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An Impact of Marketing Strategies on University Students' Online Shopping Behavior: A Case Study of Asia Eastern University of Science and Technology, Taiwan

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Abstract

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This research examines the influence of four marketing strategies - product, price, place, and promotion - on the online shopping behavior of university students. The target population consists of undergraduate and graduate students from Asia Eastern University of Science and Technology (AEUST), Taiwan, with a total enrollment of 3,856 students. A total of 374 valid questionnaires were collected. Data were analyzed using descriptive statistics, Pearson's correlation analysis, and multiple regression analysis to assess the impact of each strategy on students' purchasing decisions.

The results show that product strategy has the greatest influence on purchase decisions, with factors such as product details, images, and brand diversity being key drivers (Beta = 0.335, $p < 0.001$). Place strategies, such as free shipping and flexible delivery options, are also significantly impactful (Beta = 0.298, $p < 0.001$). In contrast, price (Beta = 0.158, $p < 0.001$) and promotion strategies (Beta = 0.262, $p < 0.001$) have a comparatively weaker effect on students' decisions. This study highlights the importance of understanding the preferences and behaviors of university students in the online shopping environment, suggesting that e-commerce platforms can improve consumer engagement by focusing on product quality and delivery options. Tailored marketing strategies, especially those that emphasize product variety and delivery convenience, can enhance customer satisfaction and loyalty among this demographic.

Keywords: Marketing Strategies, Online Shopping Behavior, University Students

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Introduction

Online shopping has become a dominant form of commerce, especially among university students who frequently use platforms such as Shopee, PChome, and Momo in Taiwan. These platforms attract young consumers with diverse product offerings, competitive pricing, and convenient shopping experiences. However, businesses aiming to expand their reach in this demographic require a deeper understanding of the factors influencing platform choices and the impact of marketing strategies on university students' shopping behaviors. This study addresses a gap in existing research by focusing specifically on university students at Asia Eastern University of Science and Technology (AEUST), where insights can provide valuable guidance for online retailers. Previous studies (Kotler & Keller, 2016; Armstrong et al., 2019) emphasize the importance of product quality, pricing strategies, and promotional activities in shaping consumer behavior. However, limited research explores how these factors interact uniquely within the university student population.

AEUST, founded in 1968 in Banqiao District, New Taipei City, Taiwan, is known for its educational philosophy of "Creativity, Pragmatism, Macroview, Cooperation, Communication, and Enthusiasm" and emphasizes strong industry partnerships that offer students hands-on learning opportunities (Asia Eastern University of Science and Technology, 2023). This unique academic environment makes AEUST an ideal context for exploring online shopping behaviors, as it combines technological and practical learning settings with a student-centered approach.

This study employs descriptive statistics to examine the importance of marketing strategies—such as product, price, place, and promotion—and their relevance to AEUST students' online shopping preferences. Pearson's correlation coefficient is used to explore the relationship between marketing strategies and university students' online shopping behavior. Finally, multiple regression analysis is conducted to identify which factors have the most significant impact, providing insights for businesses to develop tailored strategies for university students.

Research Objectives

The purposes of this study are:

1. To analyze how product, price, place, and promotion strategies influence online shopping behavior among AEUST students.

2. To identify which marketing strategy has the most significant impact on purchasing decisions.

Research Questions

1. What is the online shopping behaviors of the university students in of Asia Eastern University of Science and Technology (AEUST) in Taiwan?

2. What are the impacts of marketing strategies influencing the university students' online shopping behavior? Which marketing component (s) is the most inflenetial one?

Literature Review and

Marketing Strategy

Marketing strategy plays a vital role in the modern competitive marketplace. The 4P marketing model proposed by Kotler and Armstrong (2018), which includes Product, Price, Place, and Promotion, provides a basic framework for organizations to develop a marketing strategy. Product strategy focuses on product design, quality, functionality, and brand image, which are effective in attracting consumers and enhancing brand competitiveness (Baker & Sinkula, 2005). Price strategy, on the other hand, should consider consumers' perceived value of the product, and enhance consumers' purchase intention through special offers and discounts (Nagle & Müller, 2017). Place strategy, especially critical for online shopping, includes efficient delivery and user-friendly platforms, which significantly impact consumer satisfaction and repurchase rates (Levy & Weitz, 2012; Solomon et al., 2019). In addition, promotion strategies, particularly those involving social media, can greatly increase brand awareness and promote consumer engagement (Chu & Kim, 2011).

