

A HIGHER-ORDER CONSTRUCT OF SOCIAL MEDIA MARKETING ACTIVITIES AND CIRCULAR ECONOMY CONSUMPTION: EVIDENCE FROM VIETNAM

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ABSTRACT

The rapid growth of social media has transformed modern marketing strategies, yet the mechanisms through which social media marketing activities influence consumer behavior toward sustainable consumption remain underexplored. This study investigates how social media marketing activities affect consumers' purchase intention toward circular economy products, with consumer attitude functioning as a mediating variable. Based on theory of planned behavior, social media marketing activities are conceptualized as a higher-order construct comprising five dimensions: entertainment, interaction, trendiness, customization, and word-of-mouth. A quantitative research design was employed, with data collected from Vietnamese consumers. A two-stage approach was adopted to analyze the higher-order construct, ensuring robust and accurate measurement of its multidimensional nature. Structural equation modeling (SEM) was applied to examine hypothesized relationships. The findings demonstrate that social media marketing activities significantly and positively influence consumer attitude toward circular economy products, which in turn drives purchase intention. Consumer attitude is confirmed as a significant mediator in this relationship. These findings contribute to sustainable marketing literature and provide actionable insights for businesses and policymakers promoting circular economy consumption through social media platforms in emerging markets.

Keywords: Circular economy products, purchase intention, social media marketing activities, sustainable consumption, higher order construct.

1. INTRODUCTION

Social media platforms have changed the way consumers find, compare, and buy products. Appel et al. [1] argue that social media is no longer just an additional marketing tool but has become a key force that shapes how consumers make decisions. Today, brands spend significant resources on social media marketing activities (SMMAs) to increase awareness, change consumer attitudes, and encourage purchase behavior [2]. At the same time, growing environmental concerns have made the circular economy an increasingly important concept. The circular economy focuses on reducing waste, extending the life of products, and encouraging sustainable consumption behaviors [3], [4].

The relationship between social media marketing and circular economy consumption is a research area that has not been fully explored, especially in emerging economies like Vietnam. Vietnam is a suitable context for this study because the country has seen rapid growth in social media use, with over 72.70 million active users as of January 2024, representing

73.3% of the total population [5], [6]. In addition, the Vietnamese government has recently strengthened its commitment to circular economy policies, which creates a good environment for campaigns that aim to change consumer behavior [7].

Social media marketing activities include a wide range of brand-led actions on social media platforms, such as entertainment, interaction, trendiness, customization, and word-of-mouth [8]. Previous studies have shown that these activities have a positive effect on consumer attitudes and purchase intentions [9], [10]. However, how SMMA specifically encourage consumers to buy circular economy products, particularly through the role of consumer attitude as a mediating variable, is still not well understood.

The theory of planned behavior [11] is a well-established framework that explains how attitudes lead to behavioral intentions. Many studies on sustainable consumption have confirmed that attitude is one of the strongest predictors of purchase intention [12], [13]. Despite this, very few studies have examined the full SMMA–attitude–purchase intention relationship in a developing country context. Arora et al. [14] confirmed that attitude plays a central mediating role between social media use and sustainable purchase intentions but did not treat SMMA as a higher-order construct (HOC), which allows for a more accurate and complete measurement of the concept.

Based on these gaps, the main research question of this study is: *How do social media marketing activities affect consumers' purchase intention toward circular economy products, with consumer attitude as a mediating variable, within the framework of the theory of planned behavior?*

To answer this question, this study treats SMMA as a higher-order construct (HOC), with the five sub-dimensions identified by Kim and Ko [8] serving as lower-order components (LOCs). An embedded two-stage approach within PLS-SEM is used to test the proposed relationships.

The rest of this paper is organized as follows. Section 2 reviews the related literature and develops the research hypotheses. Section 3 presents the research methodology. Section 4 reports the results of the SEM analyses and mediation analysis. Section 5 discusses the findings and their implications. Section 6 concludes the paper with limitations and suggestions for future research.

2. LITERATURE REVIEW

2.1. Theory of planned behavior and circular economy products

This study uses the Theory of Planned Behavior (TPB) as its main theoretical framework. The TPB was developed by Ajzen [11], [15] and is one of the most used theories for predicting human behavioral intentions. According to the TPB, a person's intention to perform a behavior is shaped by three main factors: their attitude toward the behavior, the subjective norms they feel from people around them, and their perceived behavioral control, that is, how easy or difficult they think it is to perform the behavior. Among these three factors, attitude has been identified as one of the strongest predictors of behavioral intention [12], including in sustainable and environmental consumption [16].

