

Online Purchase Intention of Digital Products among University Students

Lee Ping Lim

Faculty of Management, Universiti Teknologi Malaysia, Johor, Malaysia

Choon Hee Ong (Corresponding Author)

Azman Hashim International Business School, Universiti Teknologi Malaysia, Johor,
Malaysia

Poh Chuin Teo, Ho Char Fei Theresa

Azman Hashim International Business School, Universiti Teknologi Malaysia, Kuala Lumpur,
Malaysia

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Abstract

Online shopping is one of the e-commerce platforms. It has gradually become famous worldwide and is expanding quickly in nations because of its continuous changes and upgrades. Most online shoppers are aged 20 and 30. University students have become one of Malaysia's most significant market populations due to the growth of digital educational services. However, it is still unclear what factors drive these university students toward online purchase of digital products. This study examines the relationship between social influence, product preference, system security, perceived pricing, and online purchase intention of digital products among public university students. 227 undergraduate students enrolled in Malaysian public universities were surveyed using a quantitative questionnaire. The Statistical Package for Social Science (SPSS) was used to analyze the collected data for this project. The findings of this study demonstrated significant relationships between online purchase intention and social influence, system security, and perceived pricing. According to

the analysis results, perceived pricing has the most significant influence on purchasers' intention to purchase online. Hence, service providers should ensure that their product pricing is reasonable and worth the money to purchase. Additionally, marketing strategies can be tailored using e-WOM practices to raise social influence, and the system's security aspects must be enhanced to increase trust and knowledge of the legitimacy of online purchases.

Keywords: social influence, product preference, system security, perceived pricing, and online purchase intention

1. Introduction

E-commerce is the organizational structure that supports the new business process, using Internet-based technologies to share business information, maintain business relationships, and perform commercial transactions (Murphy, 2022). E-commerce encompasses online shopping, product purchases, product service information, banking, bill payment, games, news, meetings, and more. Online shopping is one of the e-commerce platforms, and it has gradually become famous worldwide and is expanding quickly in nations because of its continuous changes and upgrades (Almajali, 2018).

Online shopping in Malaysia is growing, with 10.19 million users in 2021, rising to 14.43 million in 2022. This generated a growth rate of MYR 9.2 billion in 2021, and the market is expected to reach MYR 51.6 billion by 2024 with a compound annual growth rate (Dataportal, 2022). According to the Malaysia e-commerce consumer survey, sports equipment, digital products, and home appliances are the hottest products, with 56.1% of shoppers purchasing them (Suruhanjaya Komunikasi & Multimedia Malaysia, 2018). Besides, the trend of online purchases diverges among people in different age groups, where 66% of online shoppers are between 18 and 34 years old, while 15% are aged 50 years and above (Shuhaidi, 2022). University students have become one of Malaysia's most significant market populations due to the growth of digital educational services (Jariah et al., 2004). This group of university students prefers online shopping. Nevertheless, what factors drive university students toward online purchases of digital products is still unclear. Hence, there is a need to determine the factors that lead to online purchases among university students in Malaysia.

Several factors that influence online purchase intention have been identified worldwide, including social influence, product preference, the variety available, the convenience of digital products, system security, compatibility, perceived usefulness, perceived ease of use and perceived pricing (Hussein et al., 2014; Wilson, 2019; Chan & Li, 2017; Zahid & Dastance, 2016). The Theory of Planned Behavior (TPB) explains that there are three types of considerations that influence human behavior: behavioral beliefs, which are beliefs about the expected outcomes of an action; normative beliefs, which are beliefs about the expectations of others; and control beliefs, which are beliefs about the existence of elements that could help or hinder the performance of an action (Willis et al., 2020). Behavioral beliefs result in an attitude toward the activity that is either favorable or unfavorable in its respective

aggregates; subjective norms are the outcome of normative views; and perceived behavioral control is derived from control beliefs (Canova & Manganeli, 2020). Based on the explanation of TPB, the construct applicability, social influence (subjective norm), product preference (attitude), system security (perceived behavioral control), and perceived pricing (perceived behavioral control) were selected in this study to predict online purchase intention of digital products among Malaysian university students.

