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Determinants of organic cosmetic use in Ho Chi Minh City: A sustainability perspective

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ABSTRACT

From the standpoint of sustainable consumption, this study examines the key factors influencing consumers' decisions to use organic cosmetics in Ho Chi Minh City. Data from a survey of 380 consumers were analysed using reliability analysis, exploratory factor analysis, and multiple regression. The findings indicate that five factors–environmental awareness, perception of product price, product quality (PQ), convenience in use, and social norms–significantly impact consumer decisions. These results suggest that, beyond product attributes, consumers are also driven by sustainable values and societal influences. Managerial implications include the need for businesses to highlight environmental benefits, ensure consistent PQ, and adopt pricing and communication strategies aligned with consumers' green values. This study enhances understanding of green consumer behaviour in emerging markets and offers practical recommendations for promoting sustainable consumption in the cosmetics sector.

Keywords: influencing factors, organic cosmetics, usage decision, consumer behavior, Ho Chi Minh City, sustainable consumption, sustainable consumer choice

INTRODUCTION

In recent years, the organic cosmetics sector has expanded rapidly worldwide, notably in Southeast Asia. According to Euromonitor International (2023), the organic cosmetics markets in Thailand, Singapore, and Indonesia are witnessing significant growth, primarily attributed to consumers' increasing attention to personal well-being and ecological sustainability. Organic cosmetic products are well-known for their safety, natural components, and capacity to reduce negative environmental impacts (Euromonitor International, 2023).

The demand for organic cosmetics has grown in Vietnam, particularly among younger generations and urban consumers. According to the VietBeauty Report (2022), around 35% of consumers in large cities such as Hanoi and Ho Chi Minh City prefer beauty products that are naturally derived and sustainable. Furthermore, the growth of indigenous organic cosmetic companies has boosted consumer acceptance in Vietnam (VietBeauty Report, 2022).

Health and environmental concerns have substantially impacted consumer behaviour recently, particularly in major cities such as Hanoi and Ho Chi Minh City. Growing awareness of environmental pollution and the detrimental consequences of synthetic chemicals in consumer products, including cosmetics, has prompted many people to seek natural, health-safe, and eco-friendly alternatives. As a result, organic cosmetics have grown increasingly fashionable. The organic cosmetics business has expanded dramatically in recent years, particularly in Ho Chi Minh City, the country's economic, cultural, and social core. According to a survey by Saigon Consumer Insights (2023), more than 40% of local consumers have recently prioritised organic cosmetics, demonstrating increased concern for personal health and environmental sustainability.

In addition to market reports, several academic studies have investigated factors influencing organic cosmetic consumption. For instance, Nguyen and Le (2021) analysed the effects of environmental concern and perceived product quality (PQ) on consumers' purchase intention of organic cosmetics in Hanoi. Similarly, Sari et al. (2020) explored Indonesian consumers' willingness to buy green cosmetics, focusing on social influence and eco-labelling. However, most existing studies examine a limited number of factors in isolation or focus on different geographical settings. There is still a lack of research that comprehensively examines multiple determinants of organic cosmetic usage in Ho Chi Minh City–a rapidly growing and demographically diverse urban centre. This gap highlights the need for a more holistic and context-specific approach, which this study aims to address.

Beyond quality, perceptions of price, convenience, or social influences, today's consumers are increasingly concerned with their responsibility in protecting the environment and public health. This indicates that sustainable consumption is becoming a critical foundation in modern consumer behaviour, especially in major urban centres like Ho Chi Minh City. Identifying the factors influencing the decision to use organic cosmetics (DU) is academically meaningful and practically valuable for businesses and policymakers in formulating effective market development strategies.

The objective of this study is to identify and measure the degree of influence of the following factors: environmental awareness (EA), perception of product price (PP), PQ, convenience in use (CU), and social norms (SN), on consumers' decisions to use organic cosmetics in Ho Chi Minh City. The findings are expected to contribute to the theoretical foundation of sustainable consumer behaviour and offer practical implications for businesses and managers in designing marketing strategies, communication efforts, and product development aligned with modern consumer expectations.

The novelty of this study lies in the integration and simultaneous assessment of all five factors in a unified research model. While previous studies mainly focused on individual factors or applied research to other countries in the region, this study is explicitly conducted in Ho Chi Minh City–a market with distinct economic, social, and consumer behaviour characteristics (Euromonitor International, 2023; Saigon Consumer Insights, 2023; VietBeauty Report, 2022). As such, the research provides a more accurate reflection of consumer decisions regarding organic cosmetics in Ho Chi Minh City and offers tailored recommendations for sustainably developing the organic cosmetics market, in line with domestic conditions.

LITERATURE REVIEW

Organic Cosmetics

Organic cosmetics have attracted increased global interest in recent years, owing to expanding consumer awareness of health, environmental sustainability, and ethical consumption. The notion of organic cosmetics is based on worldwide standards for ingredient sourcing, manufacturing techniques, and environmental impact. According to COSMOS-Standard AISBL (2020), a leading European certifying agency for organic cosmetics, a product is organic if it contains ingredients obtained from organic farming and meets stringent processing and environmental standards. At least 95% of plant-based ingredients must be certified organic, and the entire manufacturing process must be free of genetically modified organisms (GMOs), hazardous synthetic compounds, and ionising radiation (COSMOS-Standard AISBL, 2020). The department of agriculture (USDA) applies comparable stringent criteria to products branded as "organic" in the United States. Under the national organic program, a cosmetic product must contain at least 95% certified organic ingredients. It must not involve using synthetic additives during production to obtain USDA organic certification (U.S. Food & Drug Administration, 2023).