The circular economy is a new way of thinking about production and consumption that moves away from the traditional linear model of "take-make-dispose." Instead of throwing products away at the end of their life, the circular economy focuses on keeping products and materials in use for as long as possible through strategies such as reuse, repair, remanufacturing, and recycling [3]. Shevchenko et al. [4] argue that making the circular economy work in practice requires the active participation of consumers at every stage of a product's life, from buying and using it to disposing of it responsibly. Their product-centric

framework, which covers the 10R circular strategies such as reuse, repair, and recycle, shows that encouraging consumers to adopt circular economy behaviors is still a complex and early-stage challenge. This makes it especially important to understand which psychological factors, particularly attitude, can drive consumers to buy circular economy products.

Many studies have already applied the TPB to investigate consumer purchase intention toward circular economy products, and the results consistently support the TPB. Kongarchapatara and Hanpanit [17] used the TPB to study Thai consumers' purchase intention toward circular economy products with 559 respondents. Their results showed that attitude toward the behavior had the strongest influence on purchase intention, compared to subjective norms and perceived behavioral control, which also showed positive but smaller effects. In a similar study, Pisitsankkhakarn and Vassanadumrongdee [18] used the TPB to examine purchase intention toward remanufactured automotive products in Thailand. They found that attitude and subjective norms were the two key factors that significantly and positively influenced purchase intention, and that product quality and price factors helped to strengthen consumer attitude toward these products. At a larger scale, Hanliang Fu et al. [19] conducted a meta-analytic study combining 32 empirical studies with a total of 14,032 respondents. Their findings confirmed that within the TPB framework, consumer attitude plays an important mediating role in connecting environmental concern, social value, and product knowledge to consumers' willingness to pay for circular products. Together, these studies show that TPB is a strong and widely supported framework for studying circular economy purchasing behavior, and that attitude is the most consistent and powerful predictor in this context.

In the specific context of circular economy products, attitude refers to how positively or negatively a consumer evaluates the idea of buying products that are designed to be reused, repaired, remanufactured, or recycled to reduce waste. Vidal-Ayuso et al. [3] confirm that attitude is the most impactful variable affecting purchase intention in the circular economy context. They also note that positive attitudes not only directly increase purchase intention but also help reduce the negative effect of price sensitivity on buying decisions, which further encourages circular purchasing. This conclusion is broadly consistent with the meta-analytic evidence of Armitage and Conner [12], who reviewed 185 independent studies across many types of behavior and found that, within the TPB model, subjective norm is generally the weakest predictor of intention, implying a comparatively stronger and more consistent role for attitude and perceived behavioral control. Additionally, Zaremohzzabieh et al. [16] conducted a meta-analytic path analysis and found that consumer attitude has a strong and consistent positive effect on green purchase intention across many different product types and cultural contexts, further confirming that attitude is the key psychological driver of sustainable purchasing behavior.

Based on the theoretical arguments and empirical evidence presented above, this study proposes the following hypothesis:

H2: Consumer attitude positively influences purchase intention toward circular economy products.

2.2. Social media marketing activities

Social media marketing activities (SMMAs) refer to a set of brand actions carried out on social media platforms to positively influence how consumers think and behave [20]. Kim and Ko [8] identified five key dimensions of perceived SMMA: entertainment, interaction, trendiness, customization, and word-of-mouth. This five-dimension structure has been widely used and tested across many different contexts. For example, Chen and Lin [9] showed that SMMAs influence how consumers identify with a brand community and how much value they perceive, which in turn shapes their satisfaction and behavioral intentions. More recently, Yang et al. [21] confirmed that this five-dimension structure is valid and useful across different

countries and product types, showing that trendiness, interaction, and word-of-mouth were particularly influential on brand equity.

In this study, SMMA is conceptualized as a higher-order construct (HOC), meaning that the five dimensions above are treated as lower-order components (LOCs) that together make up one single, broader concept of SMMA. This HOC approach is supported by the methodology proposed by Hair et al. [22] and the two-stage embedded approach of Ringle et al. [23], and it provides a more accurate and complete picture of how SMMA as a whole affects consumer outcomes. Treating SMMA as an HOC also reduces model complexity while capturing all the important aspects of how brands communicate through social media.

