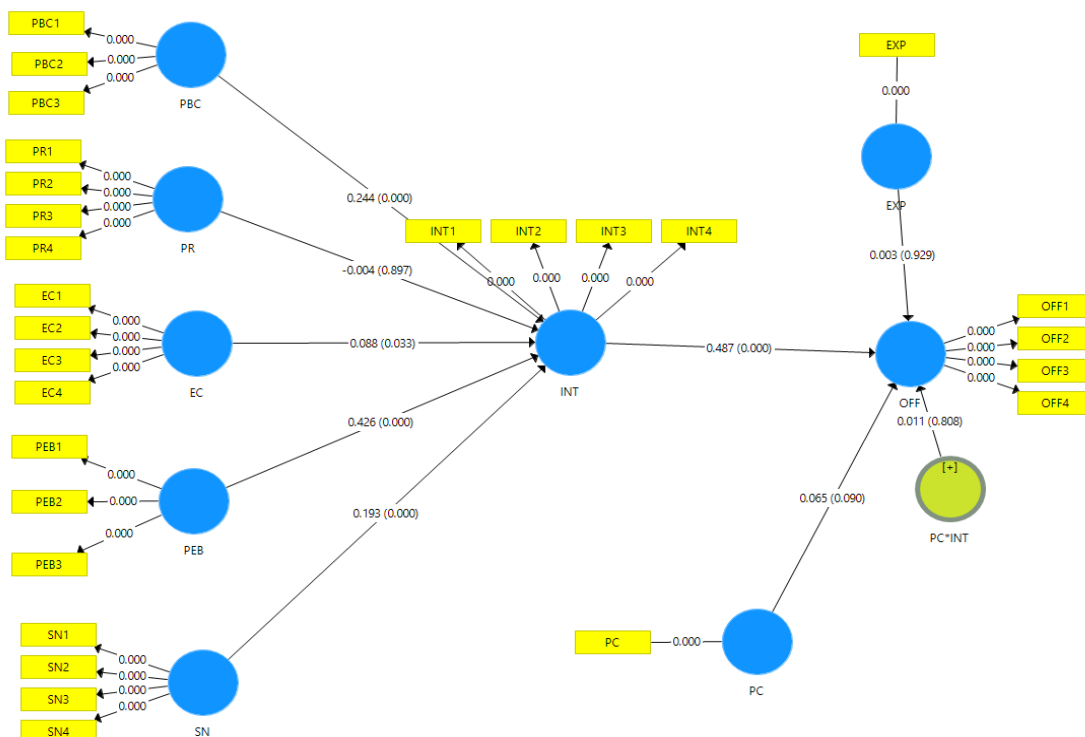


Figure 2. Structural model for OFF

Table 5. Path coefficients results of OFF

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
EC -> INT	0.088	0.088	0.041	2.133	0.033
EXP -> OFF	0.003	0.003	0.037	0.089	0.929
INT -> OFF	0.487	0.483	0.042	11.485	0.000
PBC -> INT	0.244	0.244	0.043	5.746	0.000
PC*INT -> OFF	0.011	0.009	0.044	0.243	0.808
PEB -> INT	0.426	0.424	0.040	10.626	0.000
PR -> INT	-0.004	-0.000	0.035	0.129	0.897
SN -> INT	0.193	0.191	0.052	3.755	0.000

Source: Compiled by the author from survey data

As presented in Table 5, the results show that the factors positively and significantly influencing INT among youth, ranked in descending order of impact, are: PEB (PEB → INT, $\beta = 0.426$, $p = 0.000$); PBC (PBC → INT, $\beta = 0.244$, $p = 0.000$); SN (SN → INT, $\beta = 0.193$, $p = 0.000$); and EC (EC → INT, $\beta = 0.088$, $p = 0.033$). This suggests that economic benefits are the most critical factor in driving users' INT secondhand goods offline, followed by PBC, social influence, and EC, though these latter factors have a considerably weaker impact compared to economic benefits. Conversely, PR (PR → INT, $\beta = -0.004$, $p = 0.897$) does not exhibit a significant effect on young consumers' INT secondhand goods, indicating that awareness of potential risks does not influence their intention formation.

Furthermore, the analysis reveals that once an individual develops an INT secondhand goods, it positively affects their actual offline buying behavior (INT → OFF, $\beta = 0.487$, $p = 0.000$). Thus, it can be concluded that Hypothesis H7 is supported.

