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The Determinants of Online Purchasing Satisfaction: From University Students Perspective

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Abstract

Since COVID-19 pandemic, there has been a tremendous intensification towards online shopping, making customer satisfaction a significant catalyst for online businesses and it serves as an indicator to manage and improve business performance. This study examined the determinants that could influence online purchasing satisfaction from university students' perspectives. The final sample consists of 357 respondents among university students derived from a stratified random sampling method. This study utilised descriptive and multiple regression analysis to test the nine (9) hypotheses. The multiple regression results revealed that the elements of reliability, product variety, time, quality, and information availability significantly influence online purchasing satisfaction. Meanwhile, other elements such as security, shipping, pricing, and website design have no significant influence towards online purchasing satisfaction. The study's findings potentially provided vital data for businesses to enhance their service quality and marketing strategies in improving business performance. Thus, the attention should be given on enhancing sellers' reliability, variety of products, time, product quality and availability of information. Future research could consider other factors such as customer service, customer reviews or ratings and payment methods.

Keywords: Information Availability, Online Purchasing Satisfaction, Shipping, Pricing, Quality, Product Variety, Reliability, Security, Time, Website Design

Introduction

Online purchasing satisfaction plays a crucial role in business, where customer satisfaction in online purchasing serves as an indicator for companies to manage and improve their businesses. Ultimately, this improvement potentially leads to increased repurchase intention and loyalty to their business. In Malaysia, online shopping has grown tremendously, significantly contributing to the popularity of online shopping (Muda et al., 2016). A study has specified that the younger generation utilises the Internet for everything (Al-Jahwari, Khan, Al Kalbani and Al Khansouri, 2018), including necessities (El Khatib and Khan, 2017). Specifically, these young adults are born in the late 2000s, classified as Generation Z, who

frequently utilise the Internet and social media in their daily lives and purchase products from online platforms (Vasudevan and Arokiasamy, 2021).

Notably, a study revealed that despite their insufficient funds for shopping, university students aged 18 and 30 were the top-listed Internet users, specifically online shopping (Ahmad et al., 2018). The university students can conduct their online shopping conveniently at their homes or hostels, saving time and energy. Accordingly, this group possesses significant purchasing power in the online market as they are frequently exposed to technology in their daily activities (Daud et al., 2020). Thus, this study focuses on Universiti Teknologi MARA (UiTM), Dungun Campus students, assessing, evaluating, and understanding online shopping characteristics among students in Malaysia.

The geographical location of the campus limits students with varieties in conventional shopping, which in turn restrict them in choices on products or services. This situation is due to their limitation in comparing prices and variability in products or services in physical stores. Hence, the objective of this study is to examine the determinants that could influence online purchasing satisfaction from a university student's perspective. These determinants comprise security, information availability, shipping, quality, pricing, time, website design, product variety, and reliability.

Literature Review

With the growth of technology, various businesses have shifted from traditional brick-and-mortar businesses to online businesses. This type of business is also called e-commerce, an activity conducted without a face-to-face meeting between the seller and the customer. The business process includes information search on the products and services, purchasing or exchanging the products or services, information sharing, and pre or post-sale customer relationships (Jiradilok et al., 2014). However, these businesses face a significant challenge in attracting customers to purchase online while simultaneously increasing purchasing satisfaction and repurchasing intention.

Determinants of Online Purchasing Satisfaction

Security

Security is one of the critical elements for customers in online shopping. Blut (2016) defines security as the ability of online sellers to protect customers against fraud, theft, and spam email after the online purchase. In online transactions, customers' data comprising their name, address, and credit card information were the main concerns voiced by customers. Specifically, this information becomes a potential security threat when unprotected and transferred via an insecure environment (Blut, 2016).

