




“Integrating the Theory of Planned Behavior and social media marketing strategies: A study on green cosmetics consumption among young women”

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INTEGRATING THE THEORY OF PLANNED BEHAVIOR AND SOCIAL MEDIA MARKETING STRATEGIES: A STUDY ON GREEN COSMETICS CONSUMPTION AMONG YOUNG WOMEN

Abstract

Amid escalating environmental concerns and the growing role of social media as a dominant platform for firm consumer interaction, understanding the determinants of green cosmetic purchase intention has become increasingly critical. This study integrates social media marketing dimensions with the Theory of Planned Behavior (TPB) to investigate young women's intentions to purchase green cosmetics in Vietnam. Using a non-probability quota sampling technique, data were collected from 200 valid questionnaires completed by women aged 18-35 who actively use social media during their cosmetic purchasing process in Ho Chi Minh City. Data were collected over an eight-week period from early February to late March 2024. Multivariate regression analysis was employed using SPSS to test the proposed hypotheses. The findings reveal that Brand Content ($\beta = 0.398$), Subjective Norms ($\beta = 0.273$), Influencer Marketing ($\beta = 0.179$), and Electronic Word-of-Mouth (e-WOM) ($\beta = 0.130$) exert statistically significant positive effects on green cosmetic purchase intention ($p < 0.05$). Conversely, attitude does not show a statistically significant influence on purchase intention ($\beta = 0.078, p > 0.05$). The proposed model explains 50.9% of the variance in green cosmetic purchase intention (adjusted $R^2 = 0.509$). Overall, the results underscore the pivotal role of integrated social media communication in fostering sustainable consumption, as marketing-related factors and subjective norms demonstrate stronger effects than attitudinal evaluations. These findings contribute to a clearer understanding of the combined influence of marketing and psychosocial mechanisms on sustainable consumer behavior and offer practical implications for firms in emerging markets by emphasizing the importance of transparent brand content, social norms, influencer engagement, and electronic word-of-mouth in communication strategies.

Keywords

social media, TPB, green cosmetics, purchase intention, influencer marketing, e-WOM

JEL Classification

M30, M31, M37, M39

INTRODUCTION

The global shift toward sustainable development has encouraged firms across industries to prioritize environmentally responsible production, including the development of green cosmetics, as a strategic response to rising consumer awareness and environmental concerns. Governments have also introduced regulatory frameworks and incentives that support sustainable consumption (Worldbank, 2022). Within the cosmetics sector, global demand for sustainable and natural products continues to expand, with industry revenues projected to reach USD 129 billion by 2028 (Statista, 2024a). The organic and natural cosmetics segment alone was valued at USD 34.5 billion in 2018 and is forecasted to expand to USD 54.5 billion by 2027 (Limbu et al., 2022). Educated young women, in particular, are increasingly



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adopting eco-friendly lifestyles and demonstrating a preference for products derived from natural or sustainable ingredients (Dimitrova et al., 2009).

Vietnam represents a relevant context for examining these behavioral shifts. Consumer surveys report that more than 80% of Vietnamese consumers are willing to pay premium prices for sustainable products, and over half consider green purchasing essential (Statista, 2024c). With Gen Z and Millennials accounting for nearly half of the population and showing high digital engagement, young women constitute a key segment driving demand for natural and eco-friendly cosmetics (Limbu et al., 2022). In 2024, the Vietnamese cosmetics market is expected to reach USD 546.2 million, with the natural cosmetics segment valued at USD 59.9 million, reflecting continued momentum toward sustainable consumption (Statista, 2024a).

Despite these favorable conditions, the actual sales of green cosmetics remain below expectations, suggesting that the psychological and marketing-related mechanisms underlying purchase intentions are not yet fully understood. While previous studies grounded in the Theory of Planned Behavior (TPB) emphasize the importance of attitudes, subjective norms, and perceived behavioral control (Kumar et al., 2022; Tewari et al., 2022). They often overlook the increasingly dominant influence of social media on consumer decision-making. Social media interactions, including brand content, influencer marketing, and electronic word-of-mouth, shape perceptions and facilitate peer-driven persuasion, yet empirical research integrating these constructs with TPB remains limited. This gap is especially pronounced in emerging markets, such as Vietnam, where digital engagement patterns and sustainability perceptions may differ from those in Western contexts. Moreover, young women, despite being major consumers of cosmetics and active users of social media, remain understudied as a distinct segment in sustainable consumption research (Emarker, 2022; Statista, 2024b).

These contextual and theoretical gaps underscore the need for a more integrated understanding of how social media marketing and behavioral constructs jointly influence green cosmetic purchase intentions.