The International Federation of Organic Agriculture Movements (IFOAM) describes organic cosmetics as goods made from certified organic raw materials free of GMOs, synthetic chemicals, and ionising radiation. These items must be healthy for humans and environmentally beneficial (IFOAM–Organics International, 2022). Aside from their utilitarian purpose as beauty enhancers, organic cosmetics represent a lifestyle choice that prioritises health, environmental stewardship, and social responsibility. Their adoption reflects a broader movement in consumer behaviour toward values-based consumption, in which ethical and sustainable factors increasingly influence purchasing decisions. Organic cosmetics are not merely a beauty choice but also reflect an ethical lifestyle and responsible consumption. The shift toward organic cosmetics represents a broader trend of sustainable consumption, in which consumers increasingly prioritise values related to health, the environment, and social responsibility (Limbu & Ahamed, 2023; Nguyen & Pham, 2022).

Decision-Making

In behavioural science and management, decision-making is choosing a course of action from a set of possibilities to attain a given goal. Robbins and Coulter (2016) define decision-making as "a deliberate choice among alternatives to address a problem or capitalise on an opportunity". This process usually consists of multiple parts, including problem identification, information collection, alternative evaluation, and the best course of action selection.

According to Schiffman and Wisenblit (2019), purchase decisions are part of a larger consumer decision-making process that involves need recognition, information search, alternative evaluation, purchase, and post-purchase evaluation. A consumer's purchasing decision is influenced by various elements, including individual qualities, psychological influences, cultural and social circumstances, and product or brand attributes. In sustainable consumption, decision-making goes beyond functional and economic factors to include the consumer's ethical beliefs and understanding of social and environmental consequences (Young et al., 2010). The purchase decision, particularly for organic cosmetics, reflects personal preference and broader convictions about sustainability and social responsibility. More recently, studies such as that by Limbu and Ahamed (2023) have highlighted that ethical concerns and environmental impact awareness play a crucial role in green and organic cosmetic purchasing behaviour. Therefore, consumption decisions–particularly regarding products like organic cosmetics- carry personal implications and significant social and environmental meanings.

Consumer Behavior

Consumer behaviour studies the processes and activities involved when individuals or groups select, purchase, use, and dispose of products, services, ideas, or experiences to satisfy their needs and desires. It encompasses psychological, social, cultural, and emotional factors that shape consumers' decision-making and consumption patterns. Understanding consumer behaviour enables marketers and researchers to identify key motivations, preferences, and external influences

that drive purchasing choices, thereby allowing the development of effective marketing strategies that address consumer demands and enhance customer engagement and loyalty (Lim et al., 2023; Schiffman & Kanuk, 2010; Solomon, 2017).

Sustainable Consumption

The United Nations Environment Program (2010) defines sustainable consumption as the use of goods and services in ways that meet basic needs and improve quality of life while minimizing the use of natural resources, toxic substances, and pollutant emissions throughout the product life cycle-thereby ensuring that future generations' needs are not jeopardized (United Nations Environment Program, 2010, p. 3).

Similarly, Vietnam's Ministry of Industry and Trade (2021) defines sustainable consumption as selecting and using products and services that meet basic needs and improve living standards while minimizing negative environmental and societal repercussions. Individuals demonstrate sustainable consumption through ethical shopping behaviour, including preferences for environmentally friendly products, those with natural or recyclable ingredients, non-toxic compounds, and items not tested on animals (Sharma & Jha, 2017). This perspective has spurred the growing demand for organic goods in the cosmetics business, which are typically created using environmentally responsible procedures such as restricted chemical use and low environmental impact. In the cosmetics industry, sustainable consumption contributes to the growing shift toward organic cosmetics, as these products are typically made from natural ingredients, follow safe production processes, use fewer synthetic chemicals, and minimize ecological harm (Lim et al., 2022; Nguyen & Pham, 2022).

Theory of Planned Behavior

This study uses Ajzen's (1991) theory of planned behavior (TPB) as a theoretical foundation to comprehend the elements influencing consumers' decisions to use organic cosmetics. TPB is a widely used framework for analyzing human behaviour in various settings, especially ethical consumption, environmental consciousness, and health. According to TPB, three primary factors–attitude toward the conduct, subjective norms, and perceived behavioural control–determine an individual's behavioural purpose. Each element sheds light on various aspects of decision-making and can be operationalized using particular concepts related to organic cosmetics.