Guide (2020) emphasised computer security, which protects personal information and details stored in a consumer's personal computer. This idea is to ensure the security of transactions, close security gaps from unsafe activities, and protect from exposure to malicious threats. According to Al-Jahwari et al (2018), since security concerns acted as a barrier against online shopping, the security of customer information in online shopping would lead to customer loyalty because the higher the system security, the higher the purchasing satisfaction. As such, the online seller must provide high-level security to their

customers, including security aspects such as encryption, security statement, and third-party affiliation to improve their customers' trust towards online shopping transactions.

H₁: There is a positive relationship between security and online purchasing satisfaction from a university student's perspective.

Information Availability

Information availability is the online sellers' ability to provide customers with adequate information, enabling them to decide about the products or services (Vasic et al., 2019). As consumers face a significant number of products online, the information available helps consumers choose and compare their available options. Subsequently, the consumers may filter out and evaluate each product (Grange, Benbasat and Burton-Jones, 2019). Technology growth plays an essential role in online shopping because customers possess a competitive advantage to acquire and obtain unrestricted access to information. This information includes product appearance images, quality information, pictures, and video clips of the online products offered at a competitive value (Nasser et al., 2015).

Besides, several authors indicated that information availability provides complete product information to the consumers, giving an advantage for them to browse and obtain information on the products or services (Kripesh, Prabhu and Sriram, 2020). Accordingly, the information provided them with options on the desired products or services.

H₂: There is a positive relationship between information availability and online purchasing satisfaction from a university student's perspective.

Shipping

Shipping is the extent to which online stores enable the shipping process to move efficiently (Blut, 2016). In essence, shipping factors in the streamlining of the products or services delivered to the end-user, including speed, accuracy, and care, all the way to the customer's front door (Wilson and Christella, 2019). Notably, any slight latency in delivery can potentially affect customer satisfaction in online shopping. Thus, the estimated delivery date in online shopping is considered the most critical component in shipping services (Ma, 2017). Additionally, Al-Jahwari et al (2018) stated that shipping the product without damage catalysts for end-user satisfaction during online purchasing.

Shipping is an essential predictor of online purchasing satisfaction. Specifically, consumer satisfaction depends on several factors such as free or discounted shipping, shipping flexibility, return service, on-time delivery, and receiving the correct product (Cao, Ajjan and Hong, 2018). Nevertheless, the delayed delivery of products remains one of the primary challenges for sellers in retaining their online customers.

H₃: There is a positive relationship between shipping and online purchasing satisfaction from a university student's perspective.

Quality

Quality is the measurement of customers' overall assessment of their recent purchasing experience, such as the process of fulfilling their requirements (Hult, Sharma, Morgeson III, and Zhang, 2019). It measures the products' ability to fulfil their purposes as required upon purchase by consumers to satisfy their needs. Hence, product quality increases online purchasing satisfaction, given that the products' performance is excellent (Pham and Yazdani,

2021). Furthermore, this critical factor is vital in e-commerce for sellers to sustain online purchasing satisfaction and minimise the risk and cost of replacing defective products (Yuan et al., 2020). In essence, quality is the overall combination of products' characteristics to meet the customers' expectations (Yusuf et al., 2019). These combinations comprise everything the sellers offer to customers, including product performance, features, and reliability.

H₄: There is a positive relationship between quality and online purchasing satisfaction from a university student's perspective.

Pricing

Pricing is the sum of money charged for an exchange of products and services or the total value that consumer needs to exchange to obtain the advantage of using and having the product or service offered by the seller (Lazim, Sulaiman, Zakuan, Mas'od, Chin and Awang, 2020). It is the summation of the sacrifices made by the customer to experience the benefits of a product or service (Raji and Zainal, 2017). Hanaysha (2016) indicated that companies typically put in significant effort to exploit business profits based on the price of products or services. However, customers tend to search for products or services offered at the best price to deliver maximum value. Furthermore, they frequently conduct online shopping because of the transparency and reduced price compared to conventional shopping (Malik, Hussain and Hanafi, 2018).

H₅: There is a positive relationship between pricing and online purchasing satisfaction from a university student's perspective.