Consumer Purchase Decision Process

Consumers' purchase decision process includes need identification, information search, alternative evaluation, purchase decision, and post-purchase behavior (Kotler & Keller, 2016). During this process, marketing strategies, especially product and price strategies, have a significant impact on consumer choices. Comparison of alternatives, on the other hand, relies on product information, price, and usage evaluation (Blackwell et al., 2006). In addition, consumers' emotional responses also play an important role in purchase decisions, especially in terms of brand loyalty and purchase intention (Bagozzi, 1981).

Shopping Problem Identification

The initial stage in the consumer purchase decision process is shopping problem identification, where consumers recognize a need or problem that requires a solution. According to Solomon et al. (2019), this recognition is often prompted by internal triggers, such as personal desires or necessities, or external influences, such as marketing messages and social interactions. For instance, an effective advertising campaign can

highlight unmet needs and direct consumers' attention toward specific product categories or brands, creating awareness that drives the subsequent decision-making process.

Recognizing Alternatives

After identifying a need, consumers proceed to recognizing alternatives , during which they begin to consider various options that could satisfy their need. This stage involves recalling familiar brands or exploring new options, which can be influenced by factors such as past experiences and brand loyalty (Engel et al., 1995). As noted by Alba and Hutchinson (1987), the breadth of alternatives recognized is often shaped by the consumer's level of product knowledge, with more experienced consumers typically considering a wider range of options.

Comparing Options

Once consumers have identified a set of alternatives, they move to the stage of comparing options, where they evaluate each choice based on factors like price, quality, and expected functionality (Blackwell et al., 2006). This comparative assessment often relies on a mix of product information, user reviews, and expert opinions to inform their decision (Punj & Staelin, 1983). Additionally, emotional factors, such as brand loyalty and previous satisfaction, play a vital role in shaping preferences and purchase intentions during this evaluation process (Bagozzi, 1981). Marketing strategies that emphasize product differentiation and competitive pricing can significantly influence consumer comparisons and sway their final choice.

Purchase Decision

In the Purchase Decision stage, consumers commit to acquiring a product or service based on their evaluation of options during prior stages. According to research, this stage is influenced by factors such as the ease of transaction, the suitability of the chosen product, and the overall shopping experience. Environmental and situational variables, such as convenience, pricing, and marketing channel preferences, play a significant role in shaping the purchase decision (Milner & Rosenstreich, 2013). Additionally, the integration of omnichannel strategies can enhance the purchase decision process by offering a seamless experience across multiple touchpoints (Pires et al., 2022).

Consumer Post-Purchase Behavior

Consumers' post-purchase behaviors include product use, satisfaction evaluation, repurchase intention, and word-of-mouth communication (Kotler & Keller, 2016). When a product or service meets or exceeds consumer expectations, consumers are more likely to repurchase and recommend the brand to others (Anderson & Srinivasan, 2003). Positive post-purchase experiences help to develop brand loyalty, while negative experiences may lead to consumer dissatisfaction and negative evaluations, which may affect the purchase intentions of other potential customers (Oliver, 2014).

Consumer Online Shopping Behavior

Online shopping behavior refers to the process of searching, comparing, selecting and purchasing goods or services on an online platform (Dholakia & Uusitalo, 2002). Factors affecting online shopping behavior include technical factors, emotional factors, social factors, economic factors, and cultural and personal differences. Technical factors such as platform ease of use, interface design, and payment security have a direct impact on consumers' purchasing experience (Gefen & Straub, 2004), while social factors such as online reviews and social media opinions have a significant impact on consumers' purchasing decisions (Cheung & Thadani, 2012).

Consumer Culture and Online Shopping Platforms in Taiwan

According to Hsu (2019), Taiwanese consumers emphasize on price-performance ratio and brand awareness, and prefer high quality and reputable products. Taiwanese consumers are price-sensitive and often participate in promotions to maximize value (Lin, 2021).Chang (2022) points out that brand loyalty has a significant impact on Taiwanese consumers' purchasing decisions, and consumers tend to choose products with good brand image and guaranteed product quality. In addition, with the popularity of smartphones and mobile Internet, more and more Taiwanese consumers are shopping through mobile apps (Wang, 2022; Huang, 2020).

