

THE IMPACT OF RISK ON ONLINE PURCHASING BEHAVIOR AMONG UNIMEL STUDENTS

Nurul Liyana Hussin*

Faculty of Business, Hospitality and Technology,
Universiti Islam Melaka, Batu 28, 78200 Kuala Sungai Baru, Melaka, Malaysia.

Nurul Qurratul Najihah Saminan

Faculty of Business, Hospitality and Technology,
Universiti Islam Melaka, Batu 28, 78200 Kuala Sungai Baru, Melaka, Malaysia.

Nurulhayah Muhamad

Faculty of Business, Hospitality and Technology,
Universiti Islam Melaka, Batu 28, 78200 Kuala Sungai Baru, Melaka, Malaysia.

Maryam Mohd Esa

Faculty of Business, Hospitality and Technology,
Universiti Islam Melaka, Batu 28, 78200 Kuala Sungai Baru, Melaka, Malaysia.

Norzaimah Zainol

Faculty of Business, Hospitality and Technology,
Universiti Islam Melaka, Batu 28, 78200 Kuala Sungai Baru, Melaka, Malaysia.

**Corresponding Author's Email: nurulliyana@unimel.edu.my*

Article History:

Received : 3rd June 2024
Revised : 30th November 2024
Published : 31st December 2024
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To cite this article:

Nurul Liyana, H., Nurul Qurratul Najihah, S., Nurulhayah, M., Maryam, M. E. & Norzaimah, Z. (2024). THE IMPACT OF RISK ON ONLINE PURCHASING BEHAVIOR AMONG UNIMEL STUDENTS. *Journal Of Business Innovation*, 9(1), 151-162.

ABSTRACT

Online purchasing is a service through digital platforms such as e-commerce or mobile applications which gives consumers the opportunity to buy other than physical stores. It still involves the process of searching, comparing and buying goods like traditional method. With that, the researcher conducts this study to identify the impact of financial risk, time risk, product risk and security risk towards the buying behavior among students in Melaka. The population are the students that actively involved in online purchasing using various platform for example social media. Thus, this study was conducted on 341 respondents consisting of UNIMEL students and the questionnaire was used and distributed online via Google Form. The findings have shown only three independent variables that influence students' behavior towards online purchases. Security risk factors, product risk and financial risk have been identified which can influence

online purchasing behavior among UNIMEL students. With the results of this study, future researchers can continue by studying factors that are different from the research that has been conducted.

Keywords: *Financial Risk, Time Risk, Product Risk, Security Risk*

1.0 INTRODUCTION

Online shopping has become a trend among people to facilitate their daily routine to shop online without having to go out and stand in line at a physical store. The e-commerce platform is a trend for the business sector to promote products and goods and has become the choice of consumers in making online purchases (Muhammad Adnan, Mohamad Adli, Fauziah, Akmar Hayati, 2022) which is a result of the internet's extensive use and the acceptance of its significance. This is in line with the study from Nurul Asyikin and Noor Aslinda (2020) that explain the use of the internet has become part of society's daily routine. With the growing internet and technology, people's lifestyle patterns are becoming more advanced and too busy. With the availability of various platforms for online purchases, users can easily make payments through different methods. According to Muhamad Shaifullah (2021) in Berita Harian, there are four popular cashless payment channels include JomPAY, FPX, MyDebit, and DirectDebit. These methods simplify transactions for users, whether online or at the counter by providing faster service and saving time, catering to the users' convenience and comfort. For ATM card payments, users can use the contactless MyDebit service (PayWave) or enter a six-digit PIN for transactions over RM250. JomPAY is suitable for paying bills such as electricity and water more easily and safely. The most popular payment channel for online shopping is the FPX service, which offers a convenient and secure option with a variety of banks to choose from.