Time

Online purchasing is a time-saving process as customers could obtain products online, sparing their time travelling to a physical store. Thus, time becomes a significant concern for customers (Agrawal and Agrawal, 2020), in which valuable time can be allocated for work, family, and leisure activities (Khalil, 2014). One of the factors that influence consumers purchasing online could minimise the time and effort to browse and compare the products (Kasuma et al., 2020). Subhashree (2019) asserted that end-users have become time-conscious, exhibiting insufficient time for shopping. Online shopping can thus serve as an alternative, being a significantly more efficient form of shopping, which could be conducted from homes or offices. Hence, companies must take adequate measures to remove hurdles from online purchasing to retain and improve customer satisfaction.

H₆: There is a positive relationship between time and online purchasing satisfaction from a university student's perspective.

Website Design

Website design is an essential factor in the purchasing process, as sellers are directly involved in assisting the customer in browsing the products or services. This factor refers to elements related to the website, such as navigation, product information and availability, order processing and shipment, and product price (Blut, 2016). These elements are critical during the early shopping process to support and increase the customer experience. Ludin and Cheng (2014) highlighted that a well-designed website with an excellent user interface is an essential element portraying the seller's ability to provide customers with a convenient environment, which reduces the time for information search. Furthermore, website design could manipulate and influence consumer behaviour in online purchasing (Nong and Gainsbury, 2020). This phenomenon is due to the website's ability to hide low-quality information

regarding the product, leading to the customers' purchase and exchange. The website design could be measured by providing information and facilitating purchasing activities effectively and efficiently (Biswas et al., 2019).

H₇: There is a positive relationship between website design and online purchasing satisfaction from a university student's perspective.

Product Variety

Fundamentally, product variety is the number of products available from sellers offered to consumers. This idea provides them with a broader selection of products, subsequently increasing customer satisfaction (Lim, Jin and Srai, 2018). Sellers must provide product heterogeneity to consumers (Um, Lyons, Lam, Cheng and Dominguez-Pery, 2017) since it offers decision flexibility, giving them freedom of choice (Amanah and Harahap, 2018). Sorkun (2019) stated that online stores could offer various products due to the virtually unlimited shelf space. Consequently, increasing product variety create extensive inventory levels, enhancing competitiveness and sales within the online marketplace (Wan and Sanders, 2017).

The ability to provide a diverse range of products allows customers to choose from general preferences based on their needs, tastes, or budget (Wilson and Christella, 2019; Tarhini, Alalwan, Al-Qirim and Algharabat, 2021). Companies offering various products could make a significant profit and build a long-term relationship with existing customers while attracting new customers. Notably, the online consumers' expectations increase parallel to online sellers' influx. In essence, online sellers are expected to offer extensive product varieties, which lead to a higher chance of purchase by consumers (Deyalage and Kulathunga, 2020).