RESEARCH HYPOTHESES AND MODELS

Research Hypothesis

Environmental awareness

EA is defined as the recognition of ecological challenges and the adoption of actions that reduce adverse effects on the natural environment, such as utilising eco-friendly products, recycling waste, and participating in environmental preservation projects (Albayrak et al., 2013; Ninh et al., 2016). Consumers today are more prepared to pay a premium for ecologically friendly products, especially those organically certified or created from recycled materials. This transition is motivated by a desire to protect personal health and a feeling of social and environmental stewardship. Empirical research undertaken in Australia, Taiwan, China, and India has revealed the increased popularity of green product options among modern customers. The inclination for environmentally responsible items extends beyond food to cosmetics, household goods, and low-impact services (Gifford, 2011; Lee, 2008). Explicit and conscious awareness of environmental issues has emerged as a key factor influencing sustainable consumption behaviours worldwide. Environmental concern reflects consumers' increasing ecological literacy and serves as a catalyst for behavioural change toward the adoption of environmentally responsible products and services.

Consumers with higher EA are likelier to engage in sustainable consumption behaviours, including organic cosmetics. This awareness contributes to a positive attitude toward eco-friendly and health-conscious products (Ajzen, 1991). Recent studies, such as that by Limbu and Ahamed (2023), further confirm that EA plays a pivotal role in shaping green product choices and organic cosmetics consumption. As environmental issues become more urgent, consumer awareness emerges as a key driver of behavioural change toward more sustainable, ethical, and environmentally friendly consumption.

Hypothesis H1. EA has a positive impact on the DU.

Perception of product price

Kotler et al. (2015) define price as the amount of money consumers must spend to obtain a product or service. In the cosmetics industry, price is not merely a financial consideration; it is also considered by customers as an indicator of PQ (Meghna, 2019). According to Hermann et al. (2007), pricing has a direct impact not only on purchasing decisions but also on consumer satisfaction after the purchase. Similarly, Lee et al. (2010) found a substantial link between perceived price and consumer behaviour. According to Cadogan and Foster (2000), while price is frequently a main decision for most consumers, devoted customers are more likely to accept higher prices when the product is connected with a trusted brand. Keller (2013) adds that buyers regularly evaluate prices between replacement products before making a purchasing decision, and brand trust can encourage them to perceive higher prices as justifiable, reflecting the product's projected value. Keller (2013) further notes that consumers frequently compare prices among substitute products before making a purchase decision, and brand trust can lead them to perceive higher prices as justified, reflecting the expected value of the product. Complementing this view, Keller (2013) suggests that consumers often compare prices among alternative products before deciding, and brand trust can lead them to perceive a higher price as reasonable, reflecting the value they expect from the product. More recently, the study by Chen et al. (2024) found that presenting a "green premium" price can enhance consumer perceptions of corporate effort and their sense of responsibility, thereby promoting the choice of green products. While organic products are often priced higher than conventional ones, perceived affordability plays a role in consumers' behavioural control. If consumers view the price as reasonable or justifiable, their intention to purchase may increase (Ajzen, 1991).

Hypothesis H2. PP has a positive influence on the DU.

Product quality

PQ, particularly in the case of organic cosmetics, is seen as an important influencer of consumer behaviour. According to Hassan et al. (2020), when consumers have confidence in a product's quality, they are more likely to pick organic items over conventional ones. Wang and Zhang's (2021) study in China found that perceived quality has a substantial impact on purchasing decisions and behavior, as many consumers are willing to pay a premium for products that ensure safety and effectiveness. Similarly, Pham and Ngo (2023) state that customers prioritise product efficacy and skin safety when choosing organic cosmetics. These findings indicate that PQ directly impacts buying decisions and is a foundational aspect in promoting sustainable consumption behaviours. More recently, Joshi et al. (2000) highlighted that perceived PQ is the most influential factor driving purchase intentions for green cosmetics, surpassing even price and brand considerations. These findings indicate that PQ directly impacts purchase decisions and serves as a fundamental basis for shaping and maintaining sustainable consumption habits. High PQ enhances consumer satisfaction and trust, especially when it aligns with natural, non-toxic, and effective attributes–key characteristics of organic cosmetics. This reinforces favourable attitudes toward such products (Ajzen, 1991).

Hypothesis H3. PQ has a positive influence on the DU.

Convenience in use

In consumer behaviour, particularly with niche products such as organic cosmetics, ease of use is critical in determining purchasing decisions. Convenience is defined as the degree to which customers believe that accessing, utilizing, and maintaining a product needs little effort or inconvenience (Davis, 1989). When consumers find organic cosmetics easy to purchase, simple to apply, easy to store, and suitable for their daily routines, they are more likely to accept and use them consistently. Amamilah et al. (2024) define convenience as the consumer's notion that a product may streamline personal care activities without adding time or effort. Convenience is becoming an increasingly important aspect in purchasing organic cosmetics in modern metropolitan contexts like Ho Chi Minh City, where customers frequently have hectic schedules and seek to optimize everyday activities. Convenience reflects ease of use, product availability, and accessibility. When consumers perceive organic cosmetics as convenient to use and purchase, their perceived behavioural control is strengthened, thus increasing purchase intention (Ajzen, 1991). More recently, a study conducted in Can Tho City by Nguyen et al. (2024) reaffirmed that convenience, especially regarding product accessibility and ease of use, is one of the key determinants of purchase intention for organic cosmetics. In modern urban settings such as Ho Chi Minh City, where consumers often lead busy lives and seek to optimize their daily activities, the convenience factor becomes even more critical in purchasing organic cosmetics.