However, high users of internet do not mean that they will not face any problems when shopping online (Geetha, Chin, Fennie Iswarnie et al., 2021). Previous research findings found several main factors that influence consumer behavior towards online purchases namely security risk factors, time risk, product risk and financial risk. As the population of internet users increases, it will involve all four risks that may have positive or negative effects. Security risks for example will affect user behavior that will involve the personal data of those browsing the internet, especially when making online purchases. According to Meher Neger and Burhan Uddin (2020), stated that security is one of the most important things in making purchases on the internet or e-commerce. This is because online shopping can face security problems, such as identity theft, scammer fraud, product counterfeiting and so on (Tsiakis, 2012). As in the case published by Bernama (2023), a total of 8,868 cases of online purchase fraud with a loss value of RM163 million were reported from January to September 2023.

The Cyber Security Expert from LGMS Bhd stated that electronic banking fraud is becoming more and more common because cybercriminals can easily hack android phones and have access to the victim's personal information through android files Package Kit (APK). This means that after the cybercriminal can easily hack the victim's phone and will control the entire victim's phone including bank transactions. Other than that, there is a possibility that customers may feel that their time has been wasted when making an online purchase due to unsatisfactory product searches, delivery delays, and an overall negative shopping experience. According to Nor Farahin, Nor Fatimah, and Mohamad Izzuan (2021), delayed delivery of goods highlights the challenges faced by courier services and users as demand increases. For example, courier services have struggled with delays due to the surge in packages needing delivery. Pos Laju, for instance, has experienced a dramatic increase in packages, handling up to 770,000 per day, far exceeding its normal capacity of 350,000 packages per day (Sri Ayu, 2020). Many consumers face difficulty in choosing genuine products, as well as selecting the right look, color, and other features. According to a Sinar Harian (2021), Deputy Minister of Domestic Trade and Consumer Affairs, Datuk Rosol Wahid stated that customers often feel deceived and dissatisfied when the products they receive do not match the advertising pictures. Another complaint received by the Deputy Minister concerns the quality of services or goods ordered online once they are received by consumers. Otherwise, due to this issue, the researcher

aims to study the impact of these risk towards the purchasing behavior among customers focusing the university students.

2.0 LITERATURE REVIEW

2.1 Perceived Security risk

Perceived security risk is the possibility of online businesses collecting data about individuals and using it incorrectly and without permission (Aishah, Maira, Iffat Fatima and Shaista, 2015). Wan Fareezuan Haqim, Shahrina, and Sharifah (2021) observed that since the onset of the COVID-19 pandemic in 2020, many consumers have become less inclined to shop in physical stores due to concerns about the virus's spread. As COVID-19 cases continue to rise, customers increasingly prefer online shopping over in-person purchases. Mohd Ekhsan, Mohd Ghadafi, and Mohd Yusof (2020) emphasize that one of the most critical aspects of internet or e-commerce shopping is the security of users' personal data. Online transactions require organizations or businesses to process substantial amounts of buyers' personal information. Abhishek Kumar, Subham Kumar Gupta, Animesh Kumar Rai, and Sapna Sinha (2013) identified several internet and social media data security issues, including identity theft, phishing attempts to obtain account data, the potential for user profile cloning, and a plethora of misleading sales advertisements (Nurul Asyikin & Noor Aslinda, 2020). Aishah, Maira, Iffat Fatima, and Shaista (2015) found that the lower the security risk, the more active consumers are in online purchasing. This is supported by researchers Folarin and Ogundare (2016), who assert that a secure online purchasing platform alleviates user concerns about identity theft and credit card information misuse.

2.2 Time Risk

Time risk can be defined as the time taken by customers to place an order online and obtain information about the product, such as customer reviews, vendor trust level and user satisfaction (Nurul Asyikin and Noor Aslinda, 2020) which often stem from difficulties in navigation and order submission, as well as delays in receiving products (Johnson & Ramirez, 2020). It also encompasses the inconvenience associated with locating a website, navigating through it, the speed of the checkout process, and the time required to receive the order (Davari et al. 2016). Online transactions can fail due to delivery errors, slow internet connections, difficult website navigation and prolonged information searches (Swiegers, 2018). Time risk also encompasses situations where products do not meet consumers' expectations, necessitating returns and replacements (Ariffin et al., 2018). Consequently, online shopping experiences perceived as complex and inconvenient negatively impact the intention to patronize these services (Okoyet al., 2021).