4.3.2 Hypothesis testing for online secondhand buying behavior model

The analysis results in Table 6 showed that the R^2 for INT is 0.515, indicating that 51.5% of the variance in INT is explained by the five independent variables: PBC, PR, EC, PEB, and SN. This ratio is highly consistent with the R^2 of the INT variable in the offline model, suggesting that the influence of these independent variables on the formation of purchase intention is relatively uniform across both online and offline contexts.

Table 6. f^2 , R^2 , and Q^2 coefficients results of online secondhand buying behavior (ONL)

	f^2		R^2	Q^2
EC -> INT	0.012	INT	0.515	0.327
EXP -> ONL	0.000			
INT -> ONL	0.437			
PBC -> INT	0.089			
PC*INT -> ONL	0.002			
PEB -> INT	0.233	OFF	0.319	0.191
PR -> INT	0.000			
SN -> INT	0.054			

Source: Compiled by the author from survey data

Conversely, the Online buying behavior (ONL) variable yielded an R^2 of 0.319, implying that INT explains 31.9% of the variance in ONL. The fact that the R^2 for ONL in the online model is higher than the R^2 for OFF in the offline model suggests that, in an online context, intention serves as a more robust predictor of actual consumer behavior. This disparity may stem from the unique characteristics of the e-commerce environment, where the intention-behavior gap is minimized

by high levels of convenience and accessibility. In this digital landscape, consumers can convert intention into action almost instantaneously via mobile devices, facing fewer external barriers such as geographical distance, weather, or travel time compared to physical shopping. Furthermore, online secondhand platforms provide superior search and price-comparison capabilities, allowing psychological drivers, such as PEB and PBC, to exert a more direct and potent impact on behavioral outcomes. This further reinforces the assertion by Ozili [56] that R^2 values fluctuate depending on the research context and that a lower R^2 does not necessarily denote an ineffective or insignificant model.

Regarding the f^2 , the results are largely consistent with the offline model. Notably, the relationships for PR (PR → INT) and EXP (EXP → ONL) remain non-significant in shaping intention and secondhand purchasing behavior. While other variables influence INT or ONL with a hierarchical strength similar to the offline model, distinct differences in magnitude are observed.

Specifically, although the path from INT (INT → ONL) remains the most dominant, its impact is considerably stronger than in the offline model. With an $f^2 = 0.437$, which exceeds the 0.35 threshold for a 'large effect' according to Cohen [57], this confirms that intention possesses stronger predictive power for online purchasing behavior. Regarding the antecedents of intention, PEB (PEB → INT) shows a medium effect ($f^2 = 0.233$), while PBC (PBC → INT) and SN (SN → INT) demonstrate small effect sizes (0.089 and 0.054, respectively), showing negligible deviation from the offline results. Additionally, EC (EC → INT) maintains a marginal effect size ($f^2 = 0.012$), indicating its limited contribution to explaining the variance in purchase intention.

Finally, concerning the model's predictive relevance for INT and ONL, the Q^2 coefficients are 0.327 and 0.191, respectively. Although slightly higher than those of the offline model, these values remain within the 0.15 – 0.35 range, representing medium predictive accuracy. This confirms that the model maintains adequate predictive power and statistical fit.

For the structural model assessing the dependent variable ONL showed on the Figure 3, the model includes the same independent variables, PBC, EC, SN, PR, PEB, and the mediating variable INT.

As presented in Table 7, the results indicate that the factors positively and significantly influencing INT among youth, ranked in descending order of impact, are: PEB (PEB → INT, $\beta = 0.421$, $p = 0.000$); PBC (PBC → INT, $\beta = 0.247$, $p = 0.000$); SN (SN → INT, $\beta = 0.194$, $p = 0.000$); and EC (EC → INT, $\beta = 0.089$, $p = 0.038$). These findings demonstrate a pattern consistent with the analysis of offline purchasing behavior. Economic benefits remain the central factor driving young consumers' INT secondhand goods, followed by PBC, social

influence, and EC—all exerting comparable effects to those observed in the offline context. Additionally, PR (PR → INT, $\beta=-0.006$, $p = 0.850$) again shows no significant impact on purchase intention, reinforcing the earlier conclusion. Thus, Hypotheses H1, H3, H4, and H5 are supported, while Hypothesis H2 is rejected.

