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## Online Shopping During Pandemic Covid 19: The Factors of Information Quality and Safety towards Customer Satisfaction

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### Abstract

Online shopping become an alternative for many people when it is more convincing than conventional physical shopping. Generally, consumers are interested to buy online because of time saving and accessibility. Still, there are other reasons that encourage consumers to purchase online. Thus, objective of this study is to identify and analyze the factors influencing customer satisfaction on online shopping specifically during Pandemic Covid 19. The sample for this study consisted of consumers in Malaysia. In total, 150 consumers were surveyed using convenience sampling and a set of questionnaires were distributed via online method. The collected data were analysed by using Statistical Package for Social Science (SPSS). The results showed that safety have a strong significant relationship with consumer satisfaction while information quality does not influence customer satisfaction on online shopping. For managerial perspective, this study benefits marketer, businesses, and policy makers, which the findings of this study can serve as a reference for developing better marketing strategies to entice more customers toward online shopping in future.

**Keywords:** Information Quality, Safety, Customer Satisfaction, Online Shopping, SPSS

### Introduction

Nowadays, online shopping is one of the significant tools to purchase products or services. Online shopping is the act of buying a product or service through any e-stores with the help of any website or apps. Usually, people buy products or services from online websites because it is easier for them to buy the required products as it can save time, avoid the traffic jam, and save the energy. Due to increasing internet and mobile penetration, growing acceptability of online payments has provided the unique opportunity to the seller or companies also in the way how they connect with their customers. As the world has been suffering from the COVID-19 pandemic, it has brought drastic changes globally in many sectors, business being one of them. This situation required all citizens to be at home most of the time even make it real to

work from home, which at the same time spending most of the time surfing internet, online shopping, rather than making virtual shopping. In addition, switching traditional shopping or trade toward digital was one factor that captured the attention across the globe on a larger scale. In April 2020, Walmart reported a 74% increase in online sales even though they faced a low customer walk-in at stores (Nassauer, 2020; Redman, 2020).

In Malaysia, one of the online shopping platforms which is Lazada has experienced an increase of 80% on orders placed compared to the pre-pandemic (Nathan et al., 2021). The same situation goes to Shopee Malaysia as well, where Shopee recorded a boom, not only in volume and traffic but also the adoption of local brands, like Mamee, Hup Seng, etc. This shows that many brands and sellers have started to digitalise to survive in this epidemic. These statistics have revealed the uptrend of online shopping in Malaysia during Covid-19 pandemic.

Customer becomes important asset for every business. Therefore, it is necessary to look for the antecedents and consequences of customer satisfaction to promote online shopping in the developing countries. This is because the degree of consumer satisfaction has differed each other, depends on how they define their experience and emotions about the product or service purchased through the online channel.

### **Problem Statement**

In line with the development of the internet network in Malaysia, online shopping has become significance segment in retail market. This shopping method is changing the way customers buy goods, services, and quickly developed into a global fact and phenomenon. However, the safety issues are still a great concerned among customers. For instance, recent statistics shown Malaysian, approximately is about 48.8 percent people did not commit with the online shopping due to safety factor (Commission, E-commerce consumer survey, 2018). In 2020, online shopping fraud cases reached nearly 70% due to most consumers shifting to virtual shopping as the new normal (Hoh, 2020). Due to this, during the COVID 19 pandemic the percentage of online purchases increased slowly as shown by Statista Research Department (2020), 34 percent of respondents stated they purchased online at least several times a month during the COVID-19 pandemic in Malaysia. In contrast, only four percent stated they purchased every day online. Thus, Malaysian customers are still hesitant to shop online because they are aware of the online risks.

Same goes to information quality which customers who are dissatisfied with a website's information content will leave the website without making any purchases (Thabang, 2021). Some information posted in website are not updated such as the design, price, delivery charge and so on. Al-Tit (2020) found that the information quality provided on an online store represents the e-retailer's quality dimension that contributes to developing consumer loyalty, if it is accurate, relevant, etc. Otherwise, it makes customer dissatisfied thus they refuse to purchase online.

### **Research Objectives**

Therefore, the objectives of this study will be to

1. Identify the satisfaction level of the customers on online shopping during Pandemic Covid 19.

2. Analyze factors that influence customer satisfaction on online shopping.
3. Determine the most influence factor to customer satisfaction on online shopping.