SMMA and consumer attitude

A growing body of research shows that SMMA has a significant positive influence on consumer attitude, including toward green and sustainable products. Nekmahmud et al. [7] used an extended TPB model with 785 respondents and found that social media marketing has a strong and significant positive association with consumer attitude toward green products, which in turn leads to green purchase intentions. Their study showed that social media marketing works partly by increasing consumers' green product knowledge, which then strengthens their attitude. Similarly, Sun and Wang [24] found that social media marketing positively shapes consumers' attitudes and subjective norms toward green products in China, and that attitude, in turn, significantly and positively predicts purchase intention. Zafar et al. [25] confirmed the relationship by showing that social media use builds sustainable purchasing attitudes in consumers, and that this effect is strengthened when consumers trust the information they see on social media. Arora et al. [14] provided empirical evidence that social media is a key antecedent of consumer attitude toward sustainable products, confirming that social media shapes how favorably consumers evaluate the idea of buying sustainable or green products.

These findings are especially relevant to the context of circular economy products. Although direct empirical evidence specifically linking SMMA to circular economy product attitudes is still limited [3], the theoretical logic is clear: just as social media builds positive attitudes toward green products in general, it can also shape consumers' evaluations of circular economy products by providing entertaining, informative, and persuasive content through its five dimensions.

Based on evidence, this study proposes:

H1: Social media marketing activities (SMMA) positively influence consumer attitude toward circular economy products.

Attitude as a mediator between SMMA and purchase intention

Beyond the direct effect of SMMA on attitude, a key question in this study is whether attitude mediates the relationship between SMMA and purchase intention. This mediation logic is grounded in the TPB [11], which places attitude as the key psychological mechanism that links external stimuli to behavioral intention. Chen and Lin [9] showed clearly that SMMA does not directly affect consumer behavioral outcomes such as satisfaction; instead, its effects work through intermediate psychological variables like perceived value and social identification. This indirect pathway strongly supports the idea that attitude mediates the SMMA–purchase intention relationship.

Empirical support for this mediation is also provided by Arora et al. [14], who confirmed that attitude plays a central mediating role between social media exposure and sustainable purchase intentions. Jamil et al. [10] provided further evidence that SMMA dimensions positively influence consumer intentions through attitudinal and value-based pathways, rather than through a direct route. Nekmahmud et al. [7] showed through PLS-SEM that the path

from social media marketing to green purchase intention runs significantly through attitude, providing direct mediation evidence within a sustainability context.

Together, the theoretical framework and empirical literature suggest that SMMA, on its own, does not directly push consumers to buy circular economy products; rather, it first changes how consumers feel and think about these products and this attitude change is what ultimately drives purchase intention. This is consistent with the core logic of the TPB and with the broader sustainable marketing literature.

Based on this reasoning, this study proposes:

H3: Consumer attitude mediates the relationship between SMMA and purchase intention toward circular economy products.

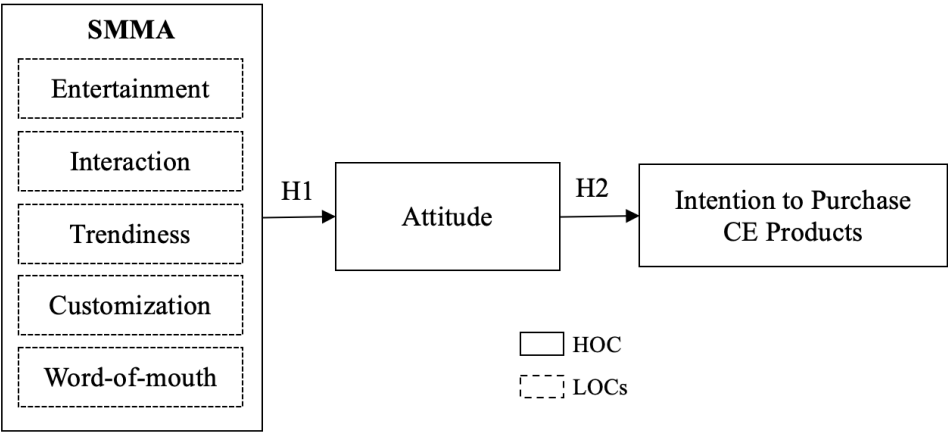


Figure 1. Proposed model

Source: Developed by the author

3. METHODOLOGY

Research design and data collection

This study uses a quantitative research design, which is a common approach in social science and marketing research [26], [27]. Data were collected through an online survey distributed on Vietnamese social media platforms and through university networks over four weeks from December of 2025. Respondents were screened to confirm that they were regular social media users and had at least a basic understanding of circular economy or sustainable products. After removing incomplete responses, 450 valid responses were retained. This sample size meets the minimum requirement of 10 observations per parameter for PLS-SEM [22]. The sample was 54.2% female and 45.8% male, with 72.3% aged between 18 and 35. Over 61% held at least a university degree. Monthly income was distributed as follows: 28.4% earned below 10 million VND, 55.6% between 10 and 50 million VND, and 16.0% above 50 million VND.