1. LITERATURE REVIEW AND HYPOTHESES

The literature on green consumption and social media-driven consumer behavior provides essential theoretical foundations for understanding how individuals form intentions toward sustainable products. This section reviews key theoretical perspectives and empirical findings on green cosmetics and social media marketing to establish the conceptual basis for the proposed research model. The review begins by outlining the principal theories relevant to the study, particularly the Theory of Planned Behavior (TPB) and related conceptual perspectives. It then synthesizes prior research on green cosmetics and social media marketing strategies, focusing on electronic word-of-mouth, influencer marketing, and brand-generated content as key mechanisms driving consumer responses. Based on these insights, a set of hypotheses is developed to explain how social media engagement and behavioral constructs jointly influence green cosmetic purchase intentions.

Green cosmetics represent a rapidly expanding segment of the personal care industry, characterized by natural, safe, and environmentally friendly ingredients (Csorba & Boglea, 2011; Limbu & Ahamed, 2023). Young women, particularly Millennials and Generation Z, constitute the core consumer group for these products due to their high levels of digital engagement and strong sustainability consciousness (Limbu et al., 2022). However, despite the growing significance of this segment, empirical research examining how digital communication interacts with behavioral determinants in shaping green cosmetic consumption in emerging markets remains limited (Teixeira et al., 2023; Winarno & Indrawati, 2022). These characteristics underscore the need for suitable theoretical frameworks to explain young women's behavioral responses to green cosmetics, particularly within digitally mediated environments.

To explain consumer behavior in such contexts, prior research has relied on several theoretical perspectives addressing both psychological and

technological determinants of decision-making. Green consumption and digitally mediated interactions have become central themes in contemporary consumer behavior research, particularly in efforts to explain how individuals form intentions toward environmentally friendly products (Teixeira et al., 2023). Previous studies have employed behavioral frameworks such as the Theory of Planned Behavior (TPB) and the Technology Acceptance Model (TAM) to explain sustainable purchase intentions (Ajzen, 1991; Ajzen & Fishbein, 1980; Legris et al., 2003). However, these studies often examine theoretical components and digital communication mechanisms separately, resulting in fragmented perspectives that limit understanding of how psychological determinants interact with digital processes in shaping consumer responses (Musa et al., 2024). TPB provides a robust theoretical foundation for predicting sustainable consumer behavior through its core components of attitude, subjective norms, and perceived behavioral control (Concari et al., 2020). Meanwhile, TAM emphasizes the roles of perceived usefulness and perceived ease of use in shaping individuals' acceptance and engagement with technological platforms, including social media (Legris et al., 2003). Integrating TPB and TAM, therefore, enables a more comprehensive explanation by combining psychological determinants with technology-related beliefs to account for sustainable consumption decisions (Ma et al., 2024). Moreover, the TPB-TAM integrated framework has been successfully applied across various green and low-carbon behavioral contexts, such as upcycling, low-carbon travel, and the adoption of eco-friendly technologies, further demonstrating its robustness in explaining environmentally responsible behaviors (Sheng et al., 2025; Wu et al., 2024).

Within social media environments, several communication mechanisms play important roles in shaping consumers' perceptions and behavioral intentions, particularly in the context of green product marketing. Among these, electronic word-of-mouth (e-WOM), influencer marketing, and brand-generated content have been widely recognized as key drivers of consumer responses to green products. These mechanisms influence consumers' perceptions of credibility, information processing, and emotional engagement with environmentally friendly products. Although sub-

stantial empirical evidence supports the positive effects of each of these factors, most existing studies have examined them in isolation or primarily within Western market contexts. Such cultural differences indicate that young women in emerging markets remain a relatively understudied consumer segment.

This fragmented perspective creates an important gap in understanding how digital communication mechanisms interact with behavioral determinants in emerging market contexts. These limitations highlight the need for an integrated analytical framework that combines psychological determinants with social media-based influences to better explain young women's intentions to purchase green cosmetics.

Accordingly, the objective of this study is to examine how key social media marketing variables, namely electronic word-of-mouth (e-WOM), influencer marketing, and brand content, together with the core constructs of the Theory of Planned Behavior (TPB), influence young women's purchase intentions toward green cosmetics. The study further aims to develop and empirically test an integrated conceptual model that reflects these combined effects.

Taken together, these social media communication mechanisms and behavioral determinants form an integrated framework for explaining young women's green cosmetic purchase intentions. Among these mechanisms, electronic word-of-mouth (e-WOM) has emerged as one of the most influential sources of consumer information in online environments. In this context, e-WOM is defined as positive or negative statements shared by current, former, or potential customers regarding products or companies and distributed through online platforms (Hennig-Thurau et al., 2004). Similarly, Huete-Alcocer (2017) defines e-WOM as online reviews or comments that can rapidly spread when the message is sufficiently persuasive, making it one of the most influential forms of communication in the digital environment. Through e-WOM, consumers exchange opinions and experiences with others, which has become a critical determinant of purchase intentions (Rahim et al., 2016). Besides, e-WOM serves as a cost-effective promotional tool for firms to

enhance awareness of their products and services (Strutton et al., 2011). Prior research has further demonstrated that e-WOM significantly influences consumer decisions to purchase eco-friendly products by conveying credible information and shared experiences (Teixeira et al., 2023; Winarno & Indrawati, 2022).