## **Literature Review**

### **Overview of Online Shopping in Malaysia**

Online purchase refers to the customers' decision-making process while buying from an online shopping website after assessing every element they feel is relevant (Hsu et al., 2012). E-commerce plays an instrumental role in accelerating emerging economies by generating economic advantages from industry and contributing positively to national GDP growth (Yasmina, 2019). E-commerce has developed as a pillar of Malaysia's economy, producing a significant 22.5 % growth to the country's GDP (Mail, 2022). Driven by the higher 91.7% internet access usage rate in Malaysia, online shopping is shifting into the new normal (Star, 2021).

Despite the persistent endeavours and development in this field, online shopping has become more sophisticated, boosting consumers' susceptibility to the imbalanced sensitivity of online shopping. Still, following the pandemic and uncertainty, customers have created a new cognitive consuming behaviour toward online shopping; they shop online not only for accessibility but also for safety concerns.

### **Customer Satisfaction**

Customer satisfaction refers to the process of comparison of customer expectancy with real product performance after purchase. Brilliant and Achyar (2021) stated that customer satisfaction will increase when the real features meet or exceed customer's anticipation whereas customer dissatisfaction increase when the real features fail to meet their anticipation. At the same time, frustrated customers will persuade other customers not to repurchase and consequently, they will move to another brand competitors. Hence, customer satisfaction is important, indicates to the financial achievement of the company and contribute to the continued development of the company.

### **Relationship between Information Quality and Customer Satisfaction**

Information quality refers to the extent to which the system provides users with useful and significant information in a fast and accurate manner (Zhao, 2019). Orlando and Lamhot (2022) examined the effect of information quality, customer experience, price, and service quality on online purchase. 100 respondents consisting of GoFood applications users in the millennial generation were selected using non-probability sampling techniques. The result shows that information quality has a positive effect on customer satisfaction, then has a positive influence on online purchase.

Boustani et al (2021) investigates the dynamics of consumers' positive attitude towards on-line shopping that shall forbid them from reverting to their old purchasing habits even in post pandemic times. A few factors analysed in this study including service quality, system quality and information quality. They found that quality aspects (information, service, and system) are positively associated to customers' satisfaction towards online buying attitudes during the COVID-19 pandemic among 289 Lebanese people.

Meanwhile, Ranjan et all (2021) studied factors that determine the behaviour of customer towards online shopping from various ecommerce company during COVID-19 pandemics.

Data were collected from 600 online shoppers using the online survey method during pandemic in India. The finding shows that information quality (product description, seller information and web series/movies) significantly influence customer satisfaction towards online shopping during the lockdown due to COVID-19 pandemic.

Table 1.1

*Summary of Literature on Information Quality*

Author	Dependent variables	Independent variables	findings
Orlando and Lamhot (2022)	Customer satisfaction on online shopping	Information quality, customer experience, price, and service quality	Information quality has a positive effect on customer satisfaction, then has a positive influence on online purchase.
Boustani et al. (2021)	Customer satisfaction on online shopping	Service quality, system quality and information quality	Quality aspects (information, service, and system) are positively associated to customers' satisfaction towards online buying attitudes
Ranjan et al. (2021)	Customer satisfaction on online shopping	Information quality (product description, seller information and web series/movies)	Information quality significantly influence customer satisfaction towards online shopping

**Relationship between Safety and Customer Satisfaction**

Safety in this context refers to the safety of personal information and payment information shared during or after online shopping (Bult, 2016). Consumers who shop online always consider the internet concern for themselves because they fear that personal information may be stolen. Therefore, once customer feel that their personal information is in secure or misused, they usually avoid continuing online shopping. Van and Tuan (2022) investigate the relationship between safety, individuality, reputation on cognitive trust, perceived risk, consumer attitudes, and online

shopping. As the Covid 19 breakdown, online survey was conducted in collecting the data which a set of questionnaires was delivered 390 Vietnam online shoppers. The study found that safety, and reputation positively affect cognitive trust, thus influence attitude towards online shopping. The safety and privacy of customers who visit the website of an online retailer should be guaranteed, which has a positive impact on cognitive trust. All customers always need to be safety and respect their privacy of personal information to avoid unrelated disturbances and financial losses when dealing via bank cards or harassment during online shopping.