With the popularity of online shopping, Taiwan's major online shopping platforms such as Shopee, PChome, and Momo have achieved significant success among young consumers; Shopee has attracted a large number of users through flexible promotion strategies and a strong logistics system, and has actively utilized social media for promotion, successfully establishing a young brand image (Lin, 2022). PChome relies on its diverse product choices and fast delivery service, especially 24-hour delivery service, to satisfy consumers' demand for instant shopping (Chang, 2022), while Momo focuses on user experience and product quality, and helps consumers make more informed purchasing decisions through detailed product information and user evaluations (Huang, 2022).

Based on the above literature review and the research objectives of this study, the research framework of this study is as follows:

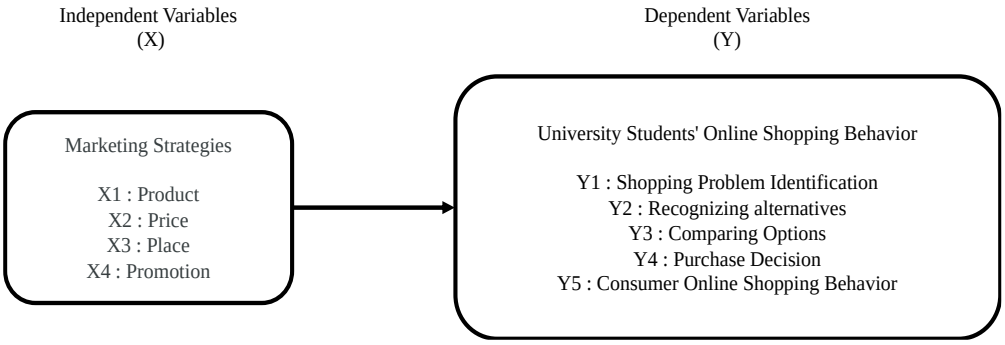

Figure 1 Conceptual Framework

Research Method

This study adopted a quantitative research methodology, aiming to investigate the effects of the four major marketing strategies (Product, Price, Place, and Promotion) on the online shopping behavior of students at Asia Eastern University of Science and Technology (AEUST). The target population consists of the undergraduate and graduate students at AEUST, totaling 3,856 students according to statistics from the Ministry of Education of Taiwan (Ministry of Education Higher Education Institutions Information Disclosure Platform, 2024). Using Yamane's formula to determine the sample size, a minimum of 364 valid questionnaires was required. Ultimately, 374 valid questionnaires were collected, exceeding the minimum sample size needed for reliable analysis.

The data collection was conducted through an online questionnaire, which consisted of two main sections: marketing strategies and online shopping behavior among university students. Each item was measured using a 5-point Likert scale ranging from "strongly disagree" to "strongly agree." The questionnaire was preliminarily tested to ensure clarity before final distribution.

The data analysis begins with descriptive statistics, including mean and standard deviation, to measure the perceived importance of each marketing strategy and the level of agreement regarding online shopping behavior among university students. Next, Pearson's correlation analysis is used to examine the relationship between marketing strategies and students' online shopping behavior, aiming to verify whether these marketing strategies have a positive correlation and influence on students' online shopping behavior.

Finally, multiple regression analysis is conducted to identify which marketing strategy has the most significant impact on students' online shopping behavior. Based on previous research findings and the shopping preferences of Taiwanese students, we hypothesize that the product strategy will have the strongest influence. This step helps to gain a deeper understanding of the individual impact of each marketing strategy on students' online shopping behavior.

Results and Discussion

The purpose of this study is to examine whether marketing strategies have an impact on the online shopping behavior of university students and which marketing strategy has the greatest impact. The final valid questionnaire count collected was 374. The results of the study are summarized below:

Table 1 : Mean and Standard Deviation of Marketing Strategies

Marketing Strategy	n = 374		Level of importance of the strategy
	$\bar{x}$	s.d.	
Product	4.51	0.54	Very important
Price	3.94	0.71	Important
Distribution	4.25	0.68	Very important
Promotion	3.99	0.79	Important
Total Average	**4.17**	**0.55**	**Important**

According to the data results, among the four marketing strategies, product strategy has the greatest influence on purchase decision.