This research introduces social influence, product preference, system security, and perceived pricing to determine the intention to purchase digital products online. It is dissimilar to those studies focusing on online purchases without stating the specific products like Hoo et al. (2024), Rahlin et al. (2024), Raman & Hu (2024) and Wong et al. (2024).

2. Literature Review and Hypothesis Development

2.1 Online Purchase Intention

The desire to engage in a particular behavior is the definition of intention (Hoo et al., 2024). It is also a subjective assessment of how others will respond to doing something in the future (Tan et al., 2022). Attitudes towards behavior, subjective norms, and perceived behavioral control all impact this purpose. The Theory of Planned Behavior (TPB) (Ajzen, 1991) explains the shape of an individual's behavioral intention. People tend to carry out their intentions when offered an opportunity to do so when given adequate control over their behaviors. Purchase intention refers to the consumers' attitudes, subjective norms, and perceived behavioral control toward purchasing a good or service (Mirabi et al., 2015). The concept that drives customer intent to shop online is called online purchase intention (Thamizhvanan & Xavier, 2013). This research operationally represents the desire of university students to purchase digital products through the online platform.

2.2 Social Influence

Social influence is the impact of other people's opinions, beliefs, and attitudes directly or indirectly on one's decision-making process (Setiadi & Kolip, 2015). Social influence may increase purchase intention by using technologies. It collects feedback from various sources, including family members, friends, peers, classmates, and instructors, and displays them online through social media on a person's desire to make online purchases (Oliveira et al., 2016). Peers or classmates who bought comparable digital products posted their experiences on social media, influencing university students' purchase intention. In addition, social influence also indirectly impacts the early stages of online purchase intention (Taheam et al., 2016).

Past studies have demonstrated that social influence positively affects consumers' intention to purchase online (Chan & Li, 2017; Eryadi & Yuliana, 2016). Electronic word-of-mouth (e-WOM), or sharing views and suggestions about products and services through online forums, significantly impacts consumers' intention to purchase (Chew & Ong, 2022).

Additionally, it was discovered that individuals were more likely to purchase products if they felt they would be well-received by their peers and their actions aligned with their social identities (Rahlin et al., 2024). These social activities can influence consumers' purchase intention. Therefore, it is hypothesized that:

H1: Social influence has a positive relationship with online purchase intention of digital products among university students.

2.3 Product Preference

Preferences are certain aspects that a consumer seeks out in a product or service to increase its appeal to him or her through the utility of the product, fulfillment, or contentment. Product preference refers to the degree to which consumers choose a particular product over others with similar features and benefits (Teo et al., 2023). Consumers tend to prefer, like or have a greater affinity for a specific product above other comparable alternatives, primarily influenced by personal taste, brand reputation, product quality, price, convenience, and other factors (Rudansky-Kloppers, 2014). Products that fit the consumer's preferences and requirements are more likely to be bought by consumers.

According to Rahim et al. (2016), product preference significantly influenced Malaysian university students' purchase intention of smartphones (Rahim et al., 2016). This finding is consistent with Zahid and Dastance's (2016) study, which discovered that the intention to buy smartphones is highly influenced by brand awareness, perceived price, perceived quality, social influence, and product preference. Product attributes are closely linked to product preference and greatly influence consumer purchase intention. Therefore, the following hypothesis is established:

H2: Product preference has a positive relationship with online purchase intention of digital products among university students.

2.4 System Security

Internet system security comprises networked systems that monitor and control actual Internet of Things (IoT) related processes and transactions, allowing the applications and services to function precisely and instantly (Yaacoub et al., 2020). System security depends on a set of security processes, strategies, components, and algorithms to validate data and information to guarantee that it is safeguarded and prevented from propagating via the network (Junadi & Sfenrianto, 2015). The online purchase system requires several types of security related to how the online purchase system safeguards payment transactions, cybersecurity, password protection, and data protection (Wong et al., 2024).

According to Ravikumar et al. (2019), system security is a significant aspect for users when deciding whether to use online purchases because efficient security protection can lower the risk of online payment transactions. Researchers have also shown that system security significantly affects consumers' e-payment acceptance (Oyelami et al., 2020). Consumers

intend to use online purchases if the system's security is trustworthy because they are less concerned about their personal information being stolen. In addition, individuals will be more open to online purchases with robust system security protection. Based on the above explanation, it is hypothesized that:

H3: System security has a positive relationship with online purchase intention of digital products among university students.