SMMA was measured using 11 items across five lower-order constructs (LOCs) entertainment, interaction, trendiness, customization, and word-of-mouth, which adapted from Kim and Ko [8]. Consumer attitude (3 items) and purchase intention (3 items) were both adapted from Chen & Lin [9]. All items used a five-point Likert scale (1 = Strongly disagree; 5 = Strongly agree). Full measurement items are listed in Appendix 1.

Data analysis followed the embedded two-stage approach for higher-order construct (HOC) modeling [22], [23]. The measurement assessment and structural assessment were analysed by using PLS-SEM in SmartPLS 4.

4. RESULTS

4.1. Embedded two-stage approach (reflective–reflective model)

4.1.1. Stage 1: LOC Measurement assessment

Reliability and convergent validity

In stage 1, the measurement quality of each SMMA lower-order component (LOC) was assessed. Following the guidelines of Hair et al. [22], three criteria were examined: (1) indicator reliability, assessed through outer loadings (threshold ≥ 0.70); (2) internal consistency reliability, assessed through Cronbach's alpha and composite reliability (CR), both requiring values above 0.70; and (3) convergent validity, assessed through the average variance extracted (AVE), which should exceed 0.50 [28].

As shown in table 1, all outer loadings exceeded 0.70, ranging from 0.835 to 0.903 across all LOC dimensions. Cronbach's alpha values ranged from 0.708 to 0.797, and CR values ranged from 0.710 to 0.798, all meeting the required threshold. AVE values ranged from 0.711 to 0.801, all exceeding the 0.50 threshold. These results confirm that all five LOC dimensions have adequate reliability and convergent validity.

Table 1. Stage 1 - Reliability, composite reliability, and AVE of LOC dimensions

	Cronbach's alpha	CR	AVE	CUS	ENT	Interaction	Trendiness	Word of Mouth
CUS1	0.717	0.717	0.779	0.878				
CUS2				0.887				
ENT1	0.752	0.717	0.801		0.903			
ENT2					0.887			
INT1	0.797	0.798	0.711			0.835		
INT2						0.859		
INT3						0.836		
TRD1	0.708	0.710	0.774				0.871	
TRD2							0.888	
WOM1	0.709	0.711	0.774					0.889
WOM2								0.870

Note. CR = Composite reliability; AVE = Average variance extracted; CUS: Customization; ENT: Entertainment.

Source: Authors' calculations using SmartPLS 4

Discriminant validity

Discriminant validity was assessed using the Heterotrait-Monotrait (HTMT) ratio of correlations. According to Henseler et al. [29], HTMT values should be below 0.90 to confirm that each construct is sufficiently different from the others. Table 2 presents the HTMT results for all pairs of LOC dimensions.

Most HTMT values were below or close to the 0.90 threshold, however the highest value being 0.903 (Trendiness <-> Entertainment), which slightly exceeds this cutoff. Although this value is just above the more conservative 0.85 threshold suggested by Kline [30], it only marginally exceeds the widely accepted 0.90 threshold [31]. The 97.50% confidence interval upper bound for this pair was 0.970, which is slightly above 0.90. However, given that all

other pairs are clearly below the threshold and that the trendiness and entertainment dimensions both belong to the same HOC, this level of shared variance is expected and conceptually justified. Overall, the discriminant validity of the LOC dimensions is considered acceptable.

Table 2. Stage 1 - Discriminant validity

Pair	Original sample coefficient	Sample mean	2.50%	97.50 %
Entertainment <-> Customization	0.888	0.889	0.818	0.959
Interaction <-> Customization	0.781	0.782	0.705	0.852
Interaction <-> Entertainment	0.791	0.792	0.728	0.851
Trendiness <-> Customization	0.817	0.819	0.732	0.903
Trendiness <-> Entertainment	0.903	0.904	0.839	0.970
Trendiness <-> Interaction	0.827	0.828	0.749	0.900
Word of mouth <-> Customization	0.789	0.790	0.710	0.867
Word of mouth <-> Entertainment	0.793	0.793	0.718	0.865
Word of mouth <-> Interaction	0.807	0.808	0.734	0.880
Word of mouth <-> Trendiness	0.788	0.789	0.707	0.868

Source: Authors' calculations using SmartPLS 4

4.1.2. Stage 2: HOC-Embedded model

Measurement assessment - reliability and convergent validity

In stage 2, the latent variable scores from the five LOC dimensions were used as manifest indicators of the SMMA higher-order construct (HOC), and the full measurement model, including SMMA (HOC), consumer attitude, and purchase intention, was estimated. Table 3 presents reliability and convergent validity results.