2.3 Product Risk

Product risk is related to the performance or quality of goods and services chosen by consumers through online purchases (Tham, Kok Wai, Dr Omkar, Zainudin and Nurlida, 2019). Product risk can be mitigated by prominently displaying detailed product information, refund policies, reviews, warranties, and after-sale services on an online shopping site (Suki & Suki, 2017). Previous studies have shown that product risk influences customers' attitudes towards online behavior (Suki & Suki, 2017) and negatively impacts online purchases (Masoud, 2013). Dai et al. (2014) reported a negative effect of product risk on the intention to purchase digital products online, but found it to be insignificant for non-digital products. Han and Kim (2015) observed a negative effect on purchase intention for both high and low involvement products.

2.4 Financial Risk

Financial risk is a common concern associated with online purchasing. This includes worries about fraud, identity theft, manipulation of credit card information, and fears related to using the internet. Additionally, there are concerns about vendors leaking personal data and the threats posed by cybercrime (Nurul Asyikin and Noor Aslinda, 2020). According to Ariffin et al. (2018), financial risk significantly influences online shoppers' purchase intentions, frequent purchasing activities, and information searching. This financial risk is defined as the potential monetary loss experienced by internet shoppers when a product is not worth its cost. Popli and Mishra (2015) further explain that financial risk includes hidden maintenance charges and potential repair costs associated with products purchased online.

2.5 Purchasing Behaviour

T. Ramayah, Aizzat, Mohd Nasser and Hajemi Hassan (2003) explained the theory from Ajzen & Fishbein (1980) which is the Theory of Reasoned Action (TRA) that behavior results from the formation of specific intentions to behave. According to the TRA model, there are two main factors that determine behavioral intentions, one is a personal trait and the other reflects social influence. Personal factors are called attitudes toward behavior. It refers to a person's assessment of whether a behavior is good or bad and their stance on performing it. Social factors, known as subjective norms, involve a person's perception of the social pressure to either engage in or avoid the behavior. According to the theory, behavioral beliefs shape a person's attitude toward a behavior. This means that behavioral beliefs are a person's convictions that a certain behavior will lead to a particular outcome and their evaluation of that outcome. Similarly, normative beliefs form a person's subjective norms. Normative beliefs involve the individual's perception that a specific person or group believes they should engage in a behavior and their motivation to comply with these social expectations. Therefore, attitudes toward behavior are shaped by behavioral beliefs and evaluations of the behavior's outcomes, while subjective norms are influenced by normative beliefs and the desire to conform to certain social referents. Together, attitudes and subjective norms determine a person's intentions, which in turn precede the actual behavior.

3.0 METHODOLOGY

This study is quantitative and involves using instruments such as survey forms. The questionnaire administered via Google Forms, and respondents are required to complete the survey at a single point in time. The researcher employed a purposive sampling method, which involves selecting a sample randomly from a specifically chosen population at UNIMEL. The selection of samples is based on the opportunity and probability of each respondent being chosen for the study. This study utilizes a questionnaire divided into several sections: A, B, C, D, E, F, and G. Section A includes demographic questions that gather personal information from respondents, such as gender, age, faculty and confirmation of online purchase activity. Section B covers the frequency of purchases. Sections C, D, E, and F focus on independent variables, while Section G addresses the dependent variable. Respondents will answer the questions using the Likert Scale method to assess the level of influence of various risks on UNIMEL students' online purchasing behavior. In this study, the population at UNIMEL is 3,075 students. Consequently, the sample size for this study has been determined to be 341 respondents, as indicated by Table 1 in Krejcie and Morgan's (1970) guidelines for sample size determination.

Table 1: Determination of Sample Size (Krejcie & Morgan, 1970)

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size.
S is sample size.