Hypothesis H4. Convenience in use has a positive influence on the DU.

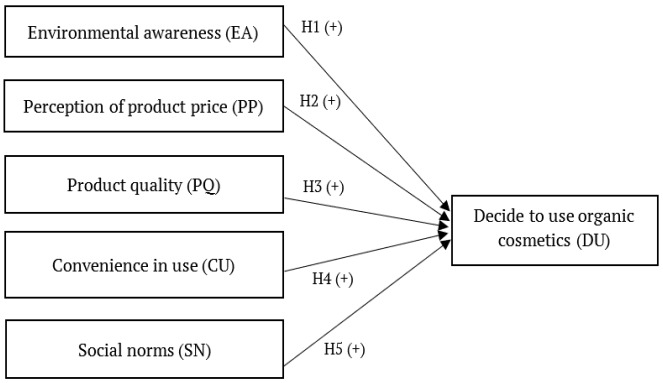

Figure 1. Research model (Source: Author's own elaboration)

Social norms

In the context of organic cosmetic consumption, SN–also called subjective norms–are considered a crucial factor influencing consumers' intentions and behaviours. When individuals perceive that organic cosmetics are encouraged or valued by family, friends, or the wider community, they tend to adjust their behaviour to align with social expectations. Saleem and Recker (2014) argue that prior positive experiences with organic personal care products, combined with encouragement from one's social network, serve as significant predictors of purchase intention. Supporting this perspective, Mutiara et al. (2023) emphasise that the influence of social groups and community norms directly impacts consumers' decisions to choose organic cosmetics, reflecting both a tendency toward social conformity and a concern for self-image within the community.

More recently, Park et al. (2023) affirmed that SN mediate between individual perception and green consumption behaviour, particularly for health and environmental sustainability products, such as organic cosmetics. Social influences–including recommendations from friends, family, or influencers–shape perceived social pressure. In the context of urban consumers, particularly in Ho Chi Minh City, SN significantly affect lifestyle-related choices (Ajzen, 1991).

These factors reflect the importance of social conformity and reinforce the perception of personal responsibility for health and the environment. In the context of Ho Chi Minh City–where social relationships play a central role in urban life–SN are expected to be one of the key determinants influencing consumers' decisions to use organic cosmetics.

Hypothesis H5. SN have a positive influence on the DU.

Research Model

Based on the literature review, the aforementioned theoretical foundations, and the specific characteristics of organic cosmetics consumption in sustainable consumption, the author proposes a research model that includes five key factors influencing consumers' decisions to use organic cosmetics in Ho Chi Minh City (**Figure 1**).

RESEARCH METHODOLOGY

This study employed qualitative and quantitative research methods to develop and validate the proposed research model.

Qualitative Research Methods

Before conducting the quantitative survey, a qualitative phase was implemented, including in-depth interviews and focus group discussions with 25 experts, such as CEOs and marketing managers from cosmetic companies operating in various Ho Chi Minh City districts. The primary objective was to explore factors influencing consumers' decisions to use organic cosmetics, thereby helping to refine and localise the measurement scales used in the proposed research model.

In addition, a pilot test was conducted with six preliminary surveys delivered to consumers in Ho Chi Minh City. This pilot study evaluated the questionnaire items regarding clarity, logical consistency, and relevance to the Vietnamese context. Based on the feedback, the questionnaire was revised to ensure alignment with the study's objectives.

Quantitative Research Methods

After finalising the questionnaire, a formal quantitative survey was carried out, collecting data from 415 Ho Chi Minh City consumers who had experience using organic cosmetics. After screening for incomplete or invalid responses, 380 valid questionnaires were retained for analysis. Participants were selected based on the following criteria:

(1) aged 18 or older,

(2) currently residing in Ho Chi Minh City, and

(3) having experience using or purchasing organic cosmetics within the past 12 months.

A non-probability convenience sampling technique was employed for data collection.

Development of Measurement Scales

Six constructs were included in the measuring model, which was modified from earlier research and improved based on qualitative findings:

- Awareness of the environment (4 things)
- Product price perception (5 items)
- Quality of product (4 things)
- Beneficial convenience (3 things)
- Norms in society (4 items)
- Choosing to use four organic cosmetics

A five-point Likert scale, with 1 denoting "completely unreasonable" and 5 denoting "completely reasonable," was used to score each item. Cronbach's alpha (CA) was used for reliability analysis, and all scales scored higher than 0.7. All of the items' corrected item-total correlations were greater than 0.5, suggesting strong internal consistency and appropriateness for additional factor analysis.

Data Analysis Procedures

SPSS software was used to code and analyse the gathered data. The following steps were part of the analysis process:

- CA: to evaluate the measuring scales' dependability.
- The purpose of exploratory factor analysis (EFA) is to assess concept validity and minimise the dimensionality of data.
- To determine the associations between variables, use Pearson correlation analysis.
- Multiple linear regression analysis is used to investigate the influence of independent variables on the choice to use organic cosmetics.
- Mean value analysis and descriptive statistics compile important constructions and demographic data.