Cronbach's alpha values for all three constructs exceeded 0.70 (attitude = 0.804, purchase intention = 0.782, SMMA = 0.884), confirming adequate internal consistency [32]. Composite reliability (rho_c) values ranged from 0.873 to 0.915, all above the 0.70 threshold. AVE values ranged from 0.683 to 0.719, all exceeding 0.50, confirming satisfactory convergent validity [28].

Table 3. Stage 2 - Reliability and convergent validity

Construct	Cronbach's α	CR (rho_a)	CR (rho_c)	AVE
Attitude	0.804	0.806	0.885	0.719
Purchase Intention	0.782	0.784	0.873	0.697
SMMA	0.884	0.885	0.915	0.683

Source: Authors' calculations using SmartPLS 4

Outer loadings

Table 4 presents the outer loadings for all indicators in the stage 2 model. For consumer attitude, loadings ranged from 0.833 (ATT2) to 0.864 (ATT1). For purchase intention, loadings ranged from 0.816 (PI3) to 0.860 (PI1). For SMMA as a HOC, the LOC outer loadings ranged from 0.797 (word-of-mouth) to 0.852 (entertainment). All outer loadings exceeded the 0.70 threshold recommended by Hair et al. [22], confirming adequate indicator reliability.

Table 4. Stage 2 - Outer loadings

Indicator	Attitude	Purchase intention	SMMA
ATT1	0.864		
ATT2	0.833		
ATT3	0.846		
PI1		0.860	
PI2		0.828	
PI3		0.816	
Entertainment			0.852
Interaction			0.825
Trendiness			0.835
Customization			0.823
Word of mouth			0.797

Source: Authors' calculations using SmartPLS 4

Discriminant validity

Discriminant validity in stage 2 was assessed using two methods: the HTMT ratio and the Fornell-Larcker criterion. For the HTMT criterion, all values were below the 0.90 threshold [29], with the highest HTMT value being 0.864 (attitude <-> purchase intention), which is below the threshold. For the Fornell-Larcker criterion, the square root of the AVE for each construct was greater than the correlations with all other constructs confirming discriminant validity [28]. These results confirm that all three constructs are empirically distinct from one another.

Table 5. Stage 2 - Discriminant validity: HTMT and Fornell-Larcker criterion

	Attitude	Purchase Intention	SMMA
<i>HTMT</i>			
Attitude			
Purchase Intention	0.864		
SMMA	0.827	0.713	
<i>Fornell-Larcker Criterion</i>			
Attitude	0.848		
Purchase Intention	0.686	0.835	
SMMA	0.700	0.593	0.826

Source: Authors' calculations using SmartPLS 4

4.2. Structural model assessment

Collinearity assessment (VIF)

Before assessing the structural model, collinearity among the predictor constructs was checked using the variance inflation factor (VIF). According to Hair et al. [22], VIF values below 5.0 indicate that collinearity is not a serious concern. As shown in table 6, all VIF values were below 2.0, confirming that multicollinearity is not an issue in this model.

Table 6. Collinearity assessment (VIF)

Path	VIF
Attitude -> Purchase Intention	1.959
SMMA -> Attitude	1.000
SMMA -> Purchase Intention	1.959

Source: Authors' calculations using SmartPLS 4

Explanatory power (R^2)

The coefficient of determination (R^2) was used to assess the explanatory power of the structural model. As shown in table 7, the R^2 value for consumer attitude was 0.490, meaning that SMMA explains approximately 49.0% of the variance in consumer attitude. The R^2 value for purchase intention was 0.496, indicating that SMMA and consumer attitude together explain approximately 49.6% of the variance in purchase intention. According to Hair et al. [22], R^2 values of 0.25, 0.50, and 0.75 represent weak, moderate, and substantial levels of explanatory power, respectively. Both R^2 values in this study are close to the moderate threshold, suggesting acceptable explanatory power for the model.

Table 7. Coefficient of determination (R^2)

Construct	R^2	R^2 Adjusted
Attitude	0.490	0.488
Purchase Intention	0.496	0.494

Source: Authors' calculations using SmartPLS 4

Predictive relevance (Q^2)

Predictive relevance was assessed using the PLSpredict procedure, which calculates the Q^2 predict statistic [33]. Q^2 values greater than zero indicate that the model has predictive relevance beyond a naive average benchmark. As shown in table 8, Q^2 values were 0.486 for consumer attitude and 0.349 for purchase intention, both positive, confirming that the model has adequate predictive relevance. In addition, the comparison between PLS loss and the naïve (IA) loss benchmark further supports the model's predictive power: for both constructs, the PLS loss was smaller than the IA loss, with statistically significant differences ($p < 0.001$), indicating that the PLS-SEM model outperforms the naive benchmark in predictive accuracy.