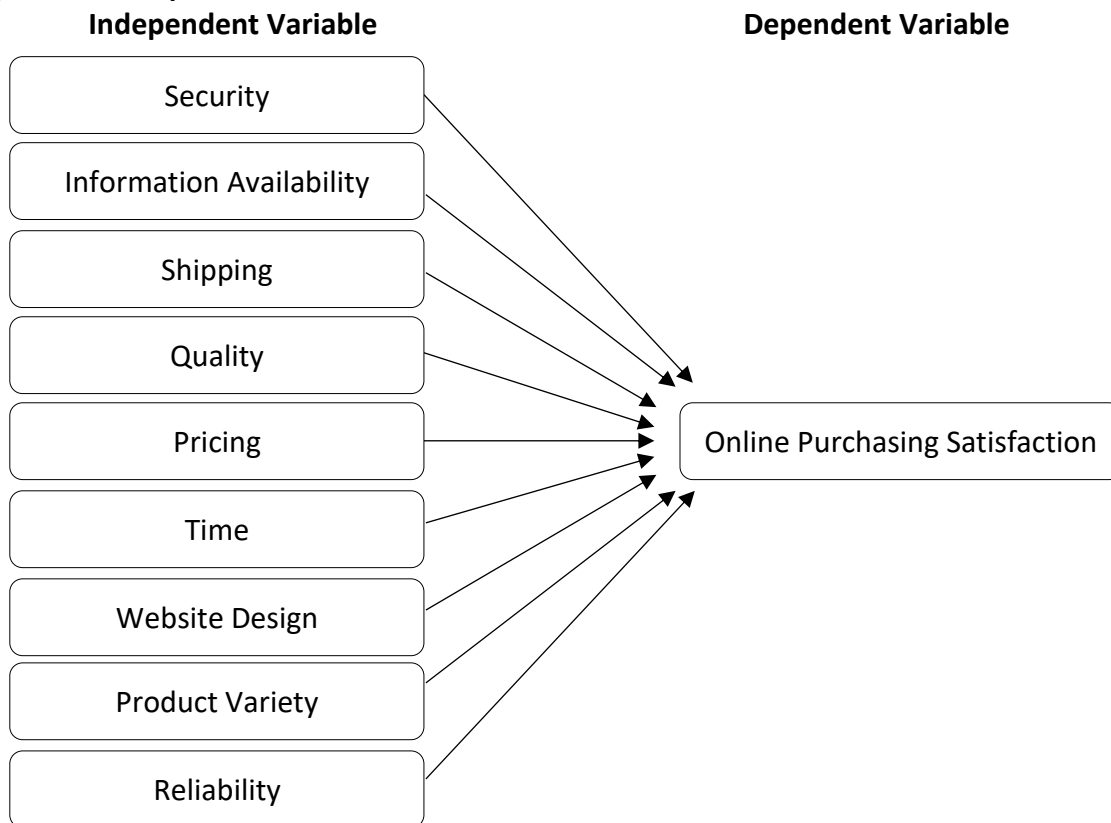
H₈: There is a positive relationship between product variety and online purchasing satisfaction from a university student's perspective.

Reliability

Reliability can be viewed as the customers receiving what they ordered in excellent condition based on the display and information provided on the website within a promised time frame (Blut, 2016). In other words, online sellers can perform the promised service dependably and accurately (Wang and Le, 2015). Furthermore, this idea fulfils the performance risk in which customers assume online orders until the product is delivered within the expected time (Kaurin and Boskovic, 2020). Notably, reliability is risk-related, and it is an indicator of customers' anticipation towards sellers in online transactions. This idea indicates whether sellers are reliable in delivering their commitments and services as promised (Yahaya Nasidi, Hassan and Fazil Ahmad, 2021). In online shopping, reliability is related to trust, where consumers' trust could be obtained by providing critical information to the consumers. Specifically, they should be cognizant of the seller, products, or services, building their trust before conducting the transaction (Tasin, 2017).

H₉: There is a positive relationship between reliability and online purchasing satisfaction from a university student's perspective.

Figure 1: Conceptual Framework



Research Method

Sample Selection and Data Collection

The population of this study comprised 4,437 UiTM Terengganu, Dungun Campus students, divided into strata based on the faculty. Based on Sekaran (2003) table for determining sample size, a sample size of 357 would be needed to represent a given population of 4,437. Due to the pandemic, the questionnaire survey was conducted through *Google Form*, and the link was forwarded via *WhatsApp* Application.

Table 1: Population and Sample Distribution

No	Faculty	Population	Sample Size
1	Faculty of Accountancy	662	53
2	Faculty of Hotel and Tourism Management	1596	128
3	Faculty of Electrical Engineering	284	23
4	Faculty of Business Management	1725	139
5	Academy of Contemporary Islamic Studies	170	14
Total		4,437	357

Measures

In this study, the dependent variable is online purchasing satisfaction. As shown in Appendix 1, five (5) items were related to online purchasing satisfaction (Vasić et al., 2019; Tandon et al., 2017). For independent variables, nine (9) dimensions of variables, with each one containing five items. These variables include security, information availability, shipping, quality, pricing, time, website design, product variety, and reliability. This study employed the 5-point Likert scale (ranging between 1 and 5), in which the scale is represented as follows: 1

(Strongly Disagree), 2 (Disagree), 3 (Neither Agree nor Disagree), 4 (Agree), and 5 (Strongly Agree) for all the variables (dependent and independent).