Zang (2022) identify the factor influencing consumer satisfaction in online shopping during pandemic, which is safety, product quality, e-service quality, and price. Data collected via online questionnaires to the people in Klang Valley, Malaysia. The data analysed using both software: SPSS and Smart PLS. The results of the analysis proved the existence of positive and significant association between independent variables with online consumer satisfaction during pandemic. Safety shows the most influence factor contributes to customer satisfaction purchase online. Most of the users stated that they concern more on safety of online shopping because having good protection makes them satisfied.

Zhao (2021) explore the influencing factors of e-service quality (ESQ) in Chinese online shopping market, and its effect on customer satisfaction (CS) and customer trust (CT). The online survey information was distributed to 308 Chinese online shopping consumers and SPSS was used to analyse the data. The result shows that safety is a good measure of e-service quality which has significant influence of customer satisfaction towards online shopping.

Table 1.2

*Summary of Literature on Security*

Author	Dependent variables	Independent variables	findings
Van and Tuan (2022)	Customer satisfaction on online shopping	Safety, individuality, reputation on cognitive trust, perceived risk, consumer attitudes	The study found that safety, and reputation positively affect cognitive trust, thus influence attitude towards online shopping.
Zang (2022)	Customer satisfaction on online shopping	Safety, product quality, e-service quality, and price	The results of the analysis proved the existence of positive and significant association between safety with online consumer

			satisfaction during pandemic.
Zhao (2021)	Customer satisfaction on online shopping	E-service quality (ESQ)	The result shows that safety is a good measure of e-service quality which has significant influence of customer satisfaction towards online shopping.

**Theoretical Framework**

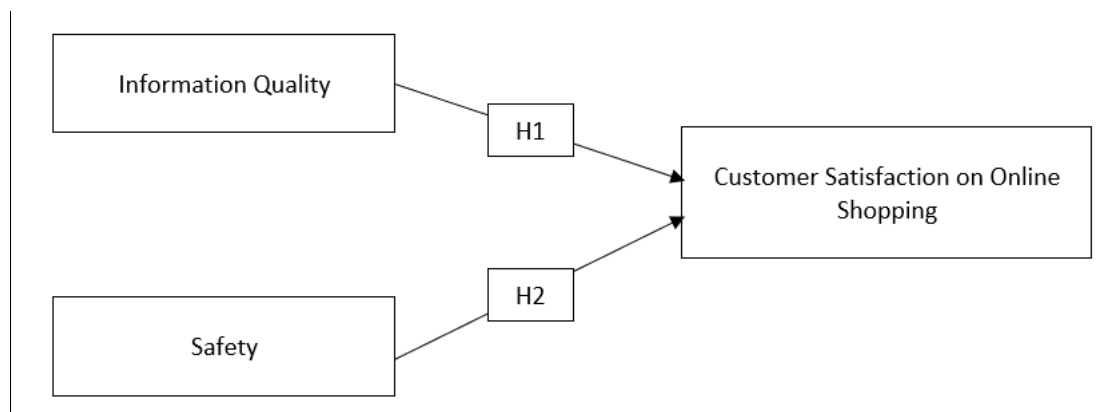


Figure 1.1 Theoretical Framework

**Hypothesis**

H1: There is significance relationship between information quality and customer satisfaction.

H2: There is significance relationship between safety and customer satisfaction.

**Methodology**

**Population and Sampling Technique**

The population of this study is consumers in Malaysia that purchase the products via Online. Non-probability convenience sampling was used in this study due to simplicity and convenience. In marketing surveys, there is often unknown target population to which the researcher wants to generalize the findings, thus convenience sampling is highly recommended (Hulland et al., 2017). A sample size of 200 consumers were randomly selected by distributing link through email, WhatsApp messenger and telegram, and after making a

few clearances, 150 respondents completing the question with the response rate of 75 percent.

### Instrument

All data is evaluated by primary method of scoring the structural response using Likert scale. A scale of 1= strongly disagree, 2=disagree, 3= neither agree nor disagree, 4= agree, 5=strongly agree

Table 1.3  
*Instrument*

Element of research question	Total Questions	Sources
Customer satisfaction	6	1. Smith (2018) 2. Ghoti (2016) 3. Yue (2012) 4. Marketest (2018) 5. Dr.Rachna (2020)
Information quality	6	1. Xiaoying et al (2012) 2. Xen and Salim (2020) 3. Vijay et al (2019) 4. Dr.Rachna (2020)
Safety	7	1. Xiaoying et al. (2012) 2. Surveymonkey (2018) 3. Yue (2012) 4. Dr.Rachna (2020)

### Findings and Analysis

#### The level of satisfaction by respondents toward online shopping

1. I am satisfied with my decision to buy online. / Saya berpuas hati dengan keputusan saya untuk beli belah di atas talian.

