



RMTB

Homepage: <http://publisher.uthm.edu.my/proceeding/index.php/rmtb>
e-ISSN : 2773-5044

The Relationship between Perceived Risk and Online Purchase Intention

Nur Azyyati Bahanan¹, Siti Aisyah Salim^{1*}

¹Department of Management and Technology, Faculty of Technology Management and Business,
Universiti Tun Hussein Onn Malaysia, 86400 Batu Pahat, Johor, MALAYSIA

*Corresponding Author Designation

DOI: <https://doi.org/10.30880/rmtb.2022.03.01.009>

Received 31 March 2022; Accepted 30 April 2022; Available online 25 June 2022

Abstract: Online shopping has become an integral part of our daily lives as it is more convenient and easier to do anywhere and anytime. Perceived risk is one of the major concerns that is widely discussed in past studies in relation to online shopping activities. Though there are huge studies looking into the perceived risk aspect of online shopping, there is still a lack of studies looking into the context of Malaysia and focused on online shopping adoption. Thus, this research aims to examine the relationship between perceived risk and online purchase intention in the context of Malaysia. This study has used the Theory of Planned Behavior (TPB), and the Theory of Technology Acceptance Model (TAM) to observe this relationship. This study has used a quantitative research method to gather the data respondents, about 124 questionnaires have been answered among consumer millennials in Batu Pahat, Johor. The structure of the questionnaire based on the self-administrated and the online survey has been applied. All this data is using the software of Statistical Package for Social Science (SPSS) to get the demographic information, variables, and the relationship between perceived risk and online purchase intention. Based on the result for all variables showing a significant relationship of perceived risk and online purchase intention, the highest correlation coefficient between the variables is Psychological Risk which is 0.506. This research can be used for retailers and consumers to gain a better understanding of the perceived risk towards online purchase intention.

Keywords: Perceived Risk, Online Purchase Intention, TPB, TAM

1. Introduction

The advancement of technologies in supporting digital platforms has influenced more features to be introduced in the online shopping environment (Dwivedi *et al.*, 2021). The introduction of these new feature has made online shopping more active as there are many facilities that consumers can use it, also saves consumers time and energy when shopping in their retailer's choice (Duarte *et al.*, 2018). The growth of e-commerce is promising and gives attraction to consumers to purchase the service and

product by managing the consumer perceived risk (Akar & Nasir, 2015). However, there are several factors that determine the consumer purchase intention (Rehman *et al.*, 2019).

Based on the previous research, perceived risk is depending on the intention of consumers to purchase their product and service online (Hong, 2015). The level of perceived risk will depend on the difference of the transaction that has proceeded (Ariffin *et al.*, 2018). According to Ahmad and Aboobucker (2016), the development of perceived risk theory is made of Bauer (1960) where it suggests consumer behavior should be analyzed to handle the risky activities.

According to a report by International Trade Administration (2020), Malaysia has growth rapidly in the e-commerce industry, especially during this covid 19 pandemic. This also contributed by the usage of smartphones to keep in touch with other people either work or personal. In Malaysia, more than 50% which equal to 16.53 million of Malaysian population connected to the internet (Export, 2019). Based on the Sabou *et al.*, (2017), online shopping has become increasingly popular over time as more people have come to trust online commerce and have relocated a large portion of their purchasing online. However, based on the research of Ahmad and Aboobucker (2016) stated although online shopping is very easy for users, the acceptance of risks such as visual inspection is limited.

According to Wai *et al.* (2019), the marketing literature realized that the risk perception will directly affect purchase and purchase intent, where the consumers will be less likely to purchase when they perceive the risk is high. Prevention is needed to make sure customers more believed to purchase online as the researcher Ariff *et al.* (2014) said that consumer perceptions of risk should be investigated on a regular basis so that they may be proactively controlled and lowered, resulting in an increase in online buying.

Majority of past studies have discovered the expectation of perceived risk as a factor of the online purchase intention toward consumers (Wai *et al.*, 2019). Based on Durmus *et al.* (2017), it also discusses that shopping has traditionally been considered risky activity as customers may be unsure of their purchasing decisions and the consequences of making poor decisions. Many other studies on perceived risk have found that it has a negative impact on consumers' online shopping behavior (Bhatti & Ur, 2020). For example, there is research from Jain and Srivastava (2015) that suggest customers perceive risk linked with potential losses from online transactions to be higher than in traditional venues. Research on the interaction between perceived risk and online purchase has many perspectives and most attempt to figure out that consumer perceived risk they would like to buy certain things through online platform (Wai *et al.*, 2019). Due to these problems, online retailers need to always be sensitive to every weakness found in online business especially in perceived risk and online shopping. However, identifying the perceived risks in online shopping still has not been shown completely in the online business retailers (Ariffin *et al.*, 2018). Thus, the aim of this study is the lack of this research is leading to the exploration of the relationship perceived risk that influenced online purchase intention among millennial consumers, in the context of Malaysia.

Therefore, to achieve the research objectives the level of perceived risk towards online purchase intention among millennial consumer and the level of intention towards online purchase among consumer millennial are measured. Consequently, the relationship between perceived risk and online purchase intention among millennial consumers is identified.

This study has been conducted among consumers in Batu Pahat, Johor on a survey regarding the relationship of perceived risk and online purchase intention of this research. The target of respondents among consumer millennials in Batu Pahat, Johor is 384 respondents who usually purchase the product and service online more than other generations in Batu Pahat, Johor. This study has used the quantitative approach in collecting data from the questionnaire based on this instrument research.