Table 2 Mean and Standard Deviation of Product Factors

Product	n = 374		Level of importance of the strategy
	$\bar{x}$	s.d.	
1. I consider the quality of the product to be very important to me when I shop online.	4.50	0.72	Very important
2. An online shopping platform that offers a wide variety of brands to choose from is more in line with my needs.	4.45	0.75	Very important
3. The detailed description and pictures of the product will influence my choice when shopping online.	4.63	0.64	Very important
4. The variety of brands offered on the e-shopping platform is one of the reasons why I would choose it.	4.39	0.78	Very important
5. I prefer to choose reputable product brands when shopping online.	4.56	0.66	Very important
Total	**4.51**	**0.54**	**Very important**

Among the product strategies, the presentation of product details and pictures ($\bar{x}$ = 4.63, s.d.= 0.64) and brand diversity ($\bar{x}$ = 4.56, s.d.=0.66) were the most influential. These factors indicate that university students emphasize product quality, brand reputation and diversity of choices when choosing shopping platforms, which significantly influences their purchase decisions.

Table 3 Mean and Standard Deviation of Place Factors

Distribution	n = 374		Level of importance of the strategy
	$\bar{x}$	s.d.	
1. I prefer to shop online with a platform that delivers quickly.	4.14	0.95	Important
2. The variety of delivery options offered by a platform will influence my shopping decision.	4.10	1.00	Important
3. I am more likely to shop on an online shopping platform if it offers free shipping.	4.61	0.71	Very important
4. The cross-border shopping option of the online shopping platform will attract me to use it.	4.00	1.07	Important
5. I think an online shopping platform with multiple payment options is more suitable for my needs.	4.33	0.88	Very important
6. I would choose an online shopping platform that offers fast returns and exchanges.	4.33	0.86	Very important
Total	**4.25**	**0.68**	**Very important**

Place strategy is the second most influential factor, especially free delivery service ($\bar{x}$ = 4.61, s.d.= 0761) and variety of payment methods, which suggests that university students have a higher demand for logistics services and shopping convenience.

Table 4 Mean and Standard Deviation of Promotion Factors

Promotion	n = 374		Level of importance of the strategy
	$\bar{x}$	s.d.	
1. Promotional activities will attract me to click on the online shopping platform to purchase products.	4.20	0.91	Important
2. I am often attracted to daily specials or time-limited promotions offered by online platforms.	3.73	1.18	Important
3. Promotional activities on social media will influence my shopping behavior.	3.84	1.08	Important
4. Push notifications from the online platform keep me informed of real-time promotions and influence my purchasing behavior.	3.72	1.15	Important
5. I will use coupons offered by shopping platforms to reduce my shopping costs.	4.47	0.77	Very important
Total	**3.99**	**0.79**	**Important**

Promotion strategies are less influential but still attractive to university students, especially the use of platform coupons to reduce shopping costs ($\bar{x}$= 4.47, s.d.=0.77). Promotions on social media also have a role to play in increasing purchase intention.

Table 5 Mean and Standard Deviation of Price Factors

Price	n = 374		Level of importance of the strategy
	$\bar{x}$	s.d.	
1. I will compare prices on different online shopping platforms and choose the best deal.	4.18	0.96	Important
2. Discounts and promotions influence my choice of online shopping platforms.	4.43	0.82	Very important
3. I consider the price of a product to be the deciding factor when shopping online.	4.15	0.92	Important
4. I tend to prefer shopping platforms that offer members-only pricing or discounts.	4.10	0.97	Important
5. I will pay attention to whether online shopping platforms offer discount seasons or special offers on a regular basis.	3.85	1.14	Important
6. I would choose an online shopping platform that offers a price guarantee (e.g. lowest price guarantee).	3.78	1.06	Important
7. I often use price tracking tools to wait for the ideal price to come along.	3.10	1.28	Medium
Total	**3.94**	**0.71**	**Important**

Price strategy has the least impact on university students, showing that they are less sensitive to price and that price is not a major factor in their purchase decision. However, discounts and promotions can still attract some price-sensitive consumers.