Table 2 showed that Cronbach's alpha coefficients of ten (10) variables were higher than 0.7, indicating that all items used in this study were reliable. The result indicated that the data is normally distributed, and thus the parametric statistical analysis is utilised.

Table 2: The Reliability Analysis

Variable	Cronbach's Alpha
Security	0.872
Information Availability	0.842
Shipping	0.845
Quality	0.825
Pricing	0.798
Time	0.703
Website Design	0.886
Product Variety	0.865
Reliability	0.841
Online Purchasing Satisfaction	0.863

Based on the collinearity statistics (Table 4), the analysis showed that the tolerance value for all independent variables is more than 0.2 and the VIF for all independent variables is less than 10. Therefore, the multicollinearity assumption is not violated. Likewise, tests on linearity, normality, and homoscedasticity assumptions demonstrated that the data were distributed on a straight line for the p-p plot. All the residuals appeared to be randomly distributed around the horizontal line for the Scatter plot. Hence, the data analysis showed no severe violation of basic assumptions, and the use of regression for the following analysis is appropriate.

Results

Table 3 shows the descriptive statistics to describe the mean, standard deviation (SD), and the relationship among variables. The mean value above 3.5 for all variables indicated the overall tendency of the respondents to provide a high rating to each variable. The SD clearly shows that all variables have a slight deviation of less than 1.

Table 3: Descriptive Statistics for Each Variable

Item	N	Mean	Std. Deviation
Security	357	3.70	0.611
Information Availability	357	3.77	0.554
Shipping	357	4.03	0.553
Quality	357	3.80	0.536
Pricing	357	4.02	0.573
Time	357	4.09	0.503
Website Design	357	4.08	0.510
Product Variety	357	4.03	0.487
Reliability	357	3.94	0.520
Online Purchasing Satisfaction	357	4.01	0.486

Table 4 depicts the multiple regression results with the adjusted R^2 of 0.549, indicating that 54.9 per cent of the study's independent variables can significantly explain the variations in online purchasing satisfaction. Furthermore, the F-test of 49.154 is significant at the level of 0.01. The regression analysis results (Table 4) revealed that information availability ($\beta = .097$, $p < 0.05$), quality ($\beta = .121$, $p < 0.05$), time ($\beta = .168$, $p < 0.00$), product variety ($\beta = .204$, $p < 0.00$), and reliability ($\beta = .381$, $p < 0.00$) have significant relationship with online purchasing satisfaction. Meanwhile, the remaining four (4) variables, namely security (p-value = 0.780), shipping (p-value = 0.138), time (p-value = 0.821), and website design (p-value = 0.821) have no significant relationship with online purchasing satisfaction.

Table 4: Multiple Regression Analysis

Variable	Collinearity Statistics		Beta	Sig
	Tolerance	VIF		
Security	.690	1.449	-.012	.780
Information Availability	.570	1.754	.097	.040
Shipping	.419	2.387	-.082	.138
Quality	.504	1.986	.121	.016
Pricing	.663	1.507	.010	.821
Time	.630	1.588	.168	.000
Website Design	.364	2.747	.051	.391
Product Variety	.445	2.248	.204	.000
Reliability	.404	2.477	.381	.000
R^2 change				.749a
R^2				.560
Adjusted R^2				.549
F				49.154

Discussion

The multiple regression results revealed a significant positive relationship between information availability and online purchasing satisfaction from a university student's perspective. Thus, H_2 is supported, indicating that information related to the products is a significant concern for consumers as insufficient product information would hinder them

from purchasing online. Furthermore, the detailed and high-quality product information enabled them to compare products and support their decision-making. Thus, this situation significantly affected the customer's online purchasing satisfaction (Kashyap and Kumar, 2019). Kaurin and Boskovic (2020) also supported this finding by indicating that the information availability provided consumers with correct and trustworthy information, eliminating concerns and fear about the products or online transactions.