Another widely adopted strategy in social media marketing is influencer marketing. Specifically, influencer marketing refers to a communication strategy in which knowledgeable, reputable, or popular individuals, commonly known as influencers, utilize their credibility and the trust of target consumers to shape perceptions of a brand's products or services (Gajanova et al., 2020). This approach establishes collaborative partnerships between brands and celebrities to enhance visibility, attract new consumers, retain existing ones, and ultimately strengthen purchase intentions (Steils et al., 2022). Many firms have adopted this strategy by engaging celebrities to promote products and services, thereby reinforcing brand-consumer connections (Phua et al., 2018). Influencer marketing operates through social interactions, where celebrity endorsements influence consumers' attention and purchase intentions (Xiang et al., 2016). In this sense, celebrities act as intermediaries between businesses and consumers. Empirical findings by Jalali and Khalid (2021) indicate that celebrity image content and green word of mouth on Instagram significantly influence followers' shopping intentions.

In addition to interpersonal communication mechanisms, brand content also plays a significant role in shaping consumer perceptions of products. In particular, brand content refers to the creation and distribution of valuable content designed to attract consumers and enhance profitability (Teixeira et al., 2023). By selecting appropriate social media platforms, content marketing enables firms to target specific consumer groups and deliver more detailed information, thereby helping consumers develop a better understanding of products. With the growing use of the Internet, both the approaches and platforms for content marketing have become increasingly diverse. Importantly, presenting brand content in an engaging manner online enhances consumer involvement, which is often more effective than traditional advertising (Al-

Gasawneh & Al-Adamat, 2020). Prior research has confirmed that brand content significantly influences consumers' purchase intentions (Dabbous & Barakat, 2020; Wei, 2025).

From the perspective of behavioral theory, attitude represents another key determinant influencing consumers' sustainable purchasing decisions. From a psychological standpoint, attitude represents an individual's evaluative disposition, encompassing thoughts, emotions, and perspectives that guide their judgments of behaviors as favorable or unfavorable (Ajzen, 1985). Within the Theory of Planned Behavior (TPB), attitude has been extensively applied to explain consumers' purchase intentions toward green products, including green cosmetics (Limbu et al., 2022; Teixeira et al., 2023). In contemporary contexts, consumers increasingly demonstrate positive attitudes toward environmentally friendly practices, reflecting a preference for sustainable, eco-friendly products that support both personal well-being and environmental protection. Prior studies have consistently shown that attitude is a key determinant of purchase intention in relation to green products and cosmetics specifically (Limbu et al., 2022; Pop et al., 2020; Teixeira et al., 2023).

Alongside personal attitudes, social influences also shape consumers' behavioral intentions. In this regard, subjective norms are defined as the perceived social pressures that influence individuals' decisions to perform or avoid a particular behavior (Ajzen, 1991; Fishbein & Ajzen, 1975). In purchasing contexts, these norms capture the extent to which consumers' intentions are shaped by the opinions of significant reference groups. For example, negative evaluations from close others may reduce purchase intentions, whereas positive support can enhance them (Kotler & Keller, 2006). Thus, subjective norms reflect the influence of important people in consumers' social circles who can either encourage or discourage sustainable purchasing behaviors. Empirical research has provided evidence of their positive effect on green consumption in general and green cosmetics in particular (Chin et al., 2018; Kim & Chung, 2011; Limbu et al., 2022).

Accordingly, this study aims to investigate how e-WOM, influencer marketing, brand content, attitude, and subjective norms influence young wom-

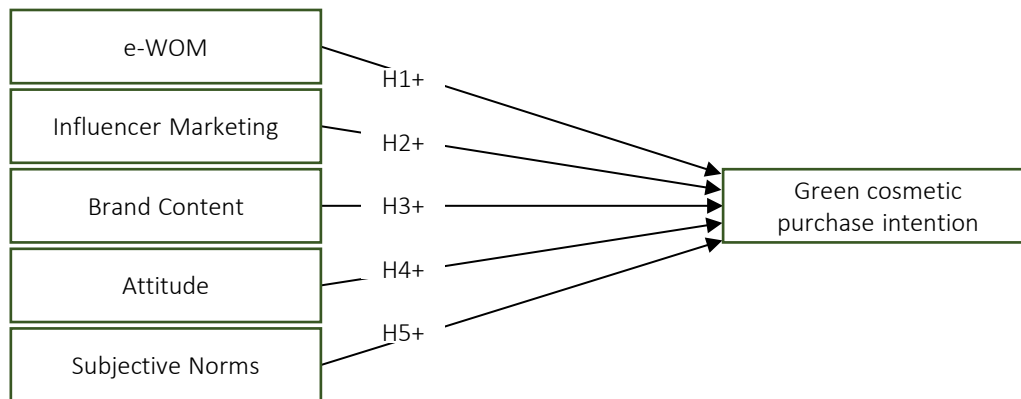


Figure 1. Proposed research model

en’s green cosmetic purchase intention. Based on the integrated framework developed in the literature review, the following hypotheses are proposed:

- H1: e-WOM has a positive impact on young women’s green cosmetic purchase intention.*
- H2: Influencer marketing has a positive impact on young women’s green cosmetic purchase intention.*
- H3: Brand content has a positive impact on young women’s green cosmetic purchase intention.*
- H4: Attitude has a positive impact on young women’s green cosmetic purchase intention.*
- H5: Subjective norms have a positive impact on young women’s green cosmetic purchase intention.*

Accordingly, the proposed conceptual framework is illustrated in Figure 1, which synthesizes insights from prior research and identifies the key determinants of young women’s green cosmetic purchase intentions.

2. METHODOLOGY

To achieve the research objectives, the study was conducted in two stages. The first stage focused on developing measurement scales for constructs within the TPB model and social media marketing strategies influencing young women’s purchase intentions toward green cosmetics. The second stage

involved collecting and analyzing empirical data to test the proposed model.

To ensure both qualitative and quantitative validity, the measurement scale development process was implemented in two phases. In the first phase, measurement items related to green consumption behavior were synthesized from validated scales published in reputable journals such as ScienceDirect and MDPI. To refine the translation from English into Vietnamese and ensure contextual relevance, consumer feedback was incorporated. A pilot survey was conducted with 30 consumers who had previously purchased green cosmetics, and their responses were used to refine the wording of items, particularly marketing-related terms, to enhance clarity and comprehension.

Additionally, in-depth interviews were conducted with five marketing lecturers from a public university in Vietnam. Drawing on their academic expertise and practical insights, the experts evaluated the relationships between electronic marketing strategies and green cosmetic purchase intentions. Following this iterative refinement, the finalized measurement instrument consisted of 19 independent observed variables and 4 dependent observed variables (see Table 1). All items were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), consistent with recommendations by Hair et al. (2006).

After the qualitative refinement, a preliminary quantitative survey was conducted to assess the reliability and validity of the measurement scales. Internal consistency was assessed using

Table 1. Research scale

Factors	Codes	Observation variables	Sources
Electronic Word-of-Mouth (e-WOM) (EW)	EW1	I often share my opinion (comment) on green cosmetic products on social media channels (Facebook/Zalo, etc.).	Gupta and Syed (2022)
	EW2	I want to post about my favourite green cosmetic on social media channels (Facebook, TikTok, etc.)	
	EW3	I want to share information about my favorite green products with my friends.	
	EW4	I really like the content of the green cosmetic posts on social media sites that I view.	
	EW5	Green cosmetic review articles shared by other users meet my expectations.	
Influencer Marketing (IM)	IM1	I believe that green cosmetic products endorsed by celebrities are brands they truly love.	Hameed et al. (2023)
	IM2	I follow green cosmetic brands that celebrities endorse on social media.	
	IM3	The green cosmetic products celebrities use influence my purchasing decisions.	
	IM4	I trust green brands endorsed by celebrities.	
Brand Content (BC)	BC1	I easily search for green cosmetic information on social media platforms.	Teixeira et al. (2023)
	BC2	Green cosmetic brand content is valuable and provides sufficient product information.	
	BC3	Detailed post content about green cosmetic thoroughly explain the usage benefits and purchase methods.	
	BC4	The content of green cosmetic posts on social media influences my intention to purchase green cosmetics.	
Attitude (A)	A1	I like the idea of buying green cosmetics.	Limbu et al. (2022)
	A2	I always prioritize using green cosmetics.	
	A3	I feel proud to buy green cosmetics.	
Subjective Norms (SN)	SN1	Behavioral expectations from my peers (friends, family, other consumers) and influencers influence my green cosmetic purchase intention.	Teixeira et al. (2023)
	SN2	Social pressure from my peers (friends, family, other consumers) and influencers influences my green cosmetic purchase intention.	
	SN3	Social consensus about green cosmetics positively influences my intention to purchase them.	
Purchase Intention (PI)	PI1	I am likely to purchase green cosmetic products.	Pop et al. (2020)
	PI2	I will purchase green cosmetic products as soon as I run out of the cosmetics I am currently using.	
	PI3	I will recommend green cosmetic products to others.	
	PI4	I will promote green cosmetic brands to others.	