Table 6 Mean and Standard Deviation of University Students' Online Shopping Behavior

University Students' Online Shopping Behavior	n = 374		Level of agreement
	$\bar{x}$	s.d.	
Shopping Problem Identification	4.32	0.61	Strongly agree
Recognizing alternatives	4.33	0.58	Strongly agree
Comparing Options	4.32	0.65	Strongly agree
Purchase Decision	4.32	0.61	Strongly agree
Consumer Online Shopping Behavior ckeck word?	4.29	0.66	Strongly agree
Total	**4.32**	**0.53**	**Strongly agree**

According to the data, students strongly agree on all aspects of online shopping behavior, with the highest levels of agreement in recognizing alternatives ($\bar{x}$= 4.33, s.d.=0.58) the second, Shopping Problem Identification ($\bar{x}$= 4.32, s.d.=0.61), comparing options ($\bar{x}$= 4.32, s.d.=0.65) and Purchase Decision ($\bar{x}$= 4.32, s.d.=0.61). These factors highlight the importance of students' active evaluation of options before making a purchase decision, indicating that their online shopping behavior is highly influenced by the availability of choices and the process of comparison.

Table 7 Mean and Standard Deviation of Shopping Problem Identifiers

Shopping Problem Identification	**n =374**		**Level of agreement**
	$\bar{x}$	s.d.	
1. I search for the relevant information on the Internet first.	4.40	0.78	Strongly agree
2. I am be curious and go online to look for more information about the product.	4.38	0.76	Strongly agree
3. I actively look for product reviews and user feedback on the Internet.	4.16	0.96	Agree
4. I prioritize my search on online platforms that specialize in this type of product.	4.27	0.83	Strongly agree
5. I actively search for more information to see if it is worth buying.	4.25	0.85	Strongly agree
6. When I have questions about a product, I seek out online reviews to help me make a decision.	4.44	0.74	Strongly agree
Total	**4.32**	**0.61**	**Strongly agree**

The data reveals that students place the greatest emphasis on seeking online reviews ($\bar{x}$= 4.44, s.d.=0.74) and researching product details online ($\bar{x}$= 4.40, s.d.=0.78). This indicates that students are proactive in gathering information and tend to prioritize platforms that offer specialized and reliable product information to guide their purchasing decisions.

Table 8 Mean and Standard Deviation of Recognizing Alternatives

Recognizing Alternatives	n = 374		Level of agreement
	$\bar{x}$	s.d.	
1. I usually compare similar products on different online shopping platforms.	3.99	1.04	Agree
2. I check the reviews of other consumers to help me make a decision before making a purchase.	4.49	0.76	Strongly agree
3. I compare product reviews and prices to choose the best purchase option.	4.51	0.71	Strongly agree
4. I consider the warranty and after-sales service of the product before making a purchase.	4.03	0.95	Agree
5. I shop around for the best alternative.	4.38	0.82	Strongly agree
6. I prioritize the platform where I have had a good shopping experience.	4.60	0.64	Strongly agree
Total	**4.33**	**0.58**	**Strongly agree**

The highest levels of agreement are seen in prioritizing platforms with positive past shopping experiences ($\bar{x}$= 4.60, s.d.=0.64) and comparing product reviews and prices ($\bar{x}$= 4.51, s.d.=0.71). These findings suggest that students place significant emphasis on evaluating various options and customer feedback to choose the best purchase option.

Table 9 Mean and Standard Deviation of Comparison Options

Comparing Options	n = 374		Level of agreement
	$\bar{x}$	s.d.	
1. I compare promotions and coupons on different platforms to choose the most cost-effective purchase option.	4.17	0.97	Agree
2. I consider price, quality, speed of delivery and other factors when choosing a platform for my purchase.	4.44	0.76	Strongly agree
3. I compare shipping rates and delivery times between multiple online shopping platforms.	3.94	1.10	Agree
4. I compare multiple products and choose the one that best meets my needs.	4.40	0.77	Strongly agree
5. I choose the one with a clearer product presentation.	4.45	0.76	Strongly agree
6. I decide whether or not to purchase from the platform based on its reviews and reputation.	4.51	0.69	Strongly agree
Total	**4.32**	**0.65**	**Strongly agree**

The results indicate that students highly value comparing different factors before making a purchase decision. The highest levels of agreement were observed in evaluating the platform's reviews and reputation ($\bar{x}$= 4.51, s.d.=0.69) and the clarity of product presentation ($\bar{x}$= 4.45, s.d.=0.76). This implies that students prioritize platforms with strong reputations, clear product displays, and favorable delivery conditions when shopping online.