There are several signs that can be highlighted in this study is first to help the understanding of the relationship between perceived risk and online purchase intentions among of consumer millennials at Batu Pahat, Johor. Second, the companies can understand the relationship of perceived risk and intention to purchase online is important regarding what the consumer wants to purchase or not. Third, can help other researchers to find the related topic for the relationship between perceived risk and

online purchase intention to add the existing knowledge about the information to the companies that perceived risk will make the consumer feel when to purchase the product or service.

2. Literature Review

2.1 Online Purchase Intention

The growth of online shopping is the emergence of e-commerce nowadays, according to Jamali *et al.*, (2014) said the emergence of e-commerce is the third most popular activity of the introduction of online purchase among consumers, this activity is more popular than email and web surfing. The origin of purchase intention is from the online purchase intention, this purchase intention is defined as the readiness of the customers before purchasing the product or service through the internet (Ariffin *et al.*, 2018). According to Shaouf *et al.* (2016), the willingness of customers to purchase any product or service through an online store is defined as the online purchase intention. Based on Hong (2015), in the last two decades, most researchers have paid attention to the influence of the purchase intention online among consumers, thus the argument that previous research is mostly discussing is the customer behavior and their purchasing intention that are influenced negatively by perceived risk. Chaturvedi *et al.* (2016) agree that the apparel of shopping online has been related to the high-perceived risk.

2.2 Perceived Risk

According to Schierz *et al.* (2010), perceived risk in online shopping is the degree of expectation of losing while doing shopping. The definition of perceived risk for consumers is the perception on the contrary and changeable outcomes to purchase a product or service (Ko *et al.*, 2008), In the part of significant perceived risk determine the consumer purchase intentions. According to Ariffin *et al.* (2018), the level of perceived risk among consumers will be higher when the consumer makes a comparison between buying online and buying at physical stores. Based on Kim and Lennon (2013), when the perceived risk is higher of the shopping at online retailers, the customer's purchase intentions are weak toward the online retailer. The finding of a relationship between perceived risk and online purchase intention shows that the show has a negative effect, this will indicate if the customer intends to buy online is suppressed when the consumer learns that the transaction is risky (Akhlaq & Ahmed, 2015).

2.3 Consumer Generation of Millennial

Based on Hatum (2013), the generation of millennials was called Generation Y or echo boomers, this group comprises based on the individual born between 1980 and 2000. Where these generations are likely to become part of a lifelong culture where they love the internet. Based on Septiari and Kusuma (2016), most millennials are the internet population in Malaysia which is 49% among 15-35 years old, the significant characteristic for the millennial generation is the technology-savvy which is this generation is highly dependent on technology.

2.4 Theoretical Background

In these theories, there are several theories that have been used to explain the intention of adoption studies such as the Theory of planned behavior (TPB) (Ajzen, 1991), Theory of Technology Acceptance Model (TAM) (Davis *et al.*, 1989) and Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1975). However, after understanding all the three theories that lead to the final decision of online purchase intention, the finalized theories will be choice to explain about the online purchase intention. The theories that have been chosen as this theory is the Theory of planned behavior (TPB) (Ajzen, 1991) and Theory of Technology Acceptance Model (TAM) (Davis *et al.*, 1989). This theory has been used from paper Ha *et al.* (2019) because the theory is suitable with the research to discuss online purchase intention and perceived risk.

(a) Theory of planned behaviour (TPB)

The theory of TPB is basically derived from the Theory of Reasoned Action (TRA). According to the theory of Planned Behaviour (TPB) (Ajzen, 1991), the performance of individuals with a certain behavior can be determined based on the intention to perform the behavior (Mohseni *et al.*, 2018). Intention to perform a behavior is the degree to which people are willing to perform the behavior (De Groot & Steg, 2007). According to the previous study, TPB believes that the attitude toward the target behavior and subjective norms is about engaging in the action that impacts online purchase intention. Besides, perceived behavior control is a factor that influences customer intentions and behaviors to purchase online (Shah Alam & Mohamed Sayuti, 2011).

(b) Theory of technology acceptance model (TAM)

According to the theory of Technology Acceptance Model (TAM) (Davis *et al.*, 1989), the behavioral intention of consumers is determined by the attitude toward using (AT). Theory of TAM eliminated of the constructs subjective norm which as well as beliefs, and motivation of TRA, to keeping the perceived behavior of control in TPB, the represent of Perceived Usefulness (PU) in Perceived Behavioural Control (PBC) is to construct the perceived use-performance of Expectation theory (Schultz & Slevin, 1975) and the Perceived Ease of Use (PEOU) is constructed as the self-performance in Bandura's (1986) self-performance theory. According to Järveläinen (2003), the direct and indirect effects of shopping online experience in an online environment to purchase intention has been discussed, this research develop his model based on the theory of TAM which is to choose internet shopping as the target channel.

2.5 The relationship between perceived risk and online purchase intention

The development for this study was adopted by TPB and TAM models. The majority of them have tried to pinpoint elements that influence or contribute to perceived risk and online purchasing intention (Masoud, 2013). The dependent variable for this study has one which is online purchase intention and one independent variable with five dimensions which is financial risk, safety risk, psychological risk, time risk, and product risk.

(a) Financial risk

According to the Ariffin *et al.* (2018), financial risk is based on the influence that has strong predictor to the online shoppers' purchase intentions, frequent purchase activities, and searching information, besides, this financial risk is defined as the suffering of monetary losses from the purchase that might be felt for internet shopper when the product does not worth to pay. In research of Popli and Mishra (2015), said the financial risk is the addition of hidden maintenance charges for consumers to the possibility of repairing cost that is required in the product that is purchased online.