However, the effect of secondhand purchase intention on actual behavior is notably stronger for online purchasing (INT → ONL, $\beta = 0.552$, $p = 0.000$) compared to offline purchasing (INT → OFF, $\beta = 0.487$, $p = 0.000$). This suggests that young consumers exhibit a greater tendency to engage in online

secondhand shopping, indicating a preference for this channel over in-store purchases. Consequently, Hypothesis H6 is supported.

Furthermore, in both models (online and offline), the control variable EXP and the moderating variable PC do not demonstrate significant regulatory or control effects (PC*INT → ONL, $p = 0.400$; PC*INT → OFF, $p = 0.808$; EXP → ONL, $p = 0.845$; EXP → OFF, $p = 0.929$). Thus, PC does not moderate the intention-behavior relationship, and EXP does not exert a controlling influence on young consumers' secondhand purchasing behavior.

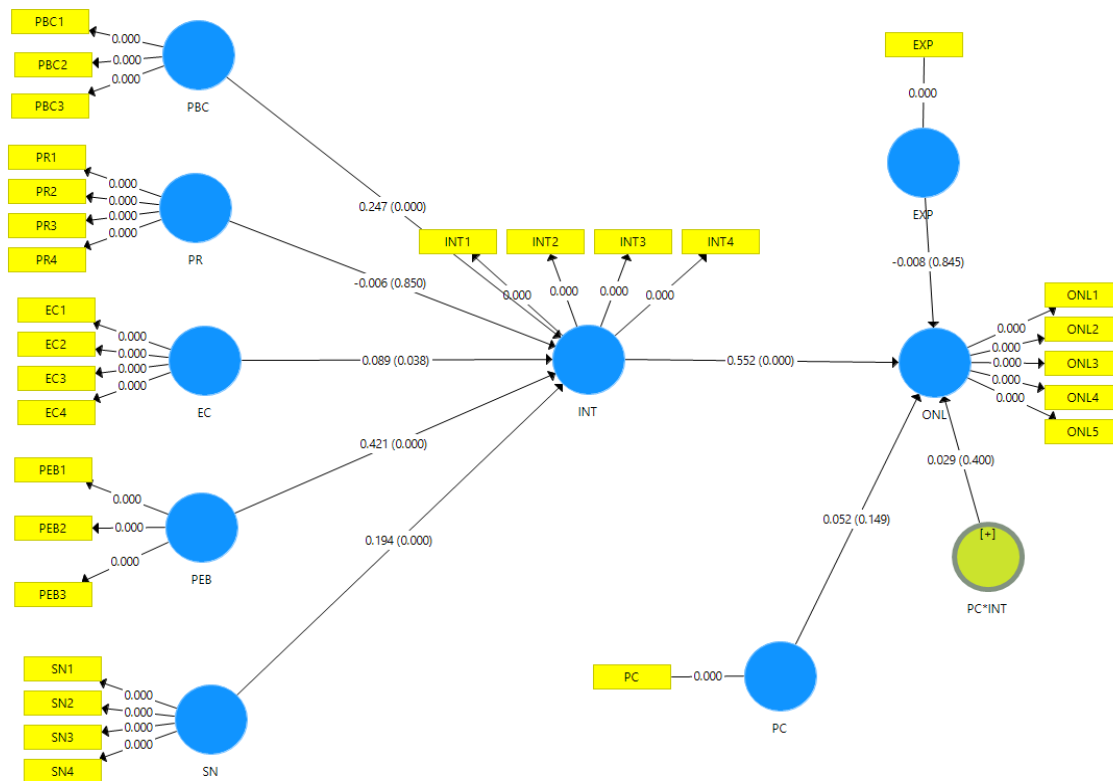


Figure 3. Structural model for ONL

Table 7. Path coefficients results of ONL

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
EC → INT	0.089	0.090	0.043	2.083	0.038
EXP → ONL	-0.008	-0.006	0.039	0.195	0.845
INT → ONL	0.552	0.554	0.039	14.283	0.000
PBC → INT	0.247	0.248	0.045	5.505	0.000
PC*INT → ONL	0.029	0.029	0.034	0.843	0.400
PEB → INT	0.421	0.422	0.041	10.235	0.000
PR → INT	-0.006	-0.005	0.034	0.189	0.850
SN → INT	0.194	0.191	0.052	3.755	0.000