Table 10 Means and Standard Deviations of Purchasing Decisions

Purchase Decision	N = 374		Level of agreement
	$\bar{x}$	s.d.	
1. I usually make a quick purchase decision to avoid losing out on the offer.	3.91	1.11	Agree
2. I tend to shop on online shopping platforms that are highly rated by consumers.	4.43	0.73	Strongly agree
3. If a product meets my needs and has good reviews, I will buy it immediately.	4.26	0.90	Strongly agree
4. If I need an item urgently, I will choose a platform that guarantees same-day or next-day delivery.	4.39	0.91	Strongly agree
5. I am more likely to shop on an online shopping platform if the checkout process is simple, fast and convenient.	4.43	0.78	Strongly agree
6. I decide whether to buy from the same platform again based on my shopping experience.	4.50	0.72	Strongly agree
Total	**4.32**	**0.61**	**Strongly agree**

Based on the data, students place high importance on factors such as platform reputation, convenience, and delivery speed when making purchase decisions. The most significant influences are the platform's reputation ($\bar{x}$= 4.50, s.d.=0.72). These results indicate that students are more likely to make purchases on platforms they trust and find easy to use, while also considering fast delivery options when necessary.

Table 11 Means and Standard Deviations of Consumer Online Shopping Behavior Factors

Consumer Online Shopping Behavior	n = 374		Level of agreement
	$\bar{x}$	s.d.	
1. I tend to shop on familiar shopping platforms to ensure a smooth shopping experience.	4.52	0.71	Strongly agree
2. I have a high level of loyalty to the online shopping platforms I use.	4.41	0.79	Strongly agree
3. I would recommend a good shopping platform to a friend or family member.	3.97	1.09	Agree
4. I decide whether or not to use a shopping platform on a long-term basis based on its interface design and ease of use.	4.35	0.80	Strongly agree
5. I increase my loyalty to an online shopping platform when its interface is updated or its functions are improved.	4.20	0.87	Agree
Total	**4.29**	**0.66**	**Strongly agree**

The data shows that students exhibit strong loyalty to familiar and user-friendly online shopping platforms. The highest levels of agreement are seen with statements regarding platform familiarity ($\bar{x}$= 4.52, s.d.=0.71) and loyalty ($\bar{x}$= 4.41, s.d.=0.79), indicating that students tend to stick to platforms they trust and find easy to navigate. Additionally, platform interface design and improvements also play a significant role in fostering long-term loyalty, with a mean of 4.35 for interface design being a key factor in their decision to continue using a platform.

Table 12 Correlation between Marketing Strategies and University Students' Online Shopping Behavior

		Marketing Strategy	University Students' Online Shopping Behavior
Marketing Strategy	Pearson Correlation	--	
University Students' Online Shopping Behavior	Pearson Correlation	.841**	--
	Sig. (2-tailed)	<.001	
	N	374	374

**. Correlation is significant at the 0.01 level (2-tailed).

According to Pearson's correlation analysis, there is a highly positive correlation between marketing strategy and university students' online shopping behavior (r=0.841, p<0.001), indicating that the stronger the marketing strategy, the more significant the response of university students' online shopping behavior.

Table 13 Variables Entered and Removed in the Regression Model

Model	Variables Entered	Variables Removed	Method
1	Product, Price, Place, Promotion	.	Enter

a. Dependent Variable: University Students' Online Shopping Behavior

b. All requested variables entered.

This table presents the variables included in the regression model. The predictors are Product, Price, Place, and Promotion, all of which were entered into the model using the Enter method. No variables were removed during the analysis, ensuring a comprehensive evaluation of all marketing strategies.