(b) Product risk

Consumers can check the product online that has been provided to the online vendor, this possibility that consumers could check is based on the product physically that online vendor attachment in the information provided (Popli and Mishra, 2015). According to Ariffin *et al.*, (2018), the product risk will involve when the expectation consumers are not met with the product quality and standard, denote product risk is the possibility to be the product of the failure due to the performance that is not what was originally intended.

(c) Security risk

According to Ariffin *et al.* (2018), the consumer learns to value the good over the website to see or check the information that requires quality, delivery capability, and transaction that competent in the service quality, therefore, if the information of security tools in place, the customer would not intend to purchase the product. Based on the Azizi and Javidani (2010), security risk has linked with financial risk, this the financial information such as a number of account users, credit card number and safety pin for number account user have disclosure with the security system and they agree that one of the barriers in online shopping is security fear.

(d) Time risk

Based on Hong *et al.* (2019), time risk via the internet, consumers believe that returning a defective product to the seller and including the shipping process is a waste of time. Due to these issues, the consumer often has this struggle to submit or navigate the order while delays issues to getting the products. According to Ariff *et al.* (2014), the time risk has included the product based on the expectation level of the customer that did not receive like what they expected. Consumers will deter purchasing online due to time risk when the process takes a lot of time to find and apparel (Forsythe and Shi, 2003; Forsythe *et al.*, 2006).

(e) Psychological risk

Based on Stone and Grønhaug (1993) the psychological risk is the possibility of a loss of self-respect due to the frustration of the purchase that is not attained with the purchasing goals of the consumer. The psychological risk is the consumer perception of the wrong purchasing that leads to the wrong judgment of making when purchasing the product or service, the customer possibly regretting and frustration on the experience the mental pressure in future (Ariffin *et al.*, 2018).

2.6 Research Framework

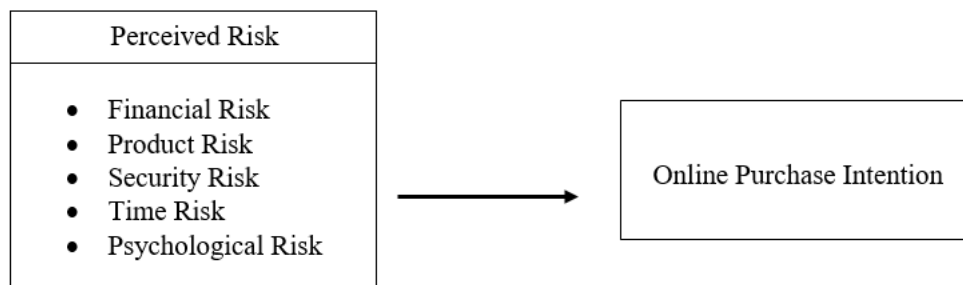


Figure 1: Research framework

2.7 Hypothesis development

- H1. There is a significant relationship between financial risk and online purchase intention.
- H2. There is a significant relationship between product risk and online purchase intention.
- H3. There is a significant relationship between security risk and online purchase intention.
- H4. There is a significant relationship between time risk and online purchase intention.
- H5. There is a significant relationship between psychological risk and online purchase intention.

3. Research Methodology

3.1 Research Design

The research objective in this study is the relationship between perceived risk and online purchasing intention. This method will be used to collect the data from respondents to find the aim of this study, the method to be conducted on this study is a quantitative approach.

3.2 Sampling Method

The population of this study is consumer millennials in Batu Pahat, Johor, based Batu Pahat (2021) The total population in Batu Pahat, Johor is estimated at 162,418, while the population of generation of Millennials is around 80,900 people in Batu Pahat, Johor. According to the table of Krejcie and Morgan (1970), a total number of 384 questionnaires has been distributed to respondents to answer.

3.3 Research Instruments

The research method that has been used is a quantitative method to analyze the collected data from the questionnaire that has been distributed. The reference of this questionnaire is from Ariffin *et al.*, (2018) to structure the questionnaire in form. In this form, the questionnaire has been divided into three sections which are Section A, Section B, and Section C. Section A is the demographics information for respondents and Section B is the level of perceived risk to determine the financial risk, product risk, security risk, time risk, and psychological risk. Lastly, Section C is the level of online purchase intention

3.4 Data Collection

In the collection method, they have two types of data which are primary data and secondary data for conducting the research. Therefore, primary data were chosen to be used as a means of collecting data for this study. Primary data is data that the researcher has gathered or created for the first time and the goal is to gather information in order to find a solution to the situation at hand. This primary data is an effective way to collect the data from the respondent based on this research

3.5 Data analysis

(a) Descriptive Analysis

Once the data is collected, the investigator can perform this descriptive analysis to present the final data of the respondents to define the data collected and the inferential analysis by interpretation, rearrangement, and arranging the information of the population from the data sample for specific details. The method of statistical analysis used is the analysis of the SPSS software. By using this method researchers can simplify large amounts of respondents' data in a simple and concise way with the right information to make a better understanding for everyone.

(b) Correlation Analysis

The correlation analysis is to explore the relationship between two variables in this research to analyze the measurement of relationships that influence online purchase intention. These study shows are not normal data, thus using the application of Spearman's Rank Correlation to explain more the relationship between this variable.

4. Results and Discussion

This chapter will be discussed on the data analysis and finding from the research that has been collected from respondents by using a questionnaire that has been distributed through Google Form. The data analysis was done by using the Statistical Package for Social Sciences (SPSS) software and Reliability analysis, demographic analysis, descriptive analysis, and inferential analysis have all been used in part of the data analysis.