Table 2. Cronbach’s Alpha reliability results for the scales

Scales	Observation variables	Cronbach’s Alpha coefficients
Electronic Word-of-Mouth (e-WOM)	EW1, EW2, EW3, EW4, EW5	0.815
Influencer Marketing	IM1, IM2, IM3, IM4	0.729
Brand Content	BC1, BC2, BC3, BC4	0.795
Attitude	A1, A2, A3	0.677
Subjective Norms	SN1, SN2, SN3	0.812

Cronbach’s alpha. As shown in Table 2, Alpha coefficients ranged from 0.677 to 0.815, exceeding the minimum threshold of 0.6, and the corrected item and total correlations were above 0.3. These results indicated that all items demonstrated acceptable reliability for subsequent analyses (Hair et al., 2006).

The questionnaire was then designed based on the finalized scales and organized to ensure the suitability of respondents and the completeness of the collected information. The questionnaire com-

prised three main sections: screening questions to ensure the selection of appropriate respondents, followed by demographic items that collected information on age, occupation, income, and cosmetics purchasing habits. The final section consisted of measurement items corresponding to each research construct. All items were adapted from established scales and measured using a five-point Likert scale.

The empirical investigation was conducted in Vietnam, with a specific focus on young women in Ho Chi Minh City. This study was conducted in

Vietnam, a developing country with growing consumer interest in green cosmetics. The sample focused on young women aged 18 to 35 residing in Ho Chi Minh City, the nation's most populous and economically dynamic urban center, with the highest per-capita income (Tuan et al., 2025). A quota non-probability sampling technique was applied. This method was appropriate because the target population, young female green-cosmetic users, is relatively homogeneous in demographic and behavioral characteristics. It is also widely adopted in consumer behavior research when probability sampling is not feasible and when it is necessary to represent specific demographic subgroups. In addition to practical benefits such as reduced cost and time, quota sampling ensured adequate coverage of the targeted age groups. To prevent invalid responses, screening questions were included to confirm participants' familiarity with green cosmetics.

Data collection and screening procedures were implemented to ensure the quality and appropriateness of the final sample. The overall research was conducted between December 2023 and the end of May 2024, whereas the data collection phase was concentrated within an eight-week period from early February to late March 2024 in Ho Chi Minh

City, a major commercial hub with a high concentration of young female consumers who actively engage with cosmetic brands on digital platforms. 230 questionnaires were obtained using a mixed-mode approach. Specifically, 153 responses were collected online via Zalo, Facebook, and Instagram, targeting students and office workers, while 77 paper-based surveys were administered at popular cosmetic retail chains, including Watsons, Gadian, and Hisaki.

Prior to analysis, a rigorous data screening procedure was conducted to ensure data integrity. All questionnaires were examined for missing values, straight-lining, and inconsistent response patterns. No missing data were identified because the online survey required full completion before submission. Among all respondents, 220 (95.6%) reported awareness or prior use of green cosmetics, whereas 10 (4.4%) indicated no prior exposure; these cases were excluded according to the screening criteria. An additional 20 questionnaires displaying straight-lining behavior, defined as selecting the same response option across all items, were also removed.

After eliminating these 30 invalid cases, a final sample of 200 valid responses was retained for subsequent analyses. Following the data screen-

Table 3. Sample demographic characteristics (N = 200)

Demographic variables	Sample characteristics	Frequency (N)	Proportions
Gender	Female	200	100%
	Male	0	0%
	Total	200	100%
Age	18-25 years old	161	80.5%
	26-30 years old	32	16.0%
	31-35 years old	7	3.5%
	Total	200	100%
Occupation	Student	127	63.5%
	Office workers	51	25.5%
	Self-employed	13	6.5%
	Homemakers	8	4.0%
	Other	1	0.5%
Total	200	100%	
Education level	High school	6	3.0%
	College/university	179	89.5%
	Master's degree	15	7.5%
	Total	200	100%
Income	Below 5 million VND	105	52.5%
	5-10 million VND	59	29.5%
	10-15 million VND	8	4.0%
	15-20 million VND	16	8.0%
	Above 20 million VND	12	6.0%
	Total	200	100%

ing process, the demographic characteristics of the final sample are summarized in Table 3. All participants were female, as the study specifically targeted young women as the primary consumer segment in Vietnam’s green cosmetics market. Most respondents (80.5%) were aged 18-25 years. In terms of occupation, 63.5% were students and 25.5% were office employees. Regarding educational background, 89.5% held at least a college or university degree, and 82% reported a monthly income below 10 million VND. The predominance of respondents aged 18-25 aligns with the study’s purposive sampling strategy. This age cohort has been widely recognized for shaping emerging consumer trends characterized by experiential preferences and rapid access to information (Conlin & Santana, 2022). Therefore, the demographic composition of the sample is consistent with the research focus on young female consumers in the sustainable beauty market. This sample size meets the established methodological recommendations for exploratory factor analysis and multivariate regression analysis (Hair et al., 2006).