3.1 Pilot Test

The Cronbach's Alpha value obtained was 0.960 as a result of the reliability test conducted on the instrument of 30 respondents. The value of Cronbach's Alpha is above >0.9 and it means that the reliability of this questionnaire is a very good and effective finding to continue in more depth.

4.0 FINDINGS AND DISCUSSION

4.1 Demographic Profile

Table 2 presents the demographic profile of the study respondents. From the 341 respondents, 60.7% were female and 39.3% were male. Most respondents were 18-21 years old (50.7%) while 37.8% were 22 to 25 years old, and the remaining were 26 – 29 years old (11.4%). Furthermore, most respondents were made an online purchase (99.4%) and the frequency of purchasing via online mostly is less than 5 times per month (43.7%). 34.6% spent 5 to 10 times per month online purchasing and the remaining is more than 10 times a month.

Table 2: Demographic Profile

Demographic Variables	Categories	Frequency	Percentages (100%)
Gender	Male	134	39.3
	Female	207	60.7
Age	18 – 21 y/o	173	50.7
	22 - 25 y/o	129	37.8
	26 – 29 y/o	39	11.4
	30 – 33 y/o	0	0
Making Online Purchases	Yes	339	99.4

	No	2	0.6
Frequency Online Purchases (per month)	Less than 5 times	149	43.7
	5 – 10 times	118	34.6
	More than 10 times	72	21.1

4.2 Correlation Analysis

Based on Table 3, the study reveals significant positive relationships between various risk factors and students' behavior towards online purchases. Specifically, safety risk factors ($r = 0.441$) and time risk factors ($r = 0.431$) have moderate positive correlations with online purchasing behavior, as classified by Albert Davis (1971). Product risk factors ($r = 0.513$) exhibit a strong positive relationship, while financial risk factors ($r = 0.513$) show a strong positive correlation as well. These findings indicate that higher levels of these risk factors are associated with increased risky online purchasing behavior among students.

Table 3: Correlation Findings

Variables	<i>r</i>	<i>p</i>
Security Risk	.441**	.000
Time Risk	.431**	.000
Product Risk	.513**	.000
Financial Risk	.513**	.000

4.3 Regression Analysis

The results of the study displayed in Table 4 show that 34.2% ($R^2 = 0.342$) of safety risk factors, time risk, product risk and financial risk are factors that influence students' behavior towards online purchases at UNIMEL. The result showed the F-statistic ($F = 43.488$) is acceptable because the p value is significant (< 0.000) or smaller than the alpha value of 0.01. This shows that the study data fits the four linear regression prediction models discussed in this study, because the slope of the linear regression line of this model is not equal to zero. Referring to the regression analysis, students' behavior towards online purchases (Y) is only influenced by three variables which are financial risk factors (X1), product risk (X2) and security risk (X3). Meanwhile, only the time risk factor (X4) does not have a significant influence on students' behavior towards online purchases. Based on the results of this study, the influence between student behavior towards online purchases (Y) is influenced by financial risk factors (X1), product risk (X2) and security risk (X3), which can be explained using regression analysis expressed through linear equations such as the following:

$$Y = 1.221 + 0.236 (X1) + 0.231 (X2) + 0.196(X3)$$

The results of this study show that if one unit of the financial risk factor (X1) increases, then students' behavior towards online purchases also increases by 0.236. Meanwhile, one unit of product risk factor (X2) increases, so students' behavior towards online purchases also increases by 0.231. As for the security risk factor (X3) increases, then students' behavior towards online purchases also increases by 0.196. Next, another unit While for the time risk factor (X4), does not contribute to the behavior of UNIMEL students towards online purchases.