The dependent variable, University Students' Online Shopping Behavior, reflects the purchasing tendencies influenced by these marketing strategies. This process allows for a detailed assessment of each predictor's contribution to explaining the variations in the dependent variable.

Table 14 Summary of Multivariate Regression Analysis Model of Marketing Strategies Influencing Online Shopping Behavior of Students at Asia Eastern University of Science and Technology

Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Change Statistics**				
					R Square Change	**F Change**	**df1**	**df2**	**Sig. F Change**
1	.854[a]	0.729	0.726	0.27777	0.729	248.048	4	369	<.001

a. Predictors: (Constant), Product, Price, Place, Promotion

b. Dependent Variable: University Students' Online Shopping Behavior

In addition, the results of the regression analysis shows that from the model summary, the R value was 0.854, which indicated a high positive correlation between the marketing strategies and the online shopping behavior of the university students.The value of R Square was 0.729, which indicated that these four marketing strategies could explain 72.9% of the variations in online shopping behavior of the university students. This shows that these marketing strategies are effective in explaining most of the variations in shopping behavior.

Table 15 Regression Analysis of Marketing Strategies on University Students' Online Shopping Behavior

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.681	0.125		5.438	<.001
Product	0.327	0.034	0.335	9.564	<.001
Price	0.119	0.029	0.158	4.079	<.001
Place	0.234	0.031	0.298	7.583	<.001
Promotion	0.175	0.025	0.262	6.896	<.001

a. Dependent Variable: University Students' Online Shopping Behavior

Based on the results of the regression analysis, Product Strategy (Beta = 0.335) and Place Strategy (Beta = 0.298) have the greatest impact on university students' online shopping behavior. These findings suggest that product-related factors (such as variety and details) and place-related factors (such as shipping and delivery services) are the most influential in shaping students' purchasing decisions.

Promotion Strategy (Beta = 0.262) and Price Strategy (Beta = 0.158) have a smaller effect on shopping behavior, indicating that these strategies may be more effective in targeting specific consumer groups rather than having a broad influence across all students.

Discussions

The results of this study are consistent with the existing literature showing the effects of different marketing strategies on the online shopping behavior of university students. According to Fishbein and Ajzen's (1975) Theory of Planned Behavior, consumers' purchasing behavior is driven by attitudes, subjective norms, and perceptual-behavioral control. This theory explains the multiple considerations of college students in their online shopping decisions, especially the combined effects of product, Place, Promotion, and price.

Product strategy proved to be the most important influence. The authenticity of product details and pictures helps to build consumer trust (Gefen & Straub, 1997). Since online shopping does not allow for in-person viewing of products, college students rely on this information to assess product quality. Research has also shown that brand diversity enhances consumers' sense of control and satisfaction with their purchases (Kim, Williams, & Lee, 2003), which reflects students' preferences when choosing a platform.

Place strategy is less influential than product strategy, but still important. Free shipping service and multiple payment methods are key factors, which is consistent with other research that suggests that the quality

of logistics services influences consumers' purchasing decisions (Haque et al., 2011). In addition, university students pay particular attention to return and exchange policies when purchasing high-priced products (Hasan, 2010), and cross-border shopping options are more appealing to students with a demand for international brands (Lim et al., 2016).

Promotion strategies also had a significant impact. Exclusive coupons and social media promotions have a clear appeal to consumers, especially when limited-time offers create a sense of urgency to buy (Hernández et al., 2011; Shih, 2004). Young consumers are more likely to obtain product information through social media (Ranganathan & Grandon, 2002).

Price strategy, although less influential, is still one of the considerations when choosing a shopping platform. University students compare prices across platforms to find the best deals and are particularly sensitive to discounts and offers (Liao & Cheung, 2001; Sorce et al., 2005).

Benefits

By analyzing how marketing strategies affect the online shopping behavior of university students, it is an important reference for e-commerce platforms to formulate more accurate and effective marketing plans, especially when targeting university students as a specific group. Research can help e-commerce platforms better understand the needs and preferences of their target consumers, especially university students, so that they can formulate targeted marketing strategies and improve the accuracy of their marketing strategies.

In addition, through in-depth research on marketing strategies, enterprises can design more attractive shopping websites and applications to enhance market competitiveness, and update the functions and services of shopping applications based on the research results to enhance users' shopping experience and satisfaction, thereby increasing user loyalty.