Source: Compiled by the author from survey data

5. DISCUSSION AND IMPLICATIONS

5.1 Discussion

This study provides a comprehensive perspective on young consumers' behavior in the secondhand market across both online and offline dimensions. The results indicate that for secondhand purchase intention, the influencing factors identified are PEB, PBC, SN, and EC. Among these, PEB emerges as the strongest predictor of secondhand purchase intention. These findings confirm that cost-effectiveness

remains the central driver in shaping young consumers' INT secondhand goods, particularly in developing economies like Vietnam, where price sensitivity is high, consistent with prior research [4, 20, 58]. This underscores that when young consumers can minimize costs while still acquiring desired products, they are more likely to develop an inclination toward the secondhand market. Furthermore, in the era of technological advancement and industrial revolutions, the impact of PBC implies that as digital literacy and market accessibility improve, young consumers exhibit greater confidence in navigating the secondhand market. Unlike

previous generations who often viewed secondhand consumption as a necessity driven by scarcity, contemporary youth perceive it as a strategic and autonomous choice, prioritizing personal pragmatism over traditional social pressures.

Additionally, the findings reveal that individuals who perceive themselves as capable of controlling their behavior are more inclined to form secondhand purchase intentions, aligning with studies [5, 8, 9]. SN also exhibit a significant, albeit weaker, influence compared to PEB and PBC, suggesting that while peer opinions may shape young consumers' purchase intentions, they serve more as reference points rather than decisive factors. In other words, today's youth demonstrate relatively high autonomy, basing their intentions more on pragmatic considerations such as economic benefits (PEB) and self-efficacy (PBC).

A noteworthy point in the research results is EC. Although EC demonstrates relatively good statistical significance regarding secondhand purchase intention, its impact is modest compared to other economic factors. This result partially reflects a growing awareness of environmental issues, consistent with Borusiak et al. [7]. However, its limited impact may stem from the current Vietnamese context, where the circular economy is still developing and "green consumption" remains an emerging concept that often ranks below direct financial benefits. Conversely, PR shows no significant effect, implying that awareness of potential risks in online or offline secondhand shopping does not deter young consumers' purchase intentions. This shift likely results from the maturity of digital platforms, where reputation systems and buyer protection mechanisms have flourished, helping to neutralize the "information asymmetry" that previously deterred consumers.

Regarding the intention-behavior relationship, the study reveals a divergence between online and offline secondhand purchasing behaviors. Specifically, purchase intention exerts a stronger effect on online secondhand purchasing behavior than on offline behavior, mirroring the prevailing trend of digital commerce adoption among youth. This may stem from the convenience of online platforms, which enable users to efficiently locate products matching their preferences and budgets. This difference may be attributed to online shopping minimizing "search costs" and "social friction." Online platforms utilize algorithms and filters that allow users to fulfill intentions immediately, whereas offline shopping requires physical effort and carries a higher probability of not finding a suitable product. Moreover, the online space provides a degree of anonymity, reducing lingering social stigmas associated with secondhand goods, factors that are more pronounced in traditional face-to-face transactions.

Finally, neither the control variable EXP nor the moderating variable PC demonstrates a significant role in the model ($p > 0.05$). This suggests that channel preference does not moderate the intention-behavior relationship, regardless of online or offline contexts, and that varying EXP do not influence secondhand purchasing behavior. These findings point toward a homogenization of secondhand consumption habits among youth; regardless of past experience or channel preference, the decision-making process is primarily driven by the core constructs of the TPB model. Consequently, these results imply that the secondhand market has moved beyond a "niche" or "experiential" activity to become a mainstream, highly rationalized consumer behavior.