According to Hair et al. (2006), a minimum of five observations per item is recommended for EFA. With 24 observed variables, a minimum of 120 respondents was required (5 × 24). To ensure statistical robustness, data were collected from 415 respondents, with 380 valid responses used in the analysis.

Table 1. Survey sample characteristics (N = 380)

Details	Categories	Frequency (n)	Percentage (%)
Gender	Male	102	26.84
	Female	278	73.16
Age	18-30 years	125	32.89
	Over 30-40 years	135	35.53
	Over 40 years	120	31.58
Occupation	Student	30	7.89
	Office staff	130	34.21
	Self-employed	115	30.26
	Homemaker	65	17.10
	Others	40	10.53
Income (million VND)	Below 10	35	9.21
	10-20	75	19.74
	20-30	82	21.58
	30-40	93	24.47
	Above 40	95	25.00

RESEARCH RESULTS

Descriptive Statistics of the Survey Sample

The study collected data from 415 Ho Chi Minh City consumers who have used organic cosmetics. After screening, 380 valid responses were retained, with the general demographic information summarised as follows: **Table 1** shows the demographic profile of 380 valid survey respondents from Ho Chi Minh City who have used or are now using organic cosmetics. The sample includes 102 males (26.84%) and 278 females (73.16%). In terms of age distribution, 125 respondents (32.89%) are between the ages of 18 and 30; 135 respondents (35.53%) are between the ages of 31 and 40; and 120 respondents (31.58%) are older than 40. In terms of occupation, 30 people (7.89%) are students, 130 (34.21%) are office workers, 115 (30.26%) are self-employed, 65 (17.10%) are homemakers, and 40 people (10.53%) belong to other occupational groups. In terms of monthly income, 35 respondents (9.21%) earn less than ten million VND, 75 (19.74%) earn between ten and twenty million VND, 82 (21.58%) make between twenty and thirty million VND, 93 (24.47%) earn between thirty and forty million VND, and 95 (25.00%) earn more than forty million VND.

Table 2. Results of reliability assessment

Variables	Number of observed variables	CA	Minimum item-total correlation
Environmental awareness (EA)	4	0.917	.706
Perception of product price (PP)	5	0.866	.652
Product quality (PQ)	4	0.845	.689
Convenience in use (CU)	3	0.737	.573
Social norms (SN)	4	0.837	.672
Decide to use organic cosmetics (DU)	4	0.811	.679

Table 3. Results of EFA

	Factor	KMO	Significance	Total variance explained	Factor loading
Independent variables	Environmental awareness (EA)	0.825	0.000	70.226%	0.750-0.912
	Perception of product price (PP)				0.767-0.878
	Product quality (PQ)				0.752-0.890
	Convenience in use (CU)				0.789-0.843
	Social norms (SN)				0.746-0.851
Dependent variable	Decide to use organic cosmetics (DU)	0.812	0.000	63.852%	0.790-0.817

Table 4. Pearson correlation between independent and dependent variables

Correlations		EA	FP	PQ	CU	SN	DU
EA	Pearson correlation	1	.365**	.290**	.225**	.310**	.635**
	Significance (2-tailed)		.000	.000	.001	.000	.000
PP	Pearson correlation	.365**	1	.245**	.275**	.330**	.610**
	Significance (2-tailed)	.000		.000	.000	.000	.000
PQ	Pearson correlation	.290**	.245**	1	.305**	.345**	.580**
	Significance (2-tailed)	.000	.000		.000	.000	.000
CU	Pearson correlation	.225**	.275**	.305**	1	.260**	.495**
	Significance (2-tailed)	.001	.000	.000		.000	.000
SN	Pearson correlation	.310**	.330**	.345**	.260**	1	.600**
	Significance (2-tailed)	.000	.000	.000	.000		.000
DU	Pearson correlation	.635**	.610**	.580**	.495**	.600**	1
	Significance (2-tailed)	.000	.000	.000	.000	.000	

Note. *Correlation is significant at the 0.05 level (2-tailed); **Correlation is significant at the 0.01 level (2-tailed); & Listwise N = 380

Reliability Analysis Results of Measurement Scales

CA test findings for all observable variables showed coefficients of ⩾ 0.7, indicating acceptable overall reliability. Furthermore, the item-total correlation coefficients were greater than 0.3, indicating that no observable variables needed to be deleted. These findings show that all measurement scales and observed variables satisfied the required reliability criteria and were considered appropriate for further study (**Table 2**).

The findings of the EFA, reported in **Table 3**, demonstrate that all factors match the technical requirements for EFA. The factor loadings are all ⩾ 0.5, the Kaiser-Meyer-Olkin values for all factors vary between 0.5 and 1; Bartlett's test produces a significance level of 0.000, which is less than 0.05; and the total variance explained is more than 50%. Based on these findings, the author thinks the model has adequate explanatory power to proceed with further investigations.

Results of Pearson Correlation Analysis

The Pearson correlation test results in **Table 4** show that all independent variables, including EA, PP, PQ, CU, and SN, have positive and statistically significant correlations with the dependent variable, DU.