Ethical considerations were also addressed throughout the research process. Participation in this study was entirely voluntary. Respondents were informed of the research purpose, their right to withdraw at any time, and the confidential handling of their data. No personally identifiable information was collected, and all responses were used solely for academic purposes. The Faculty Scientific Council and the University Scientific Council reviewed the ethical soundness of the study at two institutional levels. These bodies are responsible for evaluating social science research in terms of methodological rigor and ethical compliance. Accordingly, the study meets the institution’s ethical standards.

3. RESULTS

As shown in Table 2, the Cronbach’s Alpha coefficients indicate that all measurement scales achieved acceptable internal consistency, allowing all observed variables to proceed to Exploratory Factor Analysis (EFA).

To examine the convergent and discriminant validity of the constructs in the proposed research model,

an exploratory factor analysis was performed using principal component extraction with varimax rotation. The Kaiser-Meyer-Olkin (KMO) statistic was 0.699, exceeding the 0.5 threshold, indicating that the data are suitable for factor analysis. Bartlett’s test of sphericity yielded a significance value of 0.000 (< 0.05), confirming significant correlations among the observed variables. Furthermore, factor loadings above 0.5 were retained as acceptable indicators. The summary of EFA results for independent variables is presented in Table 4.

Table 4. EFA results for independent variables

Rotated component matrix					
Codes	Components				
	1	2	3	4	5
EW4	0.814				
EW1	0.813				
EW2	0.801				
EW3	0.744				
EW5	0.664				
BC2		0.864			
BC1		0.757			
BC3		0.678			
BC4		0.676			
IM3			0.812		
IM2			0.606		
IM1			0.732		
IM4			0.568		
SN3				0.849	
SN2				0.847	
SN1				0.758	
A3					0.799
A1					0.742
A2					0.654
KMO coefficients (Kaiser-Meyer-Olkin): 0.699		Eigenvalues: 1.429			
Bartlett’s test: sig. = 0.000		Total extracted variances: 63.338			

The Exploratory Factor Analysis revealed that the 19 initial observed variables were consolidated into five distinct factors: Electronic Word-of-Mouth (e-WOM), Influencer Marketing (IM), Brand Content (BC), Attitude (A), and Subjective Norms (SN). Bartlett’s test indicated a significant intercorrelation among the variables (Sig. = 0.000 < 0.05), and the five retained factors collectively explained 63.338% of the total variance, a level considered acceptable for social science research. All factors exhibited eigenvalues greater than 1.0, with the lowest equaling 1.429, thus satisfying the criterion for factor retention and suggesting that common method bias is unlikely to be a major concern (Podsakoff et al., 2003).

All items loaded strongly on their respective factors, with factor loadings exceeding 0.5, confirming convergent validity. No cross-loading exceeded the 0.3 threshold, supporting discriminant validity. Taken together, the EFA results confirm that the extracted factor structure aligns with the theoretical model and that the measurement scales are suitable for subsequent regression analyses examining young women's purchase intentions toward green cosmetics.

Following the analysis of the independent variables, an Exploratory Factor Analysis was conducted for the dependent construct to confirm its dimensional structure. The EFA conducted on the dependent construct, which included four observed indicators, yielded a Kaiser-Meyer-Olkin (KMO) statistic of 0.731, surpassing the 0.5 benchmark, and Bartlett's test produced a significance value of 0.000 (< 0.05). These outcomes demonstrate that the four variables share sufficient correlations to be represented by a single underlying factor. The analysis extracted one factor with a total explained variance of 60.897%, exceeding the 50% threshold and indicating that the factor accounts for a substantial proportion of the data variability. All items reported factor loadings above 0.5, thereby supporting the measurement's statistical robustness, as summarized in Table 5.

Table 5. Exploratory Factor Analysis (EFA) results for dependent variables

Rotated component matrix	
Codes	Component
	1
PI3	0.852
PI4	0.836
PI1	0.788
PI2	0.664
KMO coefficients (Kaiser-Meyer-Olkin): 0.731	Eigenvalues: 2.436
Bartlett's test: sig. =0.000	Total extracted variances: 60.897

After confirming the measurement scales' validity through EFA, regression analysis was conducted to examine the relationships among the constructs in the proposed research model. The regression model produced an R^2 of 0.521 and an adjusted R^2 of 0.509, indicating that the independent predictors explain approximately 50.9% of the variance in young women's intentions to purchase green cosmetics. Based on the R^2 values, the

F-test yielded a p-value of 0.000, confirming that the model provides a good fit to the dataset. This result further implies, at the 99% confidence level, that at least one independent variable is linearly associated with the dependent construct. The detailed regression results are presented in Table 6.

