FACTORS ON ELECTRONIC WORD-OF-MOUTH INTERACTION FOR COSMETICS IN CAN THO CITY

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ABSTRACT

Background: The cosmetics industry continues to expand as consumers increasingly rely on online reviews before purchasing and share their opinions after use. This trend has driven the growth of electronic word-of-mouth (eWOM), making it a key factor influencing purchasing decisions. Objectives: To identify and evaluate the factors affecting eWOM interaction in the context of cosmetics in Can Tho City. Materials and methods: A cross-sectional study was conducted on 620 social media users across nine districts in Can Tho City, all of whom had previously contributed to eWOM on cosmetics. Results: The results show that most cosmetic consumers were young (aged 20–35; 62.58%) and primarily students or university students (68.23%). All 36 items were retained following Cronbach's Alpha reliability analysis. Kaiser-Meyer-Olkin coefficient = 0.915 (acceptable range: 0.5–1.0), with Bartlett's test of sphericity was significant (p = 0.000 < 0.05), Varimax rotation, all extracted components had eigenvalues greater than 1, and factor loadings were statistically significant (p < 0.05) with the extracted variance value of 74.826% (>50%). Confirmatory Factor Analysis and Structural Equation Modeling results were consistent with market data. Four factors positively influenced eWOM engagement: (i) Trust, (ii) Quality, (iii) Brand, (iv) Self-Expression. Conclusions: Local businesses should leverage social media characteristics and enhance the product's quality that enhance consumer purchasing demand.

Keywords: eWOM, word-of-mouth, cosmetic products, social media.

I. INTRODUCTION

In the present day, eWOM communication is currently a significant factor in the consumer decision-making process due to the Internet's explosive growth. Reviews, comments and experience sharing from users on social networking platforms such as Tiktok, Instagram, Shopee, etc. have created a rich and diverse source of information, making consumers tend to choose products based on trust in the actual experiences of previous buyers. According to Lopez and Sicilia, the amount of information affected the impact of eWOM on decision-making [1]. Liu and Zhou found that the volume of consumer reviews had a positive impact on purchase intention [2]. In Vietnam, eWOM was positively impacted by factors like credibility, quality, quantity, and continuity, and it also had a positive influence on young people's intention to purchase cosmetics [3]. One of the significant economic, cultural, and social centers in the Mekong Delta is Can Tho City, which has witnessed the significant growth of the cosmetics industry. Therefore, we conducted a study: "Assessment of impacts on electronic word-of-mouth interaction on cosmetics in Can Tho city".

II. MATERIALS AND METHODS

2.1. Materials

Consumers who utilize social media platforms and have engaged with eWOM, including liking, sharing, commenting, and posting on social platforms regarding cosmetic items in 9 districts of Can Tho city.

- **Selection criteria:** Regardless of gender, individuals aged 16 or older have opinions about their cosmetic reviews/comments on social networking platforms and voluntarily agree to participate in the survey.

- **Exclusion criteria:** Individuals unable to respond appropriately, or who gave incomplete or patterned answers.

2.2. Methods

- **Research design:** A cross-sectional study.

- **Sample size:** Implementing the sample size formula for large populations:

$$n = \frac{Z^2_{\left(1-\frac{\alpha}{2}\right)}.p(1-p)}{d^2}$$

In this formula, n: sample size, Z(1-α/2): value of confidence limit coefficient (1-α) (with α=0.05 then Z = 1.96), α: statistical significance level (choose α=0.05), d: deviation between sample parameter and population parameter (choose d=0.05), p: To ensure the largest possible sample size for the consumer survey, pick p=0.5 as the estimated population proportion value. Input the formula and round it, the estimated sample size is 385 people. In order to prevent any unsatisfactory survey samples during the research period, we have decided to investigate an extra 5% of the research sample.

- **Sampling methods:** Using the convenient sampling method and population data based on the Official Average Population for 2021 and the Preliminary Average Population for 2022 provided by the Can Tho City Statistics Office, we determined the sample size and calculated the number of samples to be collected from each district in Can Tho City according to the rule of proportion [4].