Notably, this research found a significant positive relationship between quality and online purchasing satisfaction from a university student's perspective, supporting H₄. This finding parallels Vasic et al (2019)'s results, where quality positively affects online purchasing satisfaction when customers receive excellent or superior products from online sellers. Ultimately, this idea would influence the customer's decision, increasing their online shopping frequency. The positive relationship between quality and online purchasing satisfaction occurs when customers' website reviews present the product quality to a certain degree. Consumers cannot directly touch or feel the product quality in online shopping (Ibrahim et al., 2019).

Time was found to significantly affect online purchasing satisfaction from a university student's perspective, thus supporting H₆. Accordingly, this result is consistent with Neger and Uddin (2020)'s findings, where product purchase over the Internet helps consumers save time. Thus, it played a significant role in online purchasing satisfaction. Moreover, online shopping could be performed faster, excluding travelling time to a physical store and the need to queue up or stand at the counter to make payment. Significantly, various other reasons could save the customer's time when purchasing the product online. The finding is consistent with previous studies such as (Khalil, 2014; Wilson and Christella, 2019).

Accordingly, this research revealed a significant relationship between product variety and online purchasing satisfaction from university students' perspectives, supporting H₈. The results are consistent with previous research, indicating that product variety is a critical predictor of online purchasing satisfaction (Mahmud, Imtiaz and Ahmed, 2019; Morales Kahn, McAlister and Broniarczyk, 2005; Guo et al., 2012, and Arora and Aggarwal, 2018). Additionally, the finding indicates product variety as an assortment of products provided to customers, expanding their options. Subsequently, the selection from the variety of products become the online purchasing satisfaction's determinant. Moreover, H₉ is supported since the regression results revealed that reliability significantly affects online purchasing satisfaction from a university student's perspective.

Previous studies highlighted that reliability positively affect online purchasing satisfaction since reliable online sellers must fulfil and deliver their services and products within the required time frame (Nasidi et al., 2021; Gao, 2020; Miandari et al., 2021). Reliable online stores provide a comfortable feeling for customers to shop online with ease. Other studies indicated that reliability positively affects online purchasing satisfaction when sellers correctly fulfil customers' orders (Wilson and Cristella, 2019). This effect can be extended to transparency of the merchandise offered, continuous product information update, and other elements exhibiting seller's reliability. Meanwhile, security, shipping, pricing, and website design did not contribute to the prediction of online purchasing satisfaction

Conclusion, Limitations, and Future Research

This research identifies the influence of online purchasing satisfaction among UiTM Dungun Campus students, comprising 357 respondents. This study discovered that the elements of reliability, product variety, time, quality, and information availability determine online purchasing satisfaction among university students. However, elements, namely, security, shipping, pricing, and website design, presented no significant effect. Similar to most research, this study was constrained by certain limitations that can be addressed in future research. The generalisation of the findings is a primary limitation as this study was exclusively conducted at the UiTM Terengganu branch, specifically at Dungun Campus. Hence, this result does not reflect the entire student Malaysian population, which cannot be applied to the general public.

The margin of error and sampling bias may exist while conducting the research, and therefore the final results' interpretation and assessment might be exaggerated. Further research can measure other elements that may significantly affect online purchasing satisfaction beyond the nine variables already incorporated into the research. Additionally, the student's income is considered one of the limitations, which can be addressed further. This situation is because students with a personal source of income might provide varying results towards online purchasing satisfaction.

Several recommendations ought to provide a helpful guide to improve the analysis for future research. As mentioned previously, this research should be conducted with a larger sample size to acquire more reliable results by increasing representativeness and accuracy while reducing the margin of error. Other factors can be identified and linked with online purchasing satisfaction, such as customer service, customer reviews, and payment methods. Finally, future research can be extended to include the student income in the demographic profile to observe different findings regarding the student's source of income.

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