2.5 Perceived Pricing

Price is the money a customer spends to acquire a product or a service. It also reflects the value the customer receives from using the product or service (Raman & Hu, 2024). The price represents the value exchange between consumers and the product or service they use (Ingrid et al., 2011). Perceived pricing refers to a person's assessment of the prices in terms of time, effort, money, or other related resources associated with a behavioral change (Dorce et al., 2021). According to Ingrid et al. (2011), low-income consumers are more concerned about price than high earners. Price is a significant factor in purchase intention for low-income or non-income consumers. They carefully evaluate the cost of the product relative to the benefits and quality they will receive before making a purchasing decision. Researchers such as Ingrid et al. (2011) and Ramadhan and Muthohar (2019) showed that perceived pricing positively influenced consumer purchase intention. Based on the above discussion, it is hypothesized that:

H4: Perceived pricing has a positive relationship with online purchase intention of digital products among university students.

2.6 Research Gaps

Based on the literature review, the research gaps of this research are identified as follows:

- a) There is a dearth of empirical research on the online purchase intention of digital products and its determinants in the Malaysian context.
- b) There is a gap in interdisciplinary research that combines social influence, product preference, system security, and perceived pricing to explore the online purchase intention of digital products.
- c) Limited studies exist on the specific level of Malaysian university students' purchasing of digital products online.

2.7 Conceptual Framework

Figure 1 shows the conceptual framework of this study.

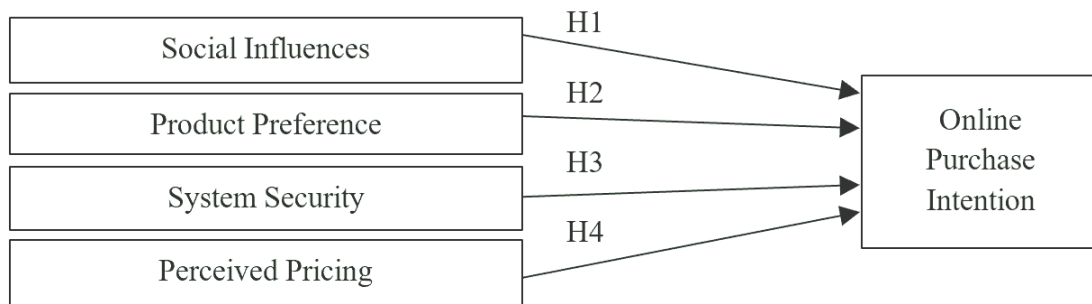


Figure 1. Conceptual Framework

3. Method

3.1 Population and Sample

The population of this study consists of undergraduate students enrolled in public universities in Malaysia. The G-Power program determined that 85 respondents are required to constitute the minimum sample size for this investigation. Nevertheless, the researchers successfully collected 227 responses from the respondents. Because it is appropriate and efficient, the convenient sampling strategy was adopted in this study because it is cost-effective, time-efficient, and simple to implement (Slade et al., 2019).

3.2 Measures

The respondents' input was gathered using survey questionnaires. The questionnaire comprised three sections: Demographic profiles, likelihood of purchasing online and factors that influence individuals' decisions to make online purchases. The questions for the study variables were adapted from previous studies such as online purchase intention (6 items), social influences (5 items), product preference (5 items) from Maity & Sandhu (2021), system security (4 items) from Teo et al. (2020), and perceived pricing (4 items) from Yan & Hou (2020). On a 5-point Likert scale, the respondents were asked to rate the level of agreement using the ratings "1" for "Strongly disagree" and "5" for "Strongly agree". The Statistical Package for Social Science (SPSS) was used to analyze the data and produce results for discussion.

3.3 Data Collection Procedure

We used a quantitative methodology to create the online survey questionnaires. An on-site administrator was engaged to help facilitate the data collection process. The administrator sent the survey questions to the respondents, who were given two weeks to complete them.

4. Results and Discussion

4.1 Profile of the Respondents

The number of male respondents is 105 (46.3%), while the rest are female respondents 122

(53.7%). There were eight universities identified as U1 to U8. 9 (4%) of the respondents are from U1, followed by 42 (18.5%) from U2, 36 (15.9%) from U3, 64 (28.2%) from U4, 14 (6.25%) from U5, 22 (9.7%) U6, 26 (11.5%) from U7, and 14 (6.2%) from U8.