Table 6. Test results of the model's explanatory power and the autocorrelation phenomenon

Model	R	R^2	Adjusted R^2	Standard error of the estimate	Durbin-Watson
1	0.722 ^a	0.521	0.509	0.414	1.584

Before interpreting the regression results, several essential diagnostic checks were conducted to ensure that the model met the key statistical assumptions. The Durbin-Watson statistic was 1.584, which falls within the commonly accepted range of 1.5 to 2.5, indicating no serious autocorrelation. All Variance Inflation Factor (VIF) values were below 10, suggesting that multicollinearity was not a major concern. Standardized residual plots generated by SPSS were visually examined. Although these plots do not constitute formal statistical tests, no noticeable patterns or funnel-shaped distributions were observed, suggesting that the assumptions of linearity and homoscedasticity were met. Additionally, the Normal P-P Plot showed that the residuals clustered closely along the diagonal, indicating an approximately normal distribution. Collectively, these diagnostic checks support the appropriateness of the regression model for subsequent interpretation.

The regression results indicate that the predictors representing Electronic Word-of-Mouth (EW), Influencer Marketing (IM), Brand Content (BC), and Subjective Norms (SN) were all statistically significant (p-values < 0.05). By contrast, the Attitude (A) variable yielded a significance level of 0.153 (> 0.05), suggesting that it does not exert a meaningful effect on the dependent construct. Consequently, hypotheses $H1$, $H2$, $H3$, and $H5$ are supported, whereas $H4$ is not confirmed. Additionally, the Variance Inflation Factor (VIF) values, ranging from 1.079 to 1.294, remain well below the threshold of 10, indicating no multicollinearity among the independent variables. The detailed results of the multivariate regression analysis are reported in Table 7.

Table 7. Results of multivariate linear regression analysis

Model	Unstandardized coefficient		Standardized coefficient	t	Sig.	VIF
	B	Std. error	Beta			
Constant	0.173	0.283		0.612	0.541	
Electronic Word-of-Mouth (EW)	0.090	0.036	0.130	2.523	0.012	1.079
Influencer Marketing (IM)	0.170	0.050	0.179	3.359	0.001	1.147
Brand Content (BC)	0.416	0.059	0.398	7.046	0.000	1.294
Attitude (A)	0.070	0.049	0.078	1.436	0.153	1.190
Subjective Norms (SN)	0.231	0.047	0.273	4.934	0.000	1.244

Among the independent variables, Brand Content (BC) showed the strongest influence on green cosmetic purchase intention, as indicated by the highest standardized beta coefficient. Subjective Norms (SN) also exerted a statistically significant and relatively strong effect. Electronic Word-of-Mouth (e-WOM) and Influencer Marketing (IM) demonstrated positive and significant effects, though with smaller coefficients than BC and SN. In contrast, Attitude (A) did not exhibit a statistically significant effect on purchase intention.

4. DISCUSSION

Overall, the findings provide important insights into the determinants of young women’s purchase intentions toward green cosmetics, illustrating how social media marketing strategies interact with core TPB constructs to shape consumer decision-making.

Among the examined predictors, brand content was found to be the most influential factor in determining the intention to purchase green cosmetics. This outcome is consistent with the current consumption patterns of young women, who increasingly rely on e-commerce platforms and social media when purchasing cosmetics. They tend to value brand-generated information that is clearly structured and easily comparable, thereby facilitating their decision-making and shaping purchase intentions. These findings align with Teixeira et al. (2023) who identified a strong positive impact of brand content on green cosmetic purchase intentions in the Portuguese context. Moreover, brand content has been shown to enhance consumers’ environmental awareness, further supporting sustainable consumption choices (Liobikienė & Bernatoniene, 2017).

Subjective norms emerged as the second most influential determinant of young women’s intention to purchase green cosmetics. Respondents indicated that they often rely on advice or opinions from their close social circle, including family, friends, and relatives, when making purchasing decisions. The increasing societal emphasis on eco-friendly lifestyles as a means of protecting the environment further reinforces this behavioral tendency. This finding is consistent with the Theory of Planned Behavior (Ajzen, 1991) and the Theory of Reasoned Action (Fishbein & Ajzen, 1975), both of which emphasize the critical role of social expectations in shaping individual intentions. The positive association between subjective norms and green cosmetic purchase intention also aligns with Limbu et al. (2022). Nevertheless, contrary evidence has been documented by Tarkiainen and Sundqvist (2005) and Yazdanpanah and Forouzani (2015) who reported that subjective norms did not significantly affect consumers’ intentions to purchase organic products. This divergence underscores the need for further research that considers contextual and cultural differences when examining the role of subjective norms in sustainable consumption.