4.1 Response Rate

Table 1: Questionnaire of response rate

Population	Questionnaire distributed	Questionnaire received	Percentage (%)
80,900	384	124	32.46 (%)

4.2 Reliability Test

This research is using the method of Cronbach's Alpha to value a set of items that is validity and reliability based on the collected data that has been received from the questionnaire.

4.3 Pilot Study

A total of 30 respondents were distributed to the target respondents, namely the population around the millennium generation in Batu Pahat, Johor, and the resulting questionnaire was analyzed by using SPSS in the reliability test in this study. As has been pointed out by previous researchers found in pilot studies show the amount that more than 0.7 is has reached the level of reliability, as well as the dependable part of this variable, shows a good amount because it is more than 0.7.

Table 2: Cronbach's Alpha value for 30 respondents

Factors	Cronbach's Alpha	No. Items
Financial Risk	0.843	4
Product Risk	0.847	4
Security Risk	0.941	4
Time Risk	0.862	4
Psychological Risk	0.770	4
Online Purchase Intention	0.883	6

Table 3: Reliability test (actual study) for 124 respondents

Factors	Cronbach's Alpha	No. Items
Financial Risk	0.754	4
Product Risk	0.850	4
Security Risk	0.834	4
Time Risk	0.862	4
Psychological Risk	0.783	4
Online Purchase Intention	0.887	6

Table 2 shows the Cronbach's Alpha value for 30 respondents. While Table 3 Reliability Test (Actual Study) of Cronbach's Alpha value for 124 respondents. Cronbach's alpha must be at least 0.70 to be considered good and below from this number of the common range's internal consistency will be stated as poor. Meanwhile, the maximum predicted value is 0.90 and above, anything over from that value will be stated as considered redundant (Jorge Wilfredo, 2016).

4.4 Descriptive Analysis (Demographic)

Table 4: Gender of respondents

		Frequency	Percentage (%)	Valid Percentage	Cumulative Percentage
Valid	Male	34	27.4	27.4	27.4
	Female	90	72.6	72.6	100.0
	Total	124	100.0	100.0	

In table 4 shows this result shows the number of female respondents is more than the number of male respondents which is 90 respondents.

Table 5: Age of respondents

		Frequency	Percentage (%)	Valid Percentage	Cumulative Percentage
--	--	-----------	----------------	------------------	-----------------------

Valid	23 – 28 years	113	91.1	91.1	91.1
	29 – 34 years	4	3.2	3.2	94.4
	35 – 38 years	7	5.6	5.6	100.0
	Total	124	100.0	100.0	

In table 5 shows the results obtained for the age of the respondents showed that most respondents who responded in this study consisted of the age of 23 - 28 years with a higher frequency than the age of other respondents which is 113.

Table 6: Race of respondents

		Frequency	Percentage (%)	Valid Percentage	Cumulative Percentage
Valid	Malay	107	86.3	86.3	86.3
	Chinese	11	8.6	8.6	95.2
	India	3	2.4	2.4	97.6
	Other	3	2.4	2.4	100.0
	Total	124	100.0	100.0	

Table 6 show the overall results show that the number of respondents who are Malays is higher than the number of other races, which recorded a total of 107 respondents.

Table 7: Status of respondents

		Frequency	Percentage (%)	Valid Percentage	Cumulative Percentage
Valid	Student	82	66.1	66.1	66.1
	Employee	29	23.4	23.4	89.5
	Job Seeker	13	10.5	10.5	100.0
	Total	124	100.0	100.0	

Table 7 shows the status of this respondent has shown a higher status for students than the status of other respondents which is 82 people.

Table 8: Frequency of respondents using the internet on a daily basis

		Frequency	Percentage (%)	Valid Percentage	Cumulative Percentage
Valid	Less than 1 hours	1	0.8	0.8	0.8
	1 – 3 hours	17	13.7	13.7	14.5
	4 – 6 hours	42	33.9	33.9	48.4
	More than 6 hours	64	51.6	51.6	100.0
	Total	124	100.0	100.0	

In table 8 shows the most frequently used time by the respondents is more than 6 hours because this amount of time is higher than the other amount of time which is 64 people.

Table 9: Frequency of respondents on the experience of using the platform for shopping online

		Frequency	Percentage (%)	Valid Percentage	Cumulative Percentage
--	--	-----------	----------------	------------------	-----------------------

Valid	Yes	120	96.8	96.8	96.8
	No	4	3.2	3.2	100.0
	Total	124	100.0	100.0	

Table 9 show that the respondents have experience in using any platform when shopping online because the number of frequencies in the table is higher than the number of respondents who have no experience, which is 120 respondents.

Table 10: Frequency of respondents frequently making online purchases

	Frequency	Percentage (%)	Valid Percentage	Cumulative Percentage
Valid	Less than 3 times	77	62.1	62.1
	3 – 5 times	22	17.7	79.8
	5 – 10 times	4	3.2	83.1
	More than 10 times	21	16.9	100.0
	Total	124	100.0	100.0

In table 10 shows the overall that the respondents made fewer online purchases because the number of frequencies found in the select answers was higher than the others which were 77 people.

4.5 Descriptive Analysis (Variables)

This section will explain the descriptive analysis that consists of the characteristics of each independent and dependent variable for the mean and standard deviation in this study. By using this analysis, each part of the variable will be easier to use for differentiating the mean and distribution based on the measurement level for each variable which is the Likert Scale. The level number to reach the low level in the average mean score is 1.00 - 2.33, while for the medium level is 2.34 - 3.67 and for the last level which is the highest level should reach 3.68 - 5.00.