- **Research content:** The development of a survey tool is based on a comprehensive review of existing literature on customer behavior regarding word-of-mouth contributions on social media platforms or the impact of eWOM on their purchase intentions [5], [6], [7]. The interview questionnaire consists of 2 parts: (i) Demographic factors: gender, area of residence, age, education level, average income, occupation, (ii) Building a scale including questions about quality (Q), price (P), brand (B), self-expression (SE), convenience (C), trust (T), eWOM interaction (ET).
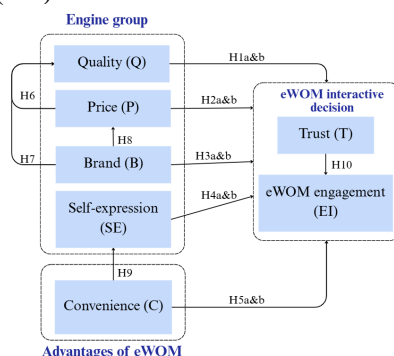

Figure 1. Research model

- **Statistical analysis:** Upon collection, the data was checked and cleaned, entered Excel 2016 and SPSS 20.0 for the subsequent steps. Cronbach's Alpha assesses the internal consistency reliability of the measurement scale. EFA and CFA evaluate measurement model fit to data, improving reliability and validity. SEM analyzes multidimensional relationships between variables, improving theoretical predictions.

- **Study ethics:** Participation in the survey was voluntary, and informed consent was obtained from all participants. The survey process ensured the anonymity and confidentiality of participants' responses, adhering to ethical guidelines for research involving human subjects.

III. RESULTS

3.1. Characteristics of the study sample

Table 1. Characteristics of the study sample

Characteristics		Frequency	Proportion (%)
Gender	Female	427	68.87
	Male	193	31.13
Living areas	Urban areas	509	82.1
	Rural areas	111	17.9
Age	16-19	165	26.61
	20-35	388	62.58
	35-45	51	8.23
	>45	16	2.58
Education	Postgraduate	4	0.65
	University	434	70
	College	73	11.77
	High school	95	15.32
	Secondary school	12	1.94
	Primary school	2	0.32
Career	Students	423	68.23
	Farmers/workers	17	2.74
	Medical officer/Pharmacist	47	7.58
	Office staff	10	1.61
	Civil servants/public employees	26	4.19
	Business/Trading	59	9.52
	Others	38	6.13

Of the 620 participants, women had the highest percentage at 68.87%. The majority of participants (82.1%) lived in urban areas, while only 17.9% resided in rural areas. Most respondents were aged between 20 and 35 years (62.58%), followed by those aged 16-19 years (26.61%). 434 individuals had a university degree (70%), with a small proportion having only completed high school (15.32%), college (11.77%), or lower levels of education. In terms of occupation, the largest group was students (68.23%), followed by those in business/trading (9.52%), medical officers or pharmacists (7.58%), and civil servants/public employees (4.19%).

3.2. The reliability of the scales through Cronbach's Alpha coefficients

Table 2. Results testing of the reliability of the scales through Cronbach's Alpha coefficients

	Questions	Corrected item-total correlation	CA if item deleted
Cronbach's alpha = 0.924			
Q1	The product meets your needs	0.820	0.903
Q2	The product is as effective as advertised on social networks	0.780	0.912
Q3	The product has a pleasant scent, suitable for all users	0.777	0.911
Q4	The product has full safety certifications and circulation licenses according to the correct standards	0.836	0.901
Q5	The product does not cause side effects	0.811	0.905
Cronbach's alpha = 0.861			
P1	I find the price to be lower than that of similar products	0.679	0.832
P2	I find the price to be higher than that of similar products	0.623	0.846
P3	The price is suitable for your income	0.738	0.816
P4	The price is quite cheap compared to the quality of the product	0.726	0.819
P5	The price is quite expensive compared to the quality of the product	0.632	0.843
Cronbach's alpha = 0.876			
B1	The brand of the cosmetic product helps you feel secure about the product quality	0.804	0.826
B2	The bigger the brand, the more you trust the product	0.699	0.852
B3	With brands that you feel secure using, you will buy again and again	0.725	0.845
B4	You agree to buy the product at a high price if it is a famous brand	0.597	0.875
B5	When referring to products on social networks, you will prioritize products with famous cosmetic brands	0.725	0.845
Cronbach's alpha = 0.922			
SE1	You like to share products with people around you	0.757	0.912
SE2	You want to be known as an expert on cosmetic products	0.798	0.904
SE3	You find the information about cosmetic products you provide on social networking sites useful	0.813	0.901
SE4	You often give feedback about cosmetic products on social networking sites	0.807	0.902
SE5	You feel proud when sharing information and knowledge about cosmetic products with others	0.809	0.901
Cronbach's alpha = 0.923			
C1	Products are diverse in types, widely sold, can be found anywhere	0.762	0.913
C2	It is easy to find information about the product on social networking sites	0.808	0.904
C3	The product has a delivery service, convenient for shopping, saving time	0.820	0.902
C4	Convenient, specific, easy-to-understand return policy	0.794	0.907
C5	The product has many attractive promotional programs	0.818	0.902
Cronbach's alpha = 0.950			
T1	You always feel secure when using this product	0.852	0.939
T2	The high level of community interaction on a review about cosmetics also makes you trust the product and share it with your friends	0.857	0.939