Influencer marketing had a relatively weaker impact than the previously discussed factors. This outcome is consistent with Hameed et al. (2023) and Yusiana et al. (2023) who reported a positive relationship between influencer marketing and consumers’ purchase intentions toward green cosmetics. However, prior research has emphasized that the effectiveness of influencer-driven campaigns depends greatly on selecting appropriate endorsers. Without careful consideration, such strategies may backfire. For instance, Teixeira et al. (2023), in a study conducted in Portugal, found that influencer marketing did not significantly affect green cosmetic purchase intentions. They

noted that influencers lacking sufficient expertise may disseminate inaccurate or superficial information, thereby undermining brand credibility.

The Electronic Word-of-Mouth (e-WOM) factor exerted a positive, yet relatively modest, influence on young women's purchase intentions for green cosmetics. This finding is consistent with contemporary consumer behavior, as online communities and social media platforms serve as primary information channels for Generation Z when evaluating skincare products. These consumers actively seek product-related insights and place considerable emphasis on peer-shared experiences (Le & Ngoc, 2024). Favorable online reviews, in particular, strengthen their confidence and willingness to purchase cosmetics via social media. This result aligns with prior studies, including Zahid et al. (2018) and Teixeira et al. (2023).

Attitude did not emerge as a significant predictor of purchase intention. One possible explana-

tion lies in the demographic composition of the sample, as more than 80% of respondents belong to Generation Z, a cohort often associated with individualized approaches to learning, communication, and interaction (Chicca & Shellenbarger, 2018). This finding also supports the findings of Concari et al. (2020) who observed that positive attitudes toward environmental issues do not necessarily translate into actual purchasing behaviors.

Overall, the findings contribute to theory by extending the TPB framework, demonstrating that social media marketing variables, particularly brand content, exert a stronger influence on purchase intentions than attitudinal evaluations among Generation Z and Millennial consumers. Taken together, these insights clarify how marketing-related and psychosocial factors jointly shape purchase decisions in the green cosmetics market, thereby enhancing understanding of the behavioral mechanisms that underpin sustainable consumption among young consumers.

CONCLUSION

This study aimed to examine the combined effects of social media marketing strategies and the core constructs of the Theory of Planned Behavior on young women's intention to purchase green cosmetics in Vietnam. The findings indicate that marketing-related factors and subjective norms significantly influence purchase intention, whereas attitude does not have a significant effect. Overall, these results suggest that effective and integrated communication efforts play a crucial role in promoting sustainable consumption behavior, while also offering insights into how marketing-related and psychosocial factors jointly shape young women's intention to purchase green cosmetics in emerging markets.

Brand content is identified as a key driver of purchase intention, particularly among young women, underscoring the importance of transparent, comprehensive information to enhance consumer confidence and facilitate decision-making. Providing clear product information across digital platforms, maintaining continuous social media engagement, improving search visibility, and communicating sustainability-related initiatives contribute to stronger brand recognition and positive consumer perceptions. Subjective norms also play a significant role, indicating that social approval and recommendations from close referents remain critical in shaping purchase intentions. Encouraging experience sharing, referral-based promotions, strengthening consumers' self-confidence in their knowledge of green cosmetics, and demonstrating corporate commitment to sustainability can further reinforce this effect. Influencer marketing is another important determinant, reflecting the persuasive power of credible, relevant influencers on young women's purchasing decisions. Selecting influencers whose expertise, credibility, and communication channels align with the target audience can enhance brand trust and increase acceptance of influencer recommendations. Besides, Electronic Word-of-Mouth (e-WOM) significantly influences purchase intention for green cosmetics. This finding implies that fostering authentic interactions, actively monitoring and managing online reviews to improve product quality, diversifying communication channels to

mitigate the impact of unfavorable information, and collaborating with loyal customers who possess strong social media influence may contribute to strengthening positive e-WOM. Highlighting favorable feedback and encouraging repeat purchases through promotional incentives may further stimulate positive evaluations of the brand.

From a theoretical standpoint, the findings extend the TPB framework by demonstrating that marketing-related stimuli, particularly brand content, exert a more substantial influence on purchase intentions than attitudinal evaluations, which did not show a significant effect in this study. Collectively, these insights clarify how marketing-related and psychosocial factors jointly shape purchase decisions in the green cosmetics market, thereby deepening understanding of the behavioral mechanisms that underpin sustainable consumption among young consumers. These contributions also provide a useful foundation for future research exploring the evolving dynamics of sustainable consumer behavior in emerging markets. However, the study is subject to limitations, including a modest sample size, non-probability sampling, exclusive focus on young women, and reliance on self-administered quantitative data, which may limit generalizability and depth of insight. Future research may address these limitations by expanding sample diversity, employing alternative sampling techniques, incorporating qualitative methods, and including male consumers to enhance the applicability of findings.

AUTHOR CONTRIBUTIONS

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