Table 1. Profile of the Respondents

Description (<i>n</i> = 227)		Frequency (<i>n</i>)	Percentage (%)
Gender	Male	105	46.3%
	Female	122	53.7%
Universities	U1	9	4%
	U2	42	18.5%
	U3	36	15.9%
	U4	64	28.2%
	U5	14	6.2%
	U6	22	9.7%
	U7	26	11.5%
	U8	14	6.2%

4.2 Validity and Reliability Test

Factor analysis was conducted to demonstrate the validity of the quantifiable items utilized in this study (227 survey data). The study variables were evaluated using Bartlett's sphericity test and Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA). Table 2 demonstrated that the value of KMO is 0.902, and Bartlett's test of sphericity for the independent variables has a *p*-value of 0.001. A decent KMO score should be greater than 0.6, with Bartlett's test of sphericity significant at the level of 0.01 (Hair et al., 2015). Table 2 extracted three components with Eigenvalues greater than one. The extracted factors explained a total of 69.745% of the variance in the model, with component 1 (perceived pricing) explaining 47.233% of the variance, component 2 (system security) explaining 12.012% of the variance and, component 3 (social influences) explaining 10.501% of the variance. The factor loading values of the scale were in the range of 0.629 - 0.878. The component of product preference was discarded due to cross-loadings. As shown in Table 3, the value of KMO for the dependent variable, online purchase intention, is 0.885, and Bartlett's test of sphericity has a *p*-value of 0.001. The principal component analysis (PCA) contains 1 component with an Eigenvalue greater than 1. The extracted factor accounted for 70.096% of the variation. The factor loading values of the scale were in the range of 0.643 - 0.924.

Next, Cronbach's alpha value is used to evaluate the reliability of the study variables. Table 4 shows that Cronbach's alpha value for each variable is higher than 0.70, indicating that the internal consistency of the study variables was acknowledged and ready for further analysis (Hermosilla & Alvarado, 2016).

Table 2. Factor Analysis for the Independent Variables

Item	Description	Factor Loadings		
		1	2	3
PP2	The price of digital products is an important factor in my purchase intention.	0.878		
PP1	There is no hidden pricing while purchasing online.	0.851		
PP3	Overall, product price is an important factor in my purchase intention.	0.847		
PP4	The product pricing is cheaper while purchasing online.	0.838		
SS3	I will feel utterly safe by providing information about myself through the online purchase.		0.848	
SS1	I will feel safe using my credit/debit card information through the online purchase.		0.791	
SS4	Online purchases are generally secure platforms for transmitting sensitive data.		0.783	
SS2	Sensitive information can be sent or used safely via online purchases.		0.766	
SI2	The digital products I recommended by social media influencers I followed are the best options for online purchases.			0.794
SI4	I purchased digital products online based on the suggestions and reviews given by my family and friends.			0.740
SI3	My family and friends happily accept the digital products purchased online.			0.674
SI5	Social media influence me to try new digital products.			0.649
SI1	Social influence, such as information from peers, friends, and family members, triggers my online purchase of digital products.			0.629
Eigenvalue		6.140	1.562	1.365
Percentage of Common Variance (%)		47.233	12.012	10.501
Cumulative		47.233	59.245	69.745

 Remarks: KMO = 0.902, Bartlett's test of Sphericity $p < 0.001$

Table 3. Factor Analysis for the Dependent Variable

Item	Description	Factor Loadings
DV1	I prefer online shopping for digital products.	0.924
DV3	I trust social media and will shop online for my digital products	0.909
DV4	Online Purchasing is more reliable	0.887
DV2	I use social media to purchase my digital products	0.878
DV5	I want to recommend digital products purchased on social media to my contacts (family and friends).	0.745
DV6	I am satisfied with my experience of online shopping for digital products.	0.643
Eigenvalue		4.206
Percentage of Common Variance (%)		70.096
Cumulative		70.096