(a) Financial risk

Table 11: Mean and standard deviation analysis for financial risk variable

No.	Item Financial risk	Mean (M)	Std. Deviation (SD)
1	I tend to overspend when doing online shopping.	3.36	1.157
2	I might get an extra charge for service delivery when shopping online.	3.56	1.121
3	The product that I spent through an online platform may not be worth the money.	3.05	1.188
4	I believe shopping online can involve a waste of money.	3.35	1.134
	Total Average	3.31	0.811

Table 11 shows the level obtained for each question item found in the financial risk variable to determine the level for each question shows in total average mean and standard deviation value. The total average for the mean and standard deviation value is (M = 3.31, SD = 0.811).

(b) Product risk

Table 12: Mean and standard deviation analysis for product risk variable

No.	Item Product risk	Mean (M)	Std. Deviation (SD)
1	I am not able to find the desired product through online shopping.	3.00	1.172
2	I might not receive the exact quality of a product that I purchased when shopping online.	3.24	1.054
3	The size of the product may not be accurate for me when shopping online.	3.43	1.053
4	It is difficult for me to compare the quality of a similar product when shopping online.	3.56	1.061
	Total Average	3.33	0.886

Table 12 shows each item for product risk in this average mean score and the standard deviation. The conclusion for the total average for mean and standard deviation value shows that the question in product risk is (M = 3.33, SD = 0.886).

(c) *Security risk*

Table 13: Mean and standard deviation analysis for security risk variable.

No.	Item Security risk	Mean (M)	Std. Deviation (SD)
1	I feel that my credit/debit card details are not secured when doing online shopping.	3.13	1.210
2	I may be contacted by other online shopping companies.	3.14	1.171
3	The online shopping company may disclose my personal information when I do online shopping at their website.	3.42	1.075
4	The website can be insecure for me to do online shopping.	3.46	1.047
	Total Average	3.23	0.884

Table 13 shows that each question in the security risk will show the sum for the mean and standard deviation levels. The total for average for mean and standard deviation value is (M = 3.23, SD = 0.884).

(d) *Time risk*

Table 14: Mean and standard deviation analysis for time risk variable

No.	Item Time risk	Mean (M)	Std. Deviation (SD)
1	I feel like I'm wasting time when buying products through online platforms.	2.92	1.193
2	I have the impatience to wait for the product to arrive when I have already purchased it online.	3.37	1.115
3	When I do online shopping, it is difficult for me to find the right product.	3.23	1.125
4	It is difficult for me to find appropriate websites to shop online.	3.16	1.092
	Total Average	3.16	0.871

Table 14 shows that each question in time risk will show the total average for the mean and standard deviation values which is (M = 3.16, SD = 0.871).

(e) *Psychological risk*

Table 15: Mean and standard deviation analysis for psychological risk variable

No.	Item Psychological risk	Mean (M)	Std. Deviation (SD)
1	I cannot trust the online company when shopping online.	2.92	1.094
2	I fear that the apparel will not be delivered appropriately if bought through an online platform.	3.26	1.043
3	I may get addicted to doing online shopping.	3.69	0.989
4	It could be frustrating if the product buy through an online platform does not meet my satisfaction.	3.88	0.984
Total Average		3.42	0.767

Table 15 shows that each question in the psychological risk will show the total average for the mean and standard deviation which is (M = 3.42, SD = 0.767).

(f) *Online purchase intention*

Table 16: Mean and standard deviation analysis for online purchase intention variable

No.	Item Online Purchase Intention	Mean (M)	Std. Deviation (SD)
1	I can find my desired products easily through online purchases.	3.89	0.964
2	I use this retailer's website more often for online purchases.	3.60	0.961
3	I continue to shop online at my favorite retailers.	3.85	0.937
4	While shopping online, I can shop whatever I want.	3.90	1.055
5	The products with specific information are easy for me to follow when shopping online.	4.11	0.904
6	The website is always accessible for me to reach when I am doing online shopping.	4.03	0.874
Total Average		3.90	0.760

Table 16 shows each question found in the online purchase intention will show the total average for the mean and standard deviation values which is (M = 3.92, SD = 0.760).

(g) *Analysis perceived risk towards online buying intention*

Table 17: Perceived risk towards among consumer millennial

No	Item Perceived risk	Average Mean Score	Level
1	Financial Risk	3.31	Medium
2	Product Risk	3.33	Medium
3	Security Risk	3.23	Medium
4	Time Risk	3.16	Medium
5	Psychological Risk	3.42	Medium

In this study shows Table 17 is an analysis of the descriptive part to explain the average Mean score to determine the level of existence of each variable. All the variables had the medium level in the total average mean score which is below 3.42.

4.6 Normality test

Normality test need to be done to determine whether the sample population is normally distributed or not normally distributed Orcan (2020). Data parametric will be used when the data is normal when Pearson has been detected to conducting the correlation test. However, when the data is not normal then need to use non-parametric and will conduct the correlation test with Spearman. Next, research is

the need to determine which one is suitable to use in data normality either Kolmogorov- Smirnov test or Shapiro-Wilk test.

Table 18: Normality Test Analysis

Variables	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig	Statistic	df	Sig
Financial Risk	0.117	124	.000	0.970	124	.007
Product Risk	0.095	124	.008	0.974	124	.017
Security Risk	0.106	124	.002	0.967	124	.004
Time Risk	0.113	124	.001	0.968	124	.005
Psychological Risk	0.97	124	.006	0.979	124	.046
Online Purchase Intention	0.150	124	.000	0.950	124	.000

Table 18 shows the results of the normality test using the Kolmogorov-Smirnov test for determining the results to be used. In the analysis using 124 respondents, therefore the use of Kolmogorov-Smirnov was used because the value to use the variable has 4 variables that are in the state, p-value <0.005 that is Financial Risk (0.000), Security Risk (0.002), Time Risk (0.001) And Online Purchase Intention (0.000), while the remaining variables are Product Risk (0.008) And Psychological Risk (0.006) which are in the state, p value > 0.005. Thus, the data are abnormal and non-parametric tests if Spearman's Rho correlation test and will be used to determine the relationship between the two variables and the purpose of the study conducted.