Table 8. Predictive relevance (Q^2 predict)

Construct	Q^2 predict	RMSE	MAE	PLS loss
Attitude	0.486	0.721	0.579	0.396
Purchase Intention	0.349	0.811	0.653	0.453

Source: Authors' calculations using SmartPLS 4

Effect size (f^2)

The effect size (f^2) was calculated to assess the practical significance of each path in the structural model. According to Cohen [34], f^2 values of 0.02, 0.15, and 0.35 represent small, medium, and large effects, respectively. As shown in table 9, the path from SMMA to consumer attitude had a large effect size ($f^2 = 0.959$), indicating that SMMA has a strong practical influence on attitude. The path from consumer attitude to purchase intention had a medium to large effect size ($f^2 = 0.286$). The direct path from SMMA to purchase intention

had a small effect size ($f^2 = 0.050$), which is consistent with the mediation structure of the model, the main effect of SMMA on purchase intention operates primarily through consumer attitude rather than directly.

Table 9. Effect sizes (f^2)

	Attitude	Purchase Intention
Attitude		0.286
SMMA	0.959	0.050

Source: Authors' calculations using SmartPLS 4

4.3. Hypothesis testing and path coefficients

The path coefficients and their significance were estimated using bootstrapping with 5000 resamples, following the recommendation of Preacher and Hayes [35]. Table 10 presents the results of hypothesis testing.

H1 proposed that SMMA positively influences consumer attitude. The results show a significant positive path coefficient ($\beta = 0.700$, $t = 29.159$, $p < 0.001$), providing strong support for H1. This large effect confirms that consumers who perceive higher levels of SMMA across the five dimensions (entertainment, interaction, trendiness, customization, and word-of-mouth) develop significantly more favorable attitudes toward circular economy products.

H2 proposed that consumer attitude positively influences purchase intention. The path coefficient was significant and positive ($\beta = 0.531$, $t = 12.910$, $p < 0.001$), supporting H2. This finding is consistent with the core prediction of the theory of planned behavior [11], which positions attitude as a primary driver of behavioral intention.

In addition, the direct path from SMMA to purchase intention was also significant ($\beta = 0.222$, $t = 4.877$, $p < 0.001$), suggesting that SMMA has both a direct and an indirect effect on purchase intention through attitude.

Table 10. Path coefficients

Hypothesis / Path	O	M	STDEV	t-stat	p
H1: SMMA -> Attitude	0.700	0.700	0.024	29.159	< 0.001
H2: Attitude -> Purchase intention	0.531	0.531	0.041	12.910	< 0.001
SMMA -> Purchase intention (direct)	0.222	0.222	0.045	4.877	< 0.001

Note: O = Original sample coefficient; M = Bootstrap mean; STDEV = Standard deviation; t-stat = t-statistic ($|O/STDEV|$); p = two-tailed p-value.

Source: Authors' calculations using SmartPLS 4

4.4. Mediation analysis

Table 11. Mediation analysis

Relationship	O	t-stat	p	Result
SMMA -> Attitude	0.700	29.159	< 0.001	Complementary mediation
Attitude -> Purchase intention	0.531	12.910	< 0.001	
SMMA -> Purchase intention	0.222	4.877	< 0.001	

Source: Authors' calculations using SmartPLS 4

H3 proposed that consumer Attitude mediates the relationship between SMMA and purchase intention. The indirect effect of SMMA on purchase intention through consumer attitude was significant (indirect $\beta = 0.372$, $t = 11.314$, $p < 0.001$). Since the direct path from SMMA to purchase intention also remained significant ($\beta = 0.222$, $p < 0.001$) after including attitude in the model, the mediation type is classified as complementary partial mediation [36]. This means that consumer attitude significantly channels a substantial portion of the effect of SMMA on purchase intention, while SMMA also retains a smaller but significant direct effect.