The study will also help to understand the impact of marketing practices on the online shopping behavior of university students, encourage more innovative enterprises to enter the market, support young entrepreneurs to develop new shopping applications that meet the market demand, and promote the innovation and development of the market.

The impact of these marketing approaches will also help young entrepreneurs position and promote their products more effectively during the entrepreneurial process, contributing to their growth and success.

Conclusions and Recommendations

Conclusions

This study examines the influence of marketing strategies (product, price, Place, and Promotion) on the online shopping behavior of Asia East University of Science and Technology (AEUST) students and reveals the key role of these strategies in influencing consumers' purchasing decisions. The results show that product strategy is the most influential factor, especially in terms of product detailing and brand diversity. The high value placed on product quality and brand reputation suggests that university students are more likely to look for products with detailed information and a wide range of choices when choosing a shopping platform.

Place strategy also shows its importance, especially free delivery service and a variety of payment methods, indicating that university students highly value the convenience of logistics services when shopping. This finding not only reflects young consumers' expectations of the shopping experience, but also highlights the need for e-commerce platforms to provide services.

Although the impact of pricing strategies is relatively small, they are still able to attract price-sensitive consumers to a certain extent, showing that price is not completely unimportant in the minds of university students. Promotion strategies, such as platform coupons, are helpful in increasing purchase intention, especially in specific contexts.

Taken together, this study emphasizes that e-commerce platforms should prioritize product and Place-related factors in formulating marketing strategies to increase students' satisfaction and loyalty. By gaining a deeper understanding of university students' shopping behavior and the motivations behind it, platforms can more effectively adjust their marketing strategies to meet the needs of young consumers and stand out in a competitive market.

Recommendations for the current research

Adding Data Collection Methods

This study mainly relied on quantitative methods for data collection. In the future, we may consider adding qualitative research methods, such as in-depth interviews or focus group discussions, in order to gain a deeper understanding of the motivation and thinking process behind university students' shopping behavior, especially in terms of the influence of marketing strategies such as product descriptions or price concessions on the decision-making process, so as to provide a richer insight.

Gender and Grade Level Analysis

It is recommended that in-depth analyses be conducted on students of different genders and grade levels in order to develop more accurate marketing strategies to meet the needs and behavioral characteristics of

different groups.

Breakdown of Independent and Response Variables

The study may consider an in-depth breakdown of specific elements of the marketing strategy to explore the specific impact of product attributes (e.g. design, functionality) and forms of price promotion (e.g. time-limited discounts, membership privileges) on the shopping behavior of university students. In addition, the convenience of delivery methods, the variety of payment options and the quality of customer service can also be analyzed in depth to understand their impact on consumer satisfaction and shopping experience.

Recommendations for Future Research

Expanding Sample Size

In the future, the sample can be expanded to include consumers from different schools, districts and age groups to explore the different responses of these groups to the marketing strategies. This will help provide more representative and generalizable results and a more comprehensive understanding of the impact of marketing strategies on different consumer groups.

Comparing the effectiveness of marketing strategies across different shopping platforms

With the diversification of shopping platforms, the future study can compare the effectiveness of marketing strategies of different platforms (e.g. Shopee, PChome, Momo, etc.), analyze the strategic differences in product display, Promotion and logistics services, and compare their performance in attracting consumers.

Long-term Impact of Digital Marketing

Future research could explore the long-term impact of digital marketing (e.g., social media marketing, email marketing) on consumer behavior, especially how brands influence consumer loyalty and purchase behavior through continuous digital interactions.

Psychological Factors and Purchase Behavior

In addition to marketing strategies, consumers' psychological factors such as risk perception, shopping satisfaction and brand attachment also have a significant impact on shopping behavior. Future research could explore the role of these factors in the online shopping environment from a psychological perspective to further enrich the academic discussion.

The Impact of New Technologies on Consumer Behavior

With the development of new technologies such as Virtual Reality (VR) shopping and Artificial Intelligence (AI) recommendation systems, future research could analyze how these technologies have changed consumers' shopping decisions, and examine whether these innovations can enhance the shopping experience, which in turn can promote consumers' long-term purchasing behavior.

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