4.7 Correlation Analysis

The concept of bivariate correlation will be used to calculate the degree of each relationship variable. The type of use of this measurement is Spearman Rho's correlation, this calculation will be use in the Likert Scale of number from the questionnaire form analysis.

(a) *The relationship between perceived risk and online purchase intention*

Table 19: Result of correlation coefficient

Item	Correlation Coefficient	Level
Correlation between Financial Risk and Intention of Online Purchase Intention	0.370**	Moderate
Correlation between Product Risk and Intention of Online Purchase Intention	0.286**	Weak
Correlation between Security Risk and Intention of Online Purchase Intention	0.384**	Moderate
Correlation between Time Risk and Intention of Online Purchase Intention	0.254**	Weak
Correlation between Psychological Risk and Intention of Online Purchase Intention	0.506**	Strong

Based on these results, it has been shown found that Spearman correlation be used in the perceived risk and online purchase intention. From table 19, shows the value for correlation coefficient to financial risk is 0.370, product risk is 0.286, security risk is 0.384, time risk is 0.254, and lastly psychological risk is 0.506. There showing for all variables is significant relationship between the perceived risk and online purchase intention, thus the value for all variables is less than 0.05.

4.8 The level of Correlation

The result shows that that the level found in dimension perceived risk have significant relationship between online purchase intention where correlation between Psychological Risk and Online Purchase

Intention showed a strong significant with $r = 0.506$. Meanwhile, other variables show a moderately significant relationship between Financial Risk with $r = 0.370$ and Security Risk with $r = 0.384$. In variable of Product Risk with $r = 0.286$ and Time Risk with $r = 0.254$ showed weak significance towards Online Purchase Intention.

5. Conclusion

5.1 Discussion

(a) Research Question 1

Based on table 18, all the variable is shown as the medium level and the results that have been analyzed support the hypothesis that has been developed due to the average number of mean scores indicating a medium level at this measurement. The respondents agree that perceived risk significantly influences the online purchase intention when purchasing in any platform provided. The findings of the data analysis study significantly supported the previously defined hypothesis. The levels in the table show that consumers from the millennium generation are in half accepting the risk when shopping online. This is because in research of Ariff *et al.*, (2014) explain that consumers show a sense of trust in the seller and have no problem using their business platform or website online, because consumers do not care much about non-convenient factors that consist of guaranteeing goods if the goods have problems in terms of quantity and quality.

(b) Research Question 2

Based on table 16, one variable shows the medium level which is *"I use this retailer's website more often for online purchases"* while the other variable shows in the higher level. However, the results for all these variables that have been analyzed support the hypothesis that has been developed. Even one of them shows the medium level but still has the higher number in the average mean score. The respondents agree that online purchase intention significantly affects the factor that led to perceived risk when consumers do online shopping. The findings of the data analysis study significantly supported the previously defined hypothesis. The levels in the table show that consumers from the millennium generation believe the main reason they buy online is due to these questions, while there is one question that is the reason why consumers buy online. According to Al Karim (2013) shows that most respondents buy online due to their convenience, favorite place and trust in using and accessing online such as time saving, reliable and available information, opening hours, easy use, website usage benchmarks and less stressful purchases.

(c) Research Question 3

Based on table 19, all the variables have shown a positive significant relationship which are financial risk, product risk, security risk, time risk, psychological risk, and online purchase intention among consumer millennials in Batu Pahat, Johor. In a conclusion, the hypothesis for the variable shows all variables are accepted which are H1, H2, H3, H4, and H5. Based on the result, there have significant relationship between perceived risk and online purchase intention. These results showing hypothesis 1 which is financial risk is in a moderate level. According to Ariffin *et al.*, (2018) supported that consumer will spend their money when they believe the product or service will give them benefits such as discount available, but if the consumer felt insecure to purchase the product from that retailer online, they will not spend of their money. For hypothesis 2 which is the product risk obtained indicates part of the risk acceptance, the results of this study shown the level of product risk is weak because according to Wai *et al.* (2019) argued that they did not feel threatened by the risks inherent in the product due to the high trust in the product they purchased. According to Gerber *et al.* (2014), most consumers who have high confidence in the purchase of their goods are likely due to frequent purchases made at an online retailer, therefore consumers will be highly confident when shopping at their favorite place to shop online. Hypothesis 3 is security risk indicates the level of relationship with online purchase intention is this moderate because consumers may have basic assumptions about

security risks in order to have security features when purchasing goods online has been supported by research Amirtha and Sivakumar (2021). Based on research Masoud (2013) stated that time risk is significant with the online shopping but the level of relationship is low due to consumers not much feel the time risk will impact the lives of consumers. In the last hypothesis psychological risk shows that consumers agree with this risk during online purchase intentions, consumer frustration in making poor product or service choices despite having multiple choices will have an impact on future purchases because consumer perceptions are not at all in line with what is obtained which is supported by Arshad *et al.* (2015).

5.2 Limitation of Study

There have some of the difficulties encountered while conducting this study that may have resulted in rejection. The difficulty is in distributing the questionnaire to the respondents, although the platform used is simple such as social media but the difficulty in getting the respondents' consent to answer the question form is very difficult, this is because the researcher only uses quantitative questions instead of qualitative questions, therefore, respondents gave full responsibility for themselves without supervision to answer the questionnaire.

