

## Customers' Satisfaction: Factors Affecting Online Shopping During Covid-19 Pandemic

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### ABSTRACT

*Shopping is now easier and more accessible than ever in today's hurried and connected society. This study was conducted to find out the factors influencing customer satisfaction in online shopping during COVID-19. Some barriers have contributed to the unwillingness of Malaysians because they worry others will take their personal information. Two factors were analyzed in this research, which are Information Quality and e-Service Quality, with a sample size of 150 respondents, and a convenience sampling method was used. A set of questionnaires was distributed online through Google Forms by sharing links in WhatsApp and email. Then, the data is analyzed using Statistical Package for Social Science (SPSS). The result showed that Information Quality and e-Service Quality have different relationships with customer satisfaction in online shopping. The limitations of this study are that the variables may not be sufficient, and there should be more variables to be considered in future research that may have a more significant impact. This study contributes to the realization that customer happiness is the most important factor to prioritize to improve a company's favourable reputation in the marketplace.*

**Keywords:** COVID-19, e-Quality Service, information quality, online shopping, pandemic

### INTRODUCTION

Internet usage has grown rapidly over the past several years. It is a networking media and has become a common means for delivering and trading information, services and goods. According to The Internet Users Survey, 2018 (Commission, 2018) by the Malaysian Communications and Multimedia Commission, 87.4 per cent of Malaysians or 28.7 million people use the internet daily. When the COVID-19 pandemic was worsening, Malaysia had to implement a Movement Control Order (MCO), and all citizens had to stay home. At the same time, most of them were required to work from home and spend most of their time surfing the internet and online shopping. Nevertheless, online shopping has

become as trending as the internet and has become increasingly common for consumer marketplace transactions throughout the world. (Neger, M., & Uddin, B, 2020). Regardless, online shopping saves time and less stress than reality shopping (Nebojša Vasić, 2019). In Malaysia, online shopping is more popular among Generation Y and Generation Z, or youth, because they are more exposed to this technology.

Digital technology greatly impacts customers' attraction and satisfaction, where online shopping is the biggest part of customers' desirability and satisfaction. This online shopping service has become successful due to the digitalization of businesses, the wide use of the Internet, and the rapid growth of technology, creating a new market for customers and companies (Internet Survey SKMM, 2016). By 2016, 35.3 per cent of Malaysians made purchases online. (Commission, 2018). Satisfaction is the value of one's feelings, either fulfilling or dissatisfying, resulting from comparing the availability of a product desirable to the expected values (Aimee, 2019). Somehow, customers are individuals or businesses that purchase goods and services from another business. In addition, the level of satisfaction depended on the extent to which the needs were met. Meanwhile, quality is defined as the perceived quality of the customer. To achieve high customer satisfaction, the company needs to create products that meet the requirements of its customers (Aimee, 2019).

## **Problem Statement**

According to the e-Commerce Consumer Survey 2018, Malaysia's percentage of e-commerce consumers at the national level stood at 51.2 per cent. Adoption of e-commerce is higher among adults in their 20s and 30s, including those with a relatively high average monthly income of RM3000 and above (Commission, E-commerce consumer survey, 2018). To increase online shopping in Malaysia, understanding the factors influencing this behaviour when shopping online should be given priority. Statistics also indicate that almost half of Malaysians, especially young people were using the internet for non-shopping activities such as seeking information, entertainment, playing games, and communicating with others. Some barriers have contributed to the unwillingness of Malaysian people because they fear others will steal their personal information. Despite the potential of Malaysian people, there are limited studies regarding the factors influencing customer satisfaction with online shopping in Malaysia.

## **Research Objectives**

1. To identify the satisfaction level of the customers on online shopping during the Covid-19 pandemic.
2. To analyze factors (Information Quality and e-Service Quality) influencing Customer Satisfaction in online shopping.

This study will significantly help determine customer satisfaction prevalence and contributing factors in online shopping behaviour, especially during the pandemic Covid-19. The limitations of this study are that the variables may not be sufficient, and there should be more variables to be considered in future research that may have a more significant impact.

## **LITERATURE REVIEW**

### **Online shopping**

Online shopping has rapidly grown due to the unique benefits offered to retailers and customers. From retailers' point of view, online shopping provides the opportunity to deliver their marketing mix: product, price, place and promotion in an effective manner. In terms of the right product, online stores can offer a wide array of products and services compared to traditional retailers. When it comes to the right price, online businesses can offer products at a lower price by incorporating all the cost savings. With regards to the right place, online retailers can eliminate location and time barriers. As a result, customers can connect and purchase from the Internet at any time and place. Finally, regarding proper promotion, many opportunities are available to businesses to undertake direct marketing, advertising, and other promotional campaigns (Barutçu, 2010).

### **Customer satisfaction**