Table 4: Regression Analysis Result

Dependent Variable	Independent Variables	B	BETA	t	Sig
	Constant	1.221		5.421	0.000
	Financial Risk (X ₁)	0.236	0.223	3.225	0.001
Behaviour on Online Purchasing (Y)	Product Risk (X ₂)	0.231	0.223	3.224	0.001
	Security Risk (X ₃)	0.196	0.211	3.887	0.000
	Time risk (X ₄)	0.038	0.048	0.778	0.437
R ²	0.342				
F	43.488				
Sig F	0.000				

5.0 DISCUSSION

The findings in this study indicate that the financial risk factor significantly influences UNIMEL students' behavior towards online purchases. Regression analysis revealed that the financial risk factor has the highest impact compared to other risk factors and is statistically significant. Meanwhile, the highest mean response in the financial risk section was for the statement, "I am worried that the product may not be worth the price I paid." This reflects respondents' concerns about buying poor-quality products, as they cannot evaluate, touch, or see the items advertised online before purchasing them (Noraznida & Siti Nurashidah, 2021).

Additionally, the product risk factor significantly influences UNIMEL students' behavior towards online purchases, as demonstrated by regression analysis. The highest mean response in this category was for the statement, "I am worried that the product advertised on the internet may be different from the actual appearance." This reflects a common concern among respondents, as many have experienced discrepancies between advertised products and what they receive. Product risks, such as limited stock, insufficient information, incorrect deliveries, delays, and products not matching their pictures, are serious issues that can damage consumer trust and reputation (Saprikis, Chouliara, & Vlachopoulou, 2010).

Furthermore, security risk factors also significantly influence student behavior towards online purchases, as shown by the regression analysis. The highest mean response in this category was for the statement, "I am worried that the information provided by the seller is wrong." This concern indicates that respondents fear inaccurate information and potential misuse of personal data or delivery errors. Researchers Chang et al. (2012) and Sahney et al. (2013) found that concerns about unsafe online transactions and misuse of personal data deter consumers from making online purchases.

Meanwhile, the time risk factor met its objective but does not significantly influence UNIMEL students' behavior towards online purchases, according to regression analysis. The highest mean response in this category was for the statement, "I am worried that it will be difficult for me to find a suitable product online." This suggests that respondents share a common concern about the difficulty and time required to find quality products. However, this factor does not impact all respondents equally. The second highest mean response, "I am worried that if I make a purchase online, I cannot wait for the ordered goods to arrive

at my location," received a score of 3.96. This indicates that some respondents are also concerned about potential delays in receiving their purchases, possibly due to not being at home or at the specified delivery location.

6.0 CONCLUSION

The study concludes that various risk factors have differing impacts on students' behavior towards online purchases. From a consumer perspective, understanding these risks is crucial for making informed decisions and protecting oneself from potential negative outcomes. Financial and product risk factors emerged as significant influencers. Financial risk, highlighted by concerns over product value, showed the strongest effect, indicating that students are wary of spending money on potentially low-quality products. Similarly, product risk which emphasized by fears of discrepancies between advertised and received products, significantly influences purchasing behavior and reflecting common negative experiences among students. Security risk factors also play a crucial role, with significant concerns about the accuracy and potential misuse of information provided by sellers. This aligns with findings from other researchers, who note that worries about unsafe transactions and data misuse deter online purchases. For consumers, being aware of these risks is essential to safeguard their personal information and ensure a secure shopping experience. In contrast, the time risk factor, while recognized, does not significantly affect purchasing behavior. Although students express concerns about finding suitable products and potential delivery delays, these worries do not strongly influence their decision to purchase online. In summary, the study highlights the importance of financial, product, and security risks in shaping online purchasing behavior among UNIMEL students, while time risk factors are less influential. From a consumer's perspective, knowledge of these risks is vital for making safer and more satisfactory online purchases. Addressing these key concerns could enhance student confidence and participation in online shopping. Understanding and mitigating these risks can lead to better consumer protection and more positive online shopping experiences.

AUTHOR CONTRIBUTIONS

Nurul Liyana H.: Conceptualizing the research, designing the experiments and drafting the manuscript; Nurul Qurratul Najihah S.: Responsible for literature review, data collection and analysis and coordinated the efforts of the entire team throughout the project; the rest of authors responsible in in-dept discussion of manuscript.

CONFLICTS OF INTEREST

The manuscript has not been published elsewhere and is not under consideration by other journals. All authors have approved the review, agree with its submission and declare no conflict-of-interest on the manuscript.

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