5.3 Recommendation for Future Research

Recommendations that can be given to future researchers can improve the study in the future. There are several recommendations for future researchers who choose a study similar to this study is the use of language and place of study. This is because the correct use of language is one of the attractions of the respondents to answer the form. While for the selection of the study also affects the selection of a place that is easy to communicate with the respondents easily to get the target respondents who are studied. Next, in the quantitative distribution, the respondents can distribute the questionnaire face to face to facilitate the respondents and future researchers to collect data at the appointed time.

5.4 Conclusion

In conclusion, all of the variables in this study is shows the important factor of the perceived risk towards online purchase intention among consumer millennials in Batu Pahat, Johor. The variable in this study is financial risk, product risk, security risk, time risk, and psychological risk which are financial risk and security risk showed a moderate level of interpretation compared to product risk and time risk showed weakly. This study also stated that all variable shows a significant relationship between the variable in perceived risk and online purchase intention with the correlation of 0.370, 0.286, 0.384, 0.254, and 0.506. Thus, the three objectives that have been started at the beginning of this study have been achieved and this research can improve the knowledge of online sellers to understand the acceptance of risks that consumers have faced when shopping online.

Acknowledgement

The authors would also like to thank the Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia for its support.

References

- Ahmad, A. F., & Aboobucker, I. (2016). Layout 1 Related papers Factors Influencing Consumers' Trust on E-commerce Adoption in Sri Lanka. *Journal of Management Research*, 8(1).
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision*

- processes*, 50(2), 179-211.
- Ajzen, I., & Fishbein, M. (1975). A Bayesian analysis of attribution processes. *Psychological bulletin*, 82(2), 261.
- Al Karim, R. (2013). Customer Satisfaction in Online Shopping: a study into the reasons for motivations and inhibitions. *IOSR Journal of Business and Management*, 11(6), 13-20.
- Akar, E., & Nasir, V. A. (2015). A review of literature on consumers' online purchase intentions. *Journal of Customer Behaviour*, 14(3), 215-233.
- Akhlaq, A., & Ahmed, E. (2015). Digital commerce in emerging economies: Factors associated with online shopping intentions in Pakistan. *International Journal of Emerging Markets*.
- Amirtha, R., & Sivakumar, V. J. (2021). Building loyalty through perceived value in online shopping—does family life cycle stage matter?. *The Service Industries Journal*, 1-39.
- Ariff, M. S. M., Sylvester, M., Zakuan, N., Ismail, K., & Ali, K. M. (2014). Consumer perceived risk, attitude and online shopping behavior; Empirical evidence from Malaysia. *IOP Conference Series: Materials Science and Engineering*, 58(1).
- Ariffin, K. S., Mohan, T., & Goh, Y. N. (2018). Influence of consumers' perceived risk on consumers' online purchase intention. *Journal of Research in Interactive Marketing*, 12(3), 309-327. <https://doi.org/10.1108/JRIM-11-2017-0100>
- Arshad, M., Zaidi, S. M. I. H., & Mahmood, K. (2015). Self-Esteem & Academic Performance among University Students. *Journal of Education and Practice*, 6(1), 156-162.
- Azizi, S., & Javidani, M. (2010). Measuring e-shopping intention: An Iranian perspective. *African Journal of Business Management*, 4(13), 2668-2675.
- Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of social and clinical psychology*, 4(3), 359-373.
- Bauer, R. A. (1960). Consumer behavior as risk taking. In Proceedings of the 43rd National Conference of the American Marketing Association, June 15, 16, 17, Chicago, Illinois, 1960. American Marketing Association.
- Batu Pahat, M. (2021). Batu Pahat, Malaysia — perangkaan 2021. <https://ms.zhujiworld.com/my/971130-batu-pahat/>
- Bhatti, A., & Ur Rehman, S. (2020). Perceived Benefits and Perceived Risks Effect on Online Shopping Behavior with the Mediating Role of Consumer Purchase Intention in Pakistan. *International Journal of Management Studies*, 26(1), 33-54.
- Chaturvedi, S., Gupta, S., & Hada, D. S. (2016). International Review of Management and Marketing Perceived Risk, Trust and Information Seeking Behavior as Antecedents of Online Apparel Buying Behavior in India: An Exploratory Study in Context of Rajasthan. *International Review of Management and Marketing*, 6(4), 935-943. <http://www.econjournals.com>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340.
- De Groot, J. I., & Steg, L. (2007). Value orientations and environmental beliefs in five countries: Validity of an instrument to measure egoistic, altruistic and biospheric value orientations. *Journal of cross-cultural psychology*, 38(3), 318-332.
- Duarte, P., Costa e Silva, S., & Ferreira, M. B. (2018). How convenient is it? Delivering online shopping convenience to enhance customer satisfaction and encourage e-WOM. *Journal of Retailing and Consumer Services*, 44, 161-169.
- Durmus, B., Ulusu, Y., & Akgun, S. (2017). The effect of perceived risk on online shopping through trust and wom. *International Journal of Management and Applied Science*, 9, 2394-7926. <http://iraj.in>
- Dwivedi, Y. K., Ismagilova, E., Hughes, D. L., Carlson, J., Filieri, R., Jacobson, J., Jain, V., Karjaluoto, H., Kefi, H., Krishen, A. S., Kumar, V., Rahman, M. M., Raman, R., Rauschnabel, P. A., Rowley, J., Salo, J., Tran, G. A., & Wang, Y. (2021). Setting the future of digital and social media marketing research: Perspectives and research propositions. *International Journal of Information Management*, 59, 102168.
- Export, G. (2019, August 19). export.gov. <https://www.export.gov/apex/article2?id=Malaysia-E-Commerce>
- Forsythe, S., Liu, C., Shannon, D., & Gardner, L. C. (2006). Development of a scale to measure the perceived benefits and risks of online shopping. *Journal of interactive marketing*, 20(2), 55-75.