150 responses

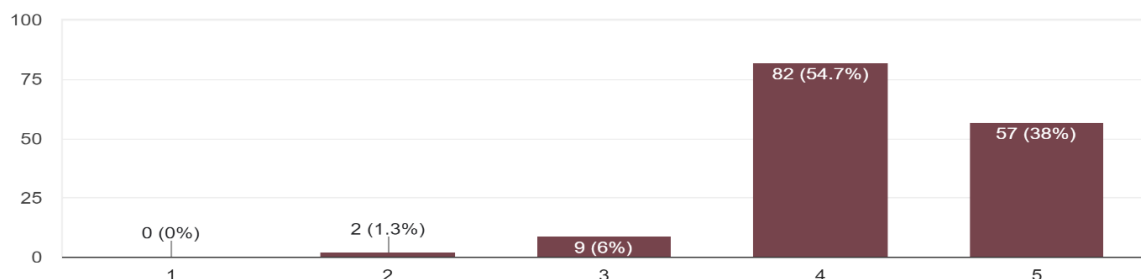


Figure 1.2: Chart of level of satisfaction



From the chart above, it shows that most of the respondent satisfied with the decision to buy online which contribute 54.7 percent and 38% very satisfied with that.

### Normality Test

The main goal of a normality test is to determine if the predicted probability distribution is normal.

Table 1.4  
*Normality Test*

	Information Quality	Safety	Customer Satisfaction
Mean	3.95	3.80	4.23
Median	4.00	3.71	4.17
Skewness	-0.34	-0.04	-0.45
Std. Error of Skewness	0.20	0.20	0.20
Kurtosis	-0.32	0.28	-0.06
Std. Error of Kurtosis	0.39	0.39	0.39

The table 1.4 shows the Mean and Median values for Information quality (information quality: mean= 3.95, median= 4.00); Safety (mean= 3.80, median= 3.71) and Customer Satisfaction (mean= 4.23, median= 4.17) were nearly identical. Additionally, the skewness and kurtosis scores for each variable (information quality: skewness= -0.34, kurtosis= -0.32; safety: skewness= -0.04, kurtosis= 0.28; customer satisfaction: skewness= -0.45, kurtosis= -0.06) were also within the range of +/-3. Therefore, the sample was considered normal. This means the overall findings of analysis conducted for the study can be generalized for the whole population.

### Reliability Test

The degree to which a measurement of a phenomenon produces a stable and consistent result is referred to as reliability.

Table 1.5  
*Reliability Test*

Variable	Number of items	Cronbach's Alpha
Information Quality	6	0.87
Safety	7	0.85
Customer Satisfaction	6	0.85

Table 1.5 demonstrates that the Cronbach's Alpha value for all variables in this study was greater than 0.60. This means that the variables were measured with items that were both reliable and consistent (Taherdoost, 2016). All variables are in the range of 0.85 – 0.87, which is considered as excellent reliability. Information quality is the highest Cronbach's Alpha value at 0.87. It was followed by safety with 0.85 and customer satisfaction 0.85 Cronbach's Alpha value respectively.

### Pearson Correlation

#### Relationship between factors influencing (Information quality and Safety) on Customer satisfaction.

Pearson correlation is applied to analyse the magnitude of association or direction of the relationship between the variables. Besides, it is also used to measure the multicollinearity problem in the regression. When the result of correlation is below than 0.8, it indicates that there is no multicollinearity problem. Whereas when the result of correlation is above than 0.8, it shows that there is multicollinearity problem that exists between the variables. From the result in the table below, there is no multicollinearity problem exists between the variables as the value of correlation is below than 0.8.