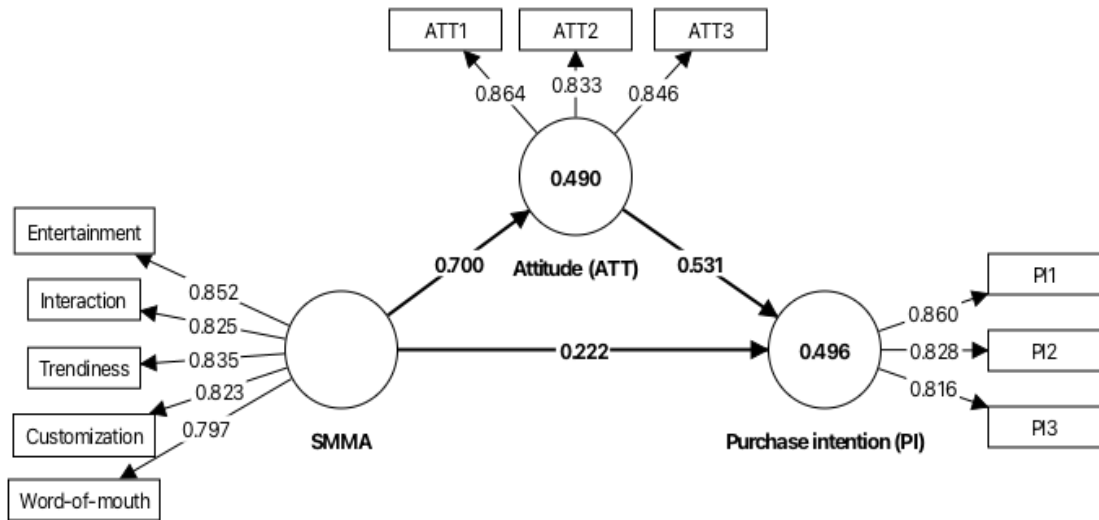


Figure 2. Graphical output

Source: SmartPLS 4 output

5. DISCUSSION

5.1. H1: SMMA positively influences consumer attitude

The support for H1 extends prior research on SMMA's role in attitude formation [9], [8] into the circular economy domain. The five dimensions of SMMA, entertainment, interaction, trendiness, customization, and word-of-mouth, collectively shape how consumers evaluate circular economy products. Entertaining and trendy content positions these products as desirable, interactive features deepen consumer engagement, personalized messaging increases relevance, and word-of-mouth creates social proof. Together, these dimensions build a favorable attitude that consumers would not easily develop through traditional marketing channels alone.

This finding is consistent with Nekmahmud et al. [7], who demonstrated that social media marketing shapes green purchase attitudes within an extended TPB framework, and with Arora et al. [14], who confirmed that social media usage is a key antecedent of sustainable purchase attitudes. In the Vietnamese context, where social media penetration is high and environmental awareness is still growing [5], SMMA represents a particularly effective vehicle for attitude change toward circular economy products.

5.2. H2: Consumer attitude positively influences purchase intention

The support for H2 is consistent with the core logic of the theory of planned behavior [11], which positions attitude as the primary driver of behavioral intention. In the circular

economy literature, this relationship has been consistently supported. Kongarchapatara and Hanpanit [17] found attitude to be the strongest TPB predictor of circular economy purchase intention in Thailand, and Hanliang Fu et al. [19] confirmed its central mediating role in a large-scale meta-analysis. The present study replicates and extends these findings to the Vietnamese context, reinforcing the cross-cultural robustness of the attitude-intention link in sustainable consumption research.

Importantly, this finding also highlights the attitude-behavior gap as a key challenge. Vidal-Ayuso et al. [3] noted that despite generally positive consumer attitudes toward circular economy practices, actual engagement often remains low. The significant attitude-to-intention path in this study suggests that building genuinely favorable attitudes, rather than just superficial awareness, is a critical first step in bridging this gap.

5.3. H3: Consumer attitude mediates the SMMA–purchase intention relationship

The mediation analysis revealed complementary partial mediation: consumer attitude significantly mediates the SMMA and purchase intention relationship, while SMMA also retains a smaller but significant direct effect on purchase intention. This result is theoretically important and aligns with Zhao et al.'s [36] taxonomy of mediation types.

The primary route is attitudinal: SMMA first changes how consumers evaluate circular economy products, and this changed attitude then drives purchase intention. This is consistent with Chen and Lin [9], who found that SMMA does not directly affect behavioral outcomes but works through intermediate psychological mechanisms. In the circular economy context, this confirms that SMMA must do more than inform consumers, it must shift their evaluative stance.

The secondary direct route suggests that some dimensions of SMMA, particularly word-of-mouth and entertainment, can also motivate purchasing more immediately through social activation and emotional resonance, without necessarily requiring deep attitudinal change. This two-route structure means that circular economy marketing strategies can operate at both levels: long-term attitude building through educational and narrative content, and shorter-term direct behavioral activation through peer recommendations and engaging calls to action.