- Forsythe, S. M., & Shi, B. (2003). Consumer patronage and risk perceptions in Internet shopping. *Journal of Business research*, 56(11), 867-875.
- Gerber, C., Ward, S., & Goedhals-Gerber, L. (2014). The impact of perceived risk on on-line purchase behaviour. *Risk Governance & Control. Financial Markets & Institutions*, 4(4), 99-105.
- Hatun, A. (2013). *The New Workforce Challenge: How Today's Leading Companies are Adapting for the Future*. Springer.
- Ha, N. T., Lien, T., Nguyen, H., Phuong, T., Nguyen, L., & Nguyen, T. Do. (2019). Intention Behavior. *Journal of Business Research*, 9, 1451-1460.
- Hong, I. B. (2015). Understanding the consumer's online merchant selection process. *International Journal of Information Management: The Journal for Information Professionals*, 35(3), 322-336.
- Hong, L. M., Nawi, N. C., Zulkiffli, W. F. W., Mukhtar, D., & Ramlee, S. I. F. (2019). Perceived risk on online store image towards purchase intention. *Research in World Economy*, 10(2 Special Issue), 48-52.
- International Trade Administration. (2020, August 19). Malaysia - eCommerce. Malaysia - Country Commercial Guide. <https://www.trade.gov/country-commercial-guides/malaysia-ecommerce>
- Jain, S. P., & Srivastava, M. (2015). A study on the impact of consumer risk perception and innovativeness on online shopping in India Rakhi Thakur.
- Jamali, S. K., Samadi, B., & Marthandan, G. (2014). Prioritizing electronic commerce technologies in Iranian family SMEs. *Interdisciplinary journal of contemporary research in business*, 6(2), 148-180.
- Jorge Wilfredo, C. F. (2016). How do i interpret my Alpha cronbach value? In C. F. Jorge Wilfredo (Ed.), *INTERPRETATION AND MORE CROMBACH'S ALPHA*. <https://www.researchgate.net/post/How-do-i-interpret-my-Alpha-cronbach-value>
- Kim, J., & Lennon, S. J. (2013). Effects of reputation and website quality on online consumers' emotion, perceived risk and purchase intention: Based on the stimulus-organism-response model. *Journal of Research in Interactive Marketing*.
- Ko, Y. J., Kim, K., Claussen, C. L., & Kim, T. H. (2008). The effects of sport involvement, sponsor awareness and corporate image on intention to purchase sponsors' products. *International Journal of Sports Marketing and Sponsorship*.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, 30(3), 607-610.
- Masoud, E. Y. (2013). The Effect of Perceived Risk on Online Shopping in Jordan. 5(6), 76-88.
- Mohseni, S., Jayashree, S., Rezaei, S., Kasim, A., & Okumus, F. (2018). Attracting tourists to travel companies' websites: the structural relationship between website brand, personal value, shopping experience, perceived risk and purchase intention. *Current Issues in Tourism*, 21(6), 616-645.
- Orcan, F. (2020). Parametric or Non-parametric: Skewness to Test Normality for Mean Comparison. *International Journal of Assessment Tools in Education*, 2020(2), 255-265.
- Popli, A., & Mishra, S. (2015). Factors of perceived risk affecting online purchase decisions of consumers. *Pacific Business Review International*, 8(2), 49-58.
- Rehman, S. U., Bhatti, A., Mohamed, R., & Ayoup, H. (2019). The moderating role of trust and commitment between consumer purchase intention and online shopping behavior in the context of Pakistan. *Journal of Global Entrepreneurship Research*, 9(1), 1-25.
- Sabou, S., Avram-Pop, B., & Zima, L. A. (2017). The Impact of the Problems Faced by Online Customers on Ecommerce. *Studia Universitatis Babeş-Bolyai Oeconomica*, 62(2), 77-88.
- Schultz, R. L., & Slevin, D. P. (1975). *Implementing operations research/management science*. American Elsevier Pub. Co..
- Septiari, E. D., & Kusuma, G. H. (2016). Understanding the perception of millennial generation toward traditional market (a study in Yogyakarta). *Review of Integrative Business and Economics Research*, 5(1), 30-43.
- Schierz, P. G., Schilke, O., & Wirtz, B. W. (2010). Understanding consumer acceptance of mobile payment services: An empirical analysis. *Electronic commerce research and applications*, 9(3), 209-216.
- Shah Alam, S., & Mohamed Sayuti, N. (2011). Applying the Theory of Planned Behavior (TPB) in halal food purchasing. *International Journal of Commerce and Management*, 21(1), 8-20.

- Shaouf, A., Lü, K., & Li, X. (2016). The effect of web advertising visual design on online purchase intention: An examination across gender. *Computers in Human Behavior*, 60, 622–634.
- Stone, R. N., & Grønhaug, K. (1993). Perceived risk: Further considerations for the marketing discipline. *European Journal of marketing*, 27(3), 39-50.
- Wai, K., Dastane, O., Johari, Z., & Ismail, N. B. (2019). Perceived risk factors affecting consumers' online shopping behaviour. *The Journal of Asian Finance, Economics and Business*, 6(4), 246-260.