Table 1.6  
Correlation

		INFORMATION_QU ALITY	SAFETY	CUSTOMER_SATI SFACTION
INFORMATION_QU ALITY	Pearson Correlation	1	.60**	.56**
	Sig. (2-tailed)		<.001	<.001
	N	150	150	150
SAFETY	Pearson Correlation	.60**	1	.61**
	Sig. (2-tailed)	<.001		<.001
	N	150	150	150
CUSTOMER_SATISF ACTION	Pearson Correlation	.56**	.61**	1
	Sig. (2-tailed)	<.001	<.001	
	N	150	150	150

\*Correlation is significant at the 0.01 level (two-tailed)

Table shows the relationship between independent variables (Information quality and Safety) and dependent variable (customer satisfaction). The relationship between safety and customer satisfaction shows a significant and strong relationship which is  $r=0.61$ . Meanwhile information quality shows a moderate significant association with the dependent variable which is  $r=0.56$ .

**Multiple Regression Analysis**

Table 1.7

**Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.31	.28		1.09	.28
	INFORMATION_QUALITY	.05	.06	.06	.74	.46
	SAFETY	.15	.08	.16	1.94	.04

a. Dependent Variable: CUSTOMER\_SATISFACTION

Beta value shows a correlation coefficient which it ranges from 0 to 1 or 0 to -1. The closer the value is to 1 or -1, the stronger the relationship. Thus, the significance level of each independent variable is also shown in table 1.7. The Beta value for information quality is 0.06 and for safety is 0.16 respectively. Therefore, safety becomes a substantial contributor to customer satisfaction. As a result, safety has been proved to be the most influential factor compared to information quality. On the other hand, P value for information quality is 0.46 ( $P > 0.05$ ) and 0.04 ( $P < 0.05$ ) for safety, shows that hypothesis 1 is not supported and hypothesis 2 is supported.

Table 1.8

*Summary of hypothesis testing*

Research Objectives	Hypothesis Statement/ Research question	Decision
Identify the satisfaction level of the customers on online shopping during pandemic covid19 time.	What is the level of customer satisfaction on online shopping?	<b>Satisfied</b>
Analyse factors that influence customer satisfaction on online shopping.	H1: There is significance relationship between Information quality and customer satisfaction.	<b>Not Supported</b>
	H2: There is significance relationship between safety and customer satisfaction.	<b>Supported</b>
Determine the most influence factors to customer satisfaction on online shopping.	What is the most influence factor to customer satisfaction on online shopping?	<b>Safety</b>

## Discussion and Conclusion

The result of the study show that majority of the respondents satisfied with online shopping. Seller nowadays have come with variety of marketing effort to attract customer as to compete with another seller. So that they will always being up to date with the information and product advertisement that meet the requirement of customers. The result of this study is consistent with the previous studies (Abdul Kadir, 2019; Aimee, 2019; Nebojša, 2019) that found majority of customers were satisfied with online shopping. Besides, Regression analysis found that information quality does not influence customer satisfaction towards online shopping. This result is not consistent with the previous studies by (Orlando and Lamhot, 2022; Boustani et al., 2021; Ranjan et al., 2021). Hence, Hypothesis 1 is not supported. Researchers agreed that customers appreciate all information about product and services that are relevant and correctly posted in web site but that's not a main reason attract them towards online shopping. On the other hand, Regression analysis shows safety be a factor that influence customer satisfaction on online shopping. It is in line with previous studies by (Van and Tuan, 2022; Zang, 2022; Zhao, 2021). Thus, Hypothesis 2 is supported. The researchers agreed customers will enjoy buying and confidently disclose financial or even personal information if they perceive that website's safety assurance meet their expectation level and can be trusted. Recap, the result of the study show that safety was the most influential factor compared to information quality towards customer satisfaction during online shopping, which is in line with (Zhang, 2022).

Hence, it was highlighted that the objective of this study is to analyse the factors that contribute to customer satisfaction during online shopping. Thus, all objectives were achieved which safety has significant relationship and influence customer satisfaction and be the most factor that affect this relationship.

The results of the current study also have the potential to provide some benefits to several parties such as consumers, companies/manufacturers, and policy makers/government. This study provides a better understanding and clearer picture of factors that influence online shopping during pandemic Covid 19 especially in respect of information quality and safety. For the consumers, this study will increase their level of awareness on the safety when dealing with online shopping. Although quality information was not supported, it is important for the customers in getting knowledge about the products that they are willing to buy. For the retailer, they will take initiative to upgrade their online marketing strategy to attract more customers toward online shopping in future and lastly government can improve their acts and multimedia security regarding online shopping.

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