	Questions	Corrected item-total correlation	CA if item deleted
T3	Complaints and questions about the product are always resolved quickly and clearly	0.851	0.940
T4	The seller has good knowledge, or friends who have a lot of knowledge about cosmetics can introduce the product in detail	0.870	0.937
T5	The seller has good skills, customers can feel comfortable when shopping for the product	0.879	0.935
Cronbach's alpha = 0.934			
EI1	I am willing to recommend to relatives, friends, and the community because of the quality of the product	0.828	0.919
EI2	The price information posted publicly on social networking sites helps me shop for products more effectively	0.839	0.917
EI3	You will recommend to people around you more easily with products from famous brands	0.819	0.920
EI4	You learn more useful information about the product through searching on social networking sites	0.810	0.921
EI5	You feel confident with information on the topic of cosmetics that is highly appreciated by many social network users	0.801	0.923
EI6	You are willing to interact in many forms with articles about cosmetics communicated on social networks to highlight the interaction of the article and also create attraction for yourself	0.735	0.931

Table 2 shown that the Cronbach's alpha (CA) coefficients of all 36 variables were greater than 0.6, with values ranging from 0.861 to 0.950, indicating high reliability. All item-total correlation coefficients were above 0.3.

3.3. Exploratory Factor Analysis (EFA) results

Table 3. EFA analysis results

	Component						
	1	2	3	4	5	6	7
EI1	0.857						
EI2	0.855						
EI3	0.825						
EI4	0.821						
EI5	0.809						
EI6	0.774						
T5		0.871					
T4		0.864					
T2		0.863					
T1		0.857					
T3		0.842					
Q4			0.868				
Q1			0.862				
Q5			0.851				
Q3			0.840				
Q2			0.825				
C2				0.865			

	Component						
	1	2	3	4	5	6	7
C5				0.855			
C3				0.849			
C4				0.834			
C1				0.825			
SE4					0.875		
SE5					0.871		
SE3					0.866		
SE2					0.866		
SE1					0.811		
B1						0.862	
B3						0.801	
B5						0.794	
B2						0.783	
B4						0.709	
P3							0.822
P4							0.817
P1							0.777
P2							0.749
P5							0.748

The EFA analysis results show that the KMO coefficient = 0.915 ($0.5 \leq KMO \leq 1$), sig = 0.000 (<0.05), principal component factor extraction method, Varimax rotation; 07 factor groups were extracted at Eigenvalue = 1.953 (> 1) with the extracted variance value of 74.826% (> 50%) all meeting the conditions. The survey variables of the 7 initially divided factors converged to 7 new factors, unchanged.

3.4. Results of Confirmatory Factor Analysis (CFA) and SEM (Structural Equation Modeling) testing results

The standardized CFA results show that the research model has quite good fit indices: Chi2/df = 1.873 < 3, CFI = 0.970, TLI = 0.967, GFI = 0.910 all greater than 0.9; RMSEA = 0.038 < 0.08. SEM model results show that the coefficients Chi2/df = 1.974 < 3, CFI index = 0.966 > 0.9, TLI = 0.963 > 0.9, GFI = 0.905 all greater than 0.9; RMSEA = 0.040 < 0.08. This shows that the CFA and SEM analysis results are consistent with the market data.