Table 4 shows correlation coefficients ranging from 0.495 to 0.635, indicating a moderate to significant link between the variables. Furthermore, all significance (2-tailed) values are less than 0.01, indicating that the correlations are statistically significant.

As a result, all five independent criteria influence customers' decisions to use organic cosmetics. This gives a solid foundation for moving forward with regression analysis to determine the particular impact degree of each element.

Results of Linear Regression Analysis

Table 5 shows the regression analysis results used to assess the extent to which each element in the model influences the dependent variable, which is the customers' DU in Ho Chi Minh City.

The regression results show that all five independent variables–EA, PP, PQ, CU, and SN–have a positive and statistically significant impact on the DU. This is supported by positive standardised Beta coefficients and significance levels (significance) of less than 0.001. These data indicate a significant association between the model's variables and the dependent variable. The tolerance values for all variables exceed 0.1, and the variance inflation factor (VIF) values are less than 2.1, indicating no significant multicollinearity issues among the independent variables. This demonstrates that the regression model is stable and reliable. Thus, the regression model developed is adequate and efficiently explains customers' decisions to use organic cosmetics.

The standard regression equation has the following form:

Table 5. Results of multivariate regression analysis

Model		Unstandardized coefficients		Standardized coefficient	t	Significance	Collinearity statistics	
		Beta	Standard error	Beta			Tolerance	VIF
1	(Constant)	-0.874	0.254	–	-7.791	0.000	–	–
	EA	0.210	0.023	0.198	6.930	0.000	0.552	1.812
	PP	0.185	0.027	0.245	6.852	0.000	0.496	2.016
	PQ	0.198	0.025	0.230	6.572	0.000	0.538	1.860
	CU	0.160	0.029	0.210	5.517	0.000	0.582	1.717
	SN	0.194	0.026	0.235	6.793	0.000	0.521	1.919

Table 6. Model fitness evaluation (ANOVA)

Model	Sum of squares	df	Mean square	F	Significance
Regression	139.000	5	27.800	313.66	0.000
Residual	34.905	374	0.0933		
Total	173.905	379			

$$DU = 0.198 * EA + 0.245 * \text{PP} + 0.230 * \text{PQ} + 0.210 * \text{CU} + 0.235 * \text{SN}. \quad (1)$$

The standardised regression results indicate that all five independent variables positively influence consumers' organic cosmetics use. PP has the highest standardised beta coefficient (0.245), suggesting it is the most influential factor. This is followed by SN with a beta of 0.235 and PQ with 0.230, highlighting the importance of social influences and perceived quality. CU (0.210) and EA (0.198) also show statistically significant effects, though with slightly lower magnitudes, suggesting they still play meaningful roles in shaping consumer decisions.

The regression model is statistically significant ($F = 313.66$, $p < 0.001$), according to the analysis of variance (ANOVA) results, indicating that the independent variables taken together account for a sizable amount of the variance in consumers' choices to use organic cosmetics (**Table 6**). Additionally, the coefficient of determination ($R^2 = 0.80$) indicates that the model fits the observed data well overall and has a significant explanatory capacity.

Further diagnostic tests were carried out to guarantee the regression model's dependability. There is no autocorrelation among the residuals, according to the Durbin-Watson statistic of 1.921. Furthermore, a p-value of 0.071, higher than the significance level of 0.05, was obtained from the Breusch-Pagan test for heteroskedasticity, indicating that the assumption of homoscedasticity is met. These findings confirm that the regression model is suitable for interpretation and satisfies the main statistical presumptions.

Diagnostic tests were performed to confirm that the regression model meets the main assumptions. There was no discernible autocorrelation among the residuals, as indicated by the Durbin-Watson value of 1.921. Furthermore, the Breusch-Pagan test produced a p-value of 0.071, greater than 0.05, indicating that there is no heteroskedasticity and that the variance of the residuals is constant. These findings verify that the model satisfies the requirements for trustworthy interpretation.

DISCUSSIONS

The study's findings show that all five factors–EA, PP, PQ, CU, and SN–have a positive and statistically significant impact on consumers' decisions to use organic cosmetics. These findings are consistent with earlier research and appropriately reflect developing patterns in sustainable consumer behaviour in Vietnam, namely in Ho Chi Minh City.

The EA factor had a substantial impact on organic cosmetic consumption behaviour ($\beta = 0.198$, $p < 0.001$), supporting the findings of Young et al. (2010), Sharma and Jha (2017), and Gifford (2011). EA is a key driver of sustainable consumerism. Euromonitor (2023) and VietBeauty (2022) reports suggest that Southeast Asia and Vietnam consumers are increasingly interested in sustainability in personal care products. More recently, Limbu and Ahamed (2023) confirmed that EA is a key driver of sustainable consumer behaviour, especially in health-related sectors like organic cosmetics. These findings highlight that raising EA can be vital in promoting more responsible and positive shifts in consumer behaviour.

The PP factor ($\beta = 0.245$, $p < 0.001$) has a positive and significant impact on organic cosmetic consumption, supporting findings from Wang and Zhang (2021), Meghna (2019), and Hermann et al. (2007). Even though organic products are frequently more expensive, people are prepared to pay if they believe the price is acceptable and in line with the value gained. Lee et al. (2008) argue that perceived price justice can boost consumer satisfaction and loyalty. These insights suggest that, within sustainable consumption, a reasonable price perception helps overcome financial barriers and reinforces consumers' motivation to act responsibly.