 Remarks: KMO = 0.885, Bartlett's test of Sphericity $p < 0.001$

Table 4. Reliability Test

Variables	No. of Items	Cronbach's Alpha (α)
Online purchase intention (DV)	6	0.913
Social Influences (SI)	5	0.801
System Security (SS)	4	0.870
Perceived Pricing (PP)	4	0.931

4.3 Multiple Regression Analysis

Multiple regression analysis was employed to test the hypothesis and confirm their significance level. The results of multiple regression are shown in Table 5. The regression model was significant at the 0.001 level with an F value of 163.423. The research results demonstrated significant positive relationships between online purchase intention and social

influence ($\beta = 0.423$, $p = 0.000$), system security ($\beta = 0.123$, $p = 0.000$) and perceived

pricing ($\beta = 0.433$, $p = 0.008$). All relationships were significant at the level of 0.01. Hence,

H1, H3 and H4 are supported. The model explained 68.7% ($R^2 = 0.687$) of the variance of online purchase intention.

Table 5. Multiple Regression Analysis

Independent Variable	Online Purchase Intention		Hypothesis	Result
	beta β	Sig.		
Social Influence (SI)	0.423	0.000**	H1	Supported
System Security (SS)	0.123	0.000**	H3	Supported
Perceived Pricing (PP)	0.433	0.008**	H4	Supported
F Value	163.423**			
R Square	0.687			

Remarks: ** significant at the 0.01 level.

5. Implications and Conclusion

5.1 Implications

The results of this study showed that the student's perceptions of the system's security, perceived pricing, and social influence significantly affect their intention to make online purchases. When the Malaysian government offered incentives for young Malaysians under e-Belia in 2021, e-Pemuda in 2022, and e-Tunai Belia Rahmah in 2023, these factors assumed the roles in determining the intention to purchase online. Studies by Chan & Li (2017) and Eryadi & Yuliana (2016) found that social influence plays a crucial part in online purchases based on information from others. The authors recommended that online businesses, decision-makers, and stakeholders establish their marketing strategies using online resources like user reviews, blog comments, and ratings. In addition, business

operators can utilize electronic word-of-mouth (eWOM) to present a desirable reputation because it will attract potential purchasers (Chew & Ong, 2022).

Next, it was found that perceived pricing is significantly related to online purchase intention. This finding suggests that pricing is critical to university students' online purchasing of items. This is because university students are strapped for cash and must manage their purchases conscientiously. The result is consistent with studies by Ingrid et al. (2011) and Ramadhan and Muthohar (2019), which asserted that perceived pricing is crucial, particularly for low-income consumers more sensitive to product pricing. Thus, sellers should focus on fair price policy and value-for-money strategies.

The study by Teo et al. (2020) indicated that system security is significantly associated with online purchases and payments, which is consistent with the findings of this study. This demonstrates that despite the convenience provided by online purchases and payments, individuals are worried about the issues of insecure digital payment and fraud, which reduce trust in online purchases. Hence, service providers must enhance the security and privacy aspects of digital payment to raise consumer trust and knowledge of the legitimacy of online purchases (Teo et al., 2020).

5.2 Conclusion

In conclusion, this research paper delves into the pivotal roles of social influence, perceived pricing, and system security in fostering online purchase intention of digital products. It explores how upholding ethical values, safeguards against financial malpractice, effective marketing strategies using e-WOM, and fair product pricing could cultivate purchasers' confidence in their purchasing experiences. Focusing on the current intricate landscape of contemporary business operations, the paper provides strategies for service providers to mitigate risks for online purchases, enhance reputation, attract more customers, and foster meaningful relationships with buyers.

5.3 Limitations and Future Research

This study has several limitations that can be considered in future research. First, this research only investigates social influence, product preference, system security, and perceived pricing from the TPB concept. Future research could investigate other factors, such as trust, attractiveness, and perceived functional values, to examine how these factors could affect individuals' online purchase intention of digital products. Second, the cross-sectional research design used in the current study limits the study's contribution to understanding the antecedents of online purchase intention that may change roles over time. Future research using a longitudinal approach is suggested to examine whether the individuals' online purchase intention changes over time. Third, this research was conducted in Malaysia and does not allow comparisons between countries. Future studies might consider extending the research to other countries to produce new findings.

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Competing interests

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Informed consent

Obtained.

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The Publication Ethics Committee of the Macrothink Institute.

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Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data is available.

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