3.5. Hypothesis conclusion

Table 4. Hypothesis conclusion

Hypothesis				Estimate	S.E.	C.R.	P	Conclusion
H1a	T	<---	Q	0.206	0.041	5.039	***	Accepted
H1b	EI	<---	Q	0.099	0.035	2.804	0.005	Accepted
H2a	T	<---	P	0.033	0.053	0.616	0.538	Rejected
H2b	EI	<---	P	0.035	0.045	0.773	0.439	Rejected
H3a	T	<---	B	0.004	0.045	0.079	0.937	Rejected
H3b	EI	<---	B	0.126	0.039	3.278	0.001	Accepted
H4a	T	<---	SE	0.105	0.048	2.214	0.027	Accepted
H4b	EI	<---	SE	0.125	0.041	3.084	0.002	Accepted
H5a	T	<---	C	0.316	0.049	6.456	***	Accepted

Hypothesis				Estimate	S.E.	C.R.	P	Conclusion
H5b	EI	<---	C	0.016	0.043	0.385	0.701	Rejected
H6	Q	<---	P	0.162	0.058	2.817	0.005	Accepted
H7	Q	<---	B	0.270	0.046	5.873	***	Accepted
H8	P	<---	B	0.258	0.036	7.173	***	Accepted
H9	SE	<---	C	0.130	0.042	3.121	0.002	Accepted
H10	EI	<---	T	0.415	0.038	10.775	***	Accepted

IV. DISCUSSION

4.1. General characteristics of the research sample

There was a significant difference between female and male ratios, with females accounting for roughly 68.87% while men account for 31.13%. Women were typically more concerned about their appearance, which is consistent with reality. Women were more likely to pay attention to their appearance because of the influence of social norms. The study participants were young, aged 20-35 years old (62.58%), with the lowest number being over 45 years old with 2.58%. This conclusion was in line with the study conducted by Tran Duc Thuc [8]. The survey was conducted with participants between 18 and 35 years old making up the highest percentage of 64%. According to Ramshida, people in the 19-38 age group tend to like and use cosmetics more due to their high demand for beauty and ability to receive information about cosmetics, and have a stable income, can be financially independent, so this age group has a high proportion, which is appropriate [9]. The study took place in Can Tho city, with the participants residing in both inner and outer districts. The percentage of respondents in the city was 82.1%, while rural areas were 17.9%. In rural areas, access to cosmetics is still limited due to economic difficulties and the lack of information about cosmetics. Additionally, the difficulty of terrain plays a role in hindering people's shopping in rural areas. Students make up the majority of occupations (68.03%), with university being the highest educational level (70%). The difference in sample sizes between these studies results in a lower result than Nguyen's study [10] (90.3% and 86.2%, respectively). Soyun Cho asserted that individuals with a higher education level were more knowledgeable about cosmetic ingredients, how to use them, and the advantages of the products. They have a tendency to research more thoroughly before buying [11].

4.2. Factors impact on electronic word-of-mouth interaction on cosmetics in Can Tho city

Businesses should prioritize enhancing product/service quality, as this is a key factor in strengthening customer trust and encouraging participation in eWOM. Next, setting reasonable prices that accurately reflect quality will create fairness in customer perception, indirectly influencing their decision to engage in eWOM. Building a strong brand not only enhances the perceived value of products but also reinforces quality and pricing in consumers' minds. Additionally, businesses should create opportunities for customers to express themselves through their use of products/services, as this can increase trust and motivate them to share their experiences on social media. Convenience is also an important factor, as it enhances customer satisfaction and naturally encourages participation in eWOM. Ultimately, when customer trust is strengthened through quality, fair pricing, strong branding, self-expression, and convenience, they are more likely to share their experiences and positively influence eWOM on social media.

V. CONCLUSION

The research findings indicate that brand, price, quality, convenience of eWOM, trust and self-expression have varying effects on consumer trust and their decision to engage in eWOM. Price influences quality but has no impact on trust or eWOM. Quality strengthens trust and eWOM engagement, while convenience enhances self-expression and trust but does not affect eWOM. Self-expression boosts trust and eWOM participation. Ultimately, trust is the key driver of eWOM engagement. These insights emphasize the need to enhance quality, build trust, and support self-expression to encourage eWOM on social media.

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