The PQ component ($\beta = 0.230$, $p < 0.001$) has a significant impact on consuming behaviour, supporting previous studies by Hassan et al. (2020) and Pham and Ngo (2023). Consumers value organic cosmetics for their safety, tenderness, and efficacy. COSMOS-Standard AISBL (2020) emphasises the importance of quality and safety requirements in increasing consumer trust in organic products. More recently, Joshi et al. (2000) reaffirmed that perceived quality outweighs both price and brand in influencing the intention to purchase green cosmetics. These findings suggest that in sustainable consumption, PQ is a benchmark for evaluation and a

foundation for building trust, reinforcing consumption habits, and shaping consumers' sense of social responsibility.

The CU factor ($\beta = 0.210$, $p < 0.001$) measures consumers' perceived convenience and benefits of using organic cosmetics. This is consistent with the findings of Davis (1989), Amamilah et al. (2024), and Saleem and Recker (2014), who found that ease of use had a direct impact on customers' intentions and behaviour toward organic products. Furthermore, the Ministry of Industry and Trade's (2010) research in Vietnam emphasises convenience as a central element driving customer behaviour shift. In the context of Ho Chi Minh City, where consumers often face busy schedules, convenience becomes a crucial competitive advantage that supports sustainable and health-conscious consumption behaviours.

The SN ($\beta = 0.235$, $p < 0.001$) emerged as the second strongest predictor, after PP, indicating the substantial influence of social factors such as peers, family members, and influencers on consumers' decisions to use organic cosmetics. This finding is consistent with Saleem and Recker (2014), who found that encouragement from family, friends, and communities significantly increases the likelihood of purchasing organic products. Similarly, Mutiara et al. (2023) emphasised that social group influence shapes behavioural expectations and reflects individuals' desire to conform and maintain a positive image within their communities. Recent research by Park et al. (2023) further highlights that SN mediate between personal awareness and green consumer behaviour, particularly for health- and environment-related products such as organic cosmetics. In large metropolitan areas like Ho Chi Minh City, where social relationships carry substantial weight, adherence to social expectations may play a decisive role in product choice. Therefore, SN enhance community alignment and strengthen individuals' sense of responsibility toward health and environmental sustainability.

CONCLUSIONS AND IMPLICATIONS

Conclusions

The research findings confirmed a positive and statistically significant relationship between five key factors–EA, PP, PQ, CU, and SN–and consumers' decisions to use organic cosmetics in Ho Chi Minh City. All variables included in the model exhibited positive regression coefficients and significance levels (significance) below 0.05, indicating their substantial influence in promoting green consumption behaviour. The two most influential factors were PP and SN, highlighting the critical roles of reasonable financial perception and community influence in shaping consumer choices. The regression model was validated as a good fit for the empirical data, with no significant multicollinearity detected among the independent variables, ensuring the reliability of the conclusions drawn. These findings reinforce the theoretical foundation of sustainable consumer behaviour and offer valuable practical implications for businesses and policymakers in designing effective marketing strategies, raising public awareness, and developing the organic cosmetics market in major urban centres such as Ho Chi Minh City.

Implications

Based on the results of the standardized regression analysis, all five factors affecting organic cosmetic usage behaviour demonstrate positive and statistically significant impacts. Accordingly, businesses can implement the following managerial implications:

First, improving EA: In light of growing consumer concern about environmental issues, understanding the ecological impact of products becomes an important factor affecting the DU. As a result, businesses should adopt targeted communication strategies aimed at increasing knowledge and encouraging sustainable consumption habits. Enterprises should establish green marketing initiatives highlighting organic cosmetics' environmental and health benefits. These messages should be widely promoted via social media, corporate websites, point-of-sale materials, and other marketing channels. Facilitating consumer experience through trial programs and promotional offers is another efficient way to engage customers with the environmental ideals that the company uphold. Similarly, emphasizing the role of individuals in responsible consumption helps to develop beneficial community awareness and behaviour.

Furthermore, businesses should consider collaborating with respectable non-governmental organizations or government agencies to carry out community projects, including packaging collection and recycling initiatives, sustainable beauty events, and EA campaigns. Collaborations with reputable environmental organizations boost consumer trust and reinforce the company's dedication to sustainable development. Transparency in environmental reporting is critical to boosting customer confidence. Product packaging and marketing materials should display indicators such as CO_2 emission reductions, recycled plastic content, international environmental certifications (e.g., COSMOS, ECOCERT), and raw material provenance. This transparency increases the credibility of marketing activities and promotes responsible consumption behaviour among consumers.

Second, increasing consumers' impression of PP: Consumers' impression of PP is critical in their purchasing decisions, particularly for organic products, which are often more expensive than conventional alternatives. The study found that a good price perception, which includes judgments of justice, transparency, and alignment with the value received, impacts the likelihood of using organic cosmetics. As a result, firms should adopt pricing strategies that maximize customers' perceived value. Companies must clearly express the benefits of organic products over conventional ones, such as using natural raw materials, ecologically responsible manufacturing practices, and improved skin health. Highlighting the link between price and long-term benefits encourages buyers to regard the cost as reasonable, lowering price barriers. Furthermore, businesses can implement variable pricing policies, such as seasonal discounts, product bundles, membership loyalty programs, or exclusive offers for returning customers. These pricing strategies can address cost worries while encouraging continued usage. Furthermore, offering product forms at different price points (e.g., micro sizes, trial packs) allows you to reach a larger client base, particularly new consumers or those with moderate means.

Companies should also publish information about production techniques, raw material sources, and quality certificates to support product pricing. When consumers understand the reasons behind higher prices, they are more inclined to accept them, primarily if the prices represent quality and social responsibility.

Third, improve the perceived PQ of organic cosmetics: Positive views of PQ play a significant role in consumers' decisions to use organic cosmetics. As consumers' expectations for product efficacy, safety, and natural origins rise, ensuring and improving PQ fosters trust and serves as the foundation for firms' long-term competitive advantage. First, enterprises should prioritise thorough input quality control, which includes using certified organic raw materials free of dangerous chemicals and complying with internationally recognised manufacturing standards such as COSMOS, USDA organic, or ecocert certifications. This improves product performance and strengthens the "natural and safe" image in consumers' eyes. Next, businesses must improve product performance, notably regarding skincare benefits, softness, aroma, and texture. Investing in research and development to improve recipes and add natural active ingredients with proven effects can help to meet a wide range of client needs. Meanwhile, clinical study findings or good user comments should be appropriately presented to build credibility.

Furthermore, product packaging has a significant impact on creating positive quality perceptions. Packaging should be visually appealing, luxurious, and environmentally friendly, representing the brand's dedication to organic principles and sustainable development. Companies should also give detailed information on product labels, such as ingredients, benefits, usage instructions, and expiration dates, to improve transparency and professionalism. Customer service and after-sales support are also essential for improving quality perception. Prompt feedback processing, complaint resolution, and continued contact can enhance customer satisfaction and loyalty, driving future purchases.

Fourth, enhancing CU of organic cosmetics: Convenience in product accessibility, usage, and storage is increasingly valued by modern consumers, especially in the organic cosmetics segment, where consumers demand not only natural ingredients but also a superior user experience. Brand acceptance and loyalty are dramatically increased when organic products match consumers' demands for simple, quick, and convenient beauty routines. Businesses should prioritize product design that improves customer experience. Packaging should be modified to allow for easy opening, simple product administration, secure resealing, portability, and clear dose directions. Convenient formats such as tubes, sprays, sample sachets, or travel-sized mini-kits can fulfil the versatile needs of varied customer groups, bustling and mobile consumers. Next, developing multi-channel distribution networks, including physical storefronts and e-commerce platforms, allows customers to access products anytime and anywhere. Collaborations with respected distribution channels, such as cosmetics chains, pharmacies, and convenience stores, can boost product availability and legitimacy.

Furthermore, businesses should use technology to improve shopping and user experiences. Examples include QR codes that lead to thorough usage directions, instructional skincare films, 24/7 online chatbot consultations, and tailored product recommendations depending on skin condition. This improves ease and personalizes the client journey, ensuring maximum support in beauty care. Finally, maintaining a smooth after-sales supply chain is critical. Fast delivery practices, flexible return/exchange options, proactive customer service, and accessible feedback channels increase customer satisfaction and stimulate repeat purchases, allowing firms to retain consumers in the long run.

Fifth, using SN to promote organic cosmetics consumer behaviour: SN represent how the environment, including family, friends, celebrities, and online groups, influences individual attitudes and consumption. SN can effectively motivate favourable consumption patterns and community-wide diffusion in the organic cosmetics sector, where ethical consciousness, ecological lifestyles, and personal health are highly prized. Based on this, businesses could create community-oriented social media strategies that stress sharing real-life user experiences and inspirational hashtag campaigns to encourage consumers to share their organic cosmetics consumption habits. This technique has viral consequences and supports the notion that using organic cosmetics is a socially acceptable and respectable choice. Furthermore, companies should work with key opinion leaders, dermatology professionals, and celebrities recognized for their positive image and healthy lives to spread the word about the benefits of organic cosmetics. Communication from famous persons increases credibility and significantly impacts consumer behaviour, particularly among younger demographics and customers who prefer learning from their communities. Businesses can also create organic cosmetics consumer communities by hosting online groups, beauty forums, offline seminars, and corporate social responsibility activities centred on environmental conservation and health promotion. These groups play an essential role in establishing and strengthening positive consumption norms, in which using organic products is not only a personal decision but also a representation of social responsibility and customer sophistication.

Limitations and Future Research Directions

This study has certain limitations. First, the survey was conducted only in Ho Chi Minh City, which may not fully reflect consumer behaviour in other regions of Vietnam. Second, using a non-probability sampling method may introduce bias and limit the representativeness of the data.

Future research should consider expanding the survey to other provinces and cities to enhance the generalizability of the findings. In addition, employing probability sampling methods would improve the reliability and representativeness of the data.

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