5.4. Theoretical and managerial implications

Theoretically, this study contributes to the literature in three ways. First, it confirms and extends the TPB-based SMMA–attitude–intention chain to the circular economy product domain in an emerging market, where such evidence was previously limited [3]. Second, it demonstrates the value of conceptualizing SMMA as a higher-order construct (HOC), which provides a more complete and parsimonious representation of how its five dimensions operate together as a unified marketing force [22], [23]. Third, the identification of complementary partial mediation enriches the understanding of SMMA's behavioral mechanisms, showing that both attitudinal and direct activation pathways are at work.

From a managerial perspective, the findings offer clear guidance for brands in Vietnam's circular economy space. Since attitude is both the main outcome of SMMA and the primary driver of purchase intention, marketing strategies should prioritize attitude-building content such as educational storytelling, emotional narratives, and sustainability-focused brand positioning rather than purely promotional or transactional messaging. This is consistent with the recommendation by Dwivedi et al. [2] that firms use social media as a relationship-building instrument. Word-of-mouth and entertainment dimensions should receive particular emphasis, as these create social proof and positive emotional associations that are most effective in building favorable attitudes.

For policymakers in Vietnam, the evidence that SMMA can shift consumer attitudes toward circular economy products provides a rationale for public-private partnerships.

Government agencies, social media platforms, and brands can collaborate to scale up pro-circular economy messaging, particularly targeting the 18–35 age group who are the most active social media users. As Vietnam strengthens its circular economy policy commitments, leveraging social media as an attitude-change channel represents a cost-effective and scalable approach to accelerating consumer-side adoption.

6. CONCLUSION

This study investigated the role of social media marketing activities in shaping Vietnamese consumers' purchase intention toward circular economy products, with consumer attitude as a mediating variable. Using PLS-SEM with an embedded two-stage HOC approach, all three hypotheses were supported. SMMA positively influences consumer attitude (H1), consumer attitude positively influences purchase intention (H2), and consumer attitude partially mediates the SMMA–purchase intention relationship as complementary partial mediation (H3). The model explained approximately 49.0% of the variance in consumer attitude and 49.6% of the variance in purchase intention.

These findings contribute to the sustainable marketing literature by confirming the TPB-based SMMA–attitude–intention mechanism in a circular economy product context in Vietnam, and by demonstrating that the HOC approach to SMMA measurement is both empirically valid and theoretically appropriate. The complementary mediation finding adds knowledge by showing that SMMA influences purchase intention through two distinct pathways, primarily through attitude, and secondarily through direct behavioral activation.

This study has several limitations. The cross-sectional design limits causal inference. The sample was predominantly young, educated, and urban, which may restrict generalizability to other demographic groups. The model also focused on attitude as the sole mediator; future research could incorporate other TPB components (subjective norms, perceived behavioral control) or additional variables such as environmental concern, perceived value, and green trust. Replication across other Southeast Asian markets would also strengthen the generalizability of the findings.

Despite these limitations, this study provides timely and practically relevant evidence that social media marketing is a powerful tool for promoting circular economy consumption in emerging markets. As sustainability imperatives and digital marketing capabilities continue to converge, understanding how SMMA builds the psychological foundations of circular economy behavior will remain an important area of research.

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Appendix: Measurement scale.

Construct	Code	Item	Source
Social Media Marketing Activities (SMMA)	ENT1	Using this brand's social media is fun.	[8]
	ENT2	Content shown in this brand's social media seems interesting.	
	INT1	This brand's social media enables information sharing with others.	
	INT2	Conversation or opinion exchange is possible through this brand's social media.	
	INT3	It is easy to deliver my opinion through this brand's social media.	
	TRD1	Content shown in this brand's social media is the newest information.	
	TRD2	Using this brand's social media is very trendy.	
	CUS1	This brand's social media offers customised information search.	
	CUS2	This brand's social media provides customised service.	
	WOM 1	I would like to pass along information from this brand's social media to my friends.	
	WOM 2	I would like to upload contents from this brand's social media on my social feed.	
Consumer Attitude (ATT)	ATT1	I think buying circular economy products is a good idea.	[9]
	ATT2	I have a positive feeling toward purchasing circular economy products.	
	ATT3	I believe purchasing circular economy products is beneficial to society.	
Purchase Intention (PI)	PI1	I intend to purchase circular economy products in the near future.	[9]
	PI2	I am willing to purchase circular economy products.	
	PI3	I would recommend circular economy products to others.	

Source: Adapted from [8] and [9]