5.2 Implications

The results of the study provide important theoretical, practical and policy implications in the context of young people's second-hand consumption behavior, with a clear separation between online and offline distribution channels. First of all, the study affirms the central role of cognitive economic interests (PEB) in forming secondhand purchase intentions, thereby highlighting the cost-oriented consumption characteristics of young people in the context of a developing economy such as Vietnam. This factor was shown to have the strongest influence on purchase intention in both distribution channels, reflecting high price sensitivity and pragmatic consumer sentiment – which has also been documented in previous studies [4, 29, 58]. This result reinforces the thesis that sustainable consumption, in the case of secondhand goods, is still influenced primarily by economic interests rather than purely environmental or social motives. The special feature of the study lies in examining the role of purchase intention as an intermediate variable between cognitive factors (PEB, PBC, SN, EC) and actual consumer behavior. Confirmed intent is a powerful determinant of buying behavior, especially in an online environment. Specifically, intention has a greater influence on online behavior ($\beta = 0.552$) than offline ($\beta = 0.487$), showing that the digital environment is not only the main consumer channel but also a place where the process of forming and transforming intention into behavior takes place more clearly. This reflects the shift in young people's shopping behavior to the digital space, where e-commerce platforms, social media, and mobile apps play an increasingly important role in shaping consumer behavior. From a governance perspective, this implies that businesses should prioritize their digital marketing and communication strategies, and invest in online user experience to maximize the likelihood of conversion from intent to actual shopping behavior. PBC has also been identified as a significant influencer of purchase intent, reinforcing the role of perceptions of accessibility, time, resources, and confidence in consumer decision-making. In the context of the second-hand market, where products often lack uniformity and sometimes lack transparency, it is a key factor for consumers to feel that they can search, evaluate and choose the right products. Previous studies also agree with this finding [5, 8, 9]. As a result, retailers and e-commerce platforms need to provide effective search engines, high-quality product images, user reviews, and clear return policies to reinforce buyer trust and self-control. Another notable finding is the influence of SN on purchase intentions, showing that society still plays an important role in shaping the attitudes and consumption behaviors of young people, especially in highly collectivist cultures such as Vietnam. However, the level of influence of SN is relatively lower than that of PEB and PBC, reflecting a generation of consumers who are increasingly independent in their consumption decisions, but are still indirectly influenced by friends, communities, and social networks. Marketing campaigns can capitalize on this point by tapping into social media through influencer marketing, user-generated content, and programs that encourage consumer experience sharing. Although EC have been confirmed to have a positive effect on purchase intentions, the impact has been modest. This result reflects a common paradox in sustainable consumption, which is the gap between attitudes and behaviors – known as the "attitude-behavior gap" [4]. Although young people show concern for the environment, they still prioritize practical

benefits such as price and convenience in their actual consumption behavior. Therefore, policymakers and NGOs need to continue their efforts to raise awareness and transform EC into specific consumer behaviors by aligning environmental messaging with personal values, financial benefits, and modern lifestyles. The surprise from the study was that PR did not have a significant effect on second-hand purchase intent in either channel, which is in contrast to many previous studies [3, 18, 19] which emphasized the role of hygiene concerns, quality and social face in preventing second-hand purchases. The possible explanation is that in the young consumer group, especially in the digital environment, psychological barriers have been alleviated thanks to the development of community assessment, policies to ensure consumer rights, as well as a change in social awareness of the value of secondhand goods. This opens up opportunities for businesses to eliminate traditional prejudices, and at the same time affirm the commercial potential of the second-hand market. In terms of policy, the study provides an empirical basis for regulators and planners to develop strategies to promote sustainable consumption through secondhand goods. Specifically, it is necessary to develop legal frameworks and policies to encourage the development of the formal second-hand market – including licensing, quality assurance, and technological support for online trading platforms. At the same time, it is possible to promote community education programs, green communication and the integration of sustainable consumer education into the general education system, in order to transform EC into concrete actions. Finally, the findings from the study set the direction for further studies. While current research focuses on youth groups in Viet Nam, more cross-cultural and intergenerational comparative studies are needed to examine the stability of influencing factors in different social contexts. In addition, combining quantitative and qualitative methods will help shed light on the complex psychological mechanisms behind secondhand consumption decisions – especially in relation to factors such as emotions, memories, and personal identities associated with secondhand products.

6. CONCLUSION

This study conducted a comprehensive survey of the factors influencing secondhand purchasing behavior of Vietnamese youth, which compared the differences between two consumption channels: online and offline, based on the TPB theory. The empirical results confirm that while PEB remain the primary driver, factors such as PBC, SN, and EC also play significant roles in shaping purchase intentions. Notably, the study demonstrates that the link between intention and behavior is more robust in online channels than in offline channels, reflecting the rapid digitalization of sustainable consumption. The importance of the study is clearly demonstrated by shedding light on the consumption dynamics of the young population – which accounts for a large proportion and has an increasingly strong influence in the market structure, especially in the context of the shift to sustainable consumption and the development of the circular economy.

Academically, research contributes in four main areas. Firstly, the study expands the TPB theoretical framework by integrating economic and environmental factors – which has not been explored much in previous studies in the Vietnamese

context. Secondly, the study establishes the intermediary role of purchase intention in the expanded TPB model, contributing to clarifying the psycho-behavioral mechanism in sustainable consumption. Third, the study provides empirical evidence from Vietnam, a growing market that lacks in-depth research on sustainable consumer behavior. Finally, the study conducts a comparative analysis of consumer behavior by distribution channel, thereby providing a practical perspective on the characteristics of the digital and traditional consumer environment.

The application of the research is expressed on many levels. For businesses, the results of the research can be used to design marketing campaigns that emphasize the economic value of second-hand goods, and integrate social and environmental factors to improve communication efficiency. For e-commerce platforms and second-hand markets, the study suggests improving user experience, trust, and control, thereby driving actual buying behavior. For regulators, the study provides a basis for developing policies to support the formal development of the second-hand market, through a transparent legal framework, quality standards, and digital support.

However, research still has some limitations. Firstly, the data was collected using a convenient sample selection method, so it may not be fully representative of all young people in Vietnam. Secondly, the study uses a cross-sectional design, so it is not possible to determine the causal relationship over time. Third, the study only focused on the age group of 18–35 and did not consider behavioral differentiation factors by region, income, or education level. From these limitations, future studies may expand in the following directions: (1) Adopt a longitudinal study design to test the sustainability of consumer intent and behavior over time; (2) Incorporate qualitative methods such as in-depth interviews or behavioral diaries to gain a deeper understanding of second-hand consumption motivations and barriers; (3) Compare second-hand consumption behavior between different generation groups or national contexts, thereby determining how cultural factors affect consumption decisions; (4) Explore the role of emotional factors, personal identity, and the influence of the online community in second-hand consumption – especially in the rapidly evolving digital environment.

This study not only fills the gap in the literature on second-hand consumer behavior in Vietnam but also contributes to expanding the TPB theory in the new context. The experimental results and policy recommendations from the study are an important basis for promoting sustainable consumption and developing the second-hand market in a more efficient, formal, and responsible way in the near future.

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APPENDIX

Table A1. Variable descriptions

Construct	Item	Explanation
EC	EC1	I buy secondhand goods to minimize waste sent to the environment.
	EC2	I believe that purchasing secondhand goods helps conserve environmental resources.
	EC3	I am willing to choose secondhand products to reduce environmental impact.
	EC4	I feel a sense of responsibility to minimize waste sent to the environment.
PBC	PBC1	Purchasing secondhand products constitutes an easy and convenient experience.
	PBC2	I enjoy exploring secondhand products that offer high value at lower prices.
	PBC3	I perceive that I can readily find secondhand products of high quality.
SN	SN1	My family regularly engages in purchasing secondhand products.
	SN2	My peers frequently purchase secondhand products.
	SN3	Social expectations influence my decisions regarding secondhand product purchases.
	SN4	Social media platforms impact my decisions to purchase secondhand products.
PR	PR1	I am concerned about being defrauded when purchasing secondhand goods.
	PR2	I am concerned about the quality of secondhand products.
	PR3	I am concerned about the warranty policy when purchasing secondhand goods.
	PR4	I am concerned about hygiene issues when purchasing secondhand goods.
PEB	PEB1	I consider price as a significant factor when deciding to purchase secondhand products.
	PEB2	I perceive secondhand products as providing good value relative to their cost.
	PEB3	I habitually compare prices between new and secondhand products prior to purchase.
INT	INT1	I intend to purchase secondhand products instead of new ones if the price is reasonable.
	INT2	I intend to purchase secondhand products in the future if the quality is good.
	INT3	I am willing to recommend secondhand products to my friends.
	INT4	I feel that purchasing secondhand goods is a good choice in the current context.
ONL	ONL1	I enjoy searching for secondhand products on online platforms.
	ONL2	I have experience purchasing secondhand goods from e-commerce platforms (such as Shopee, Cho Tot, ...).
	ONL3	I have experience purchasing secondhand goods via social media platforms (Facebook, TikTok, Instagram, ...)
	ONL4	I feel that purchasing secondhand goods online is more convenient than buying them in-store.
	ONL5	I prioritize purchasing secondhand goods online if they have positive reviews.
OFF	OFF1	I prefer to experience the product in person before making a purchase.
	OFF2	I frequently visit secondhand stores to search for products.
	OFF3	I feel more secure purchasing secondhand goods in-store rather than online.
	OFF4	I prioritize purchasing secondhand goods in-store if a warranty is provided.
EXP	EXP	Does your past experience with secondhand shopping influence your willingness to continue purchasing secondhand goods?
PC	PC	Is online shopping/ offline shopping your primary channel when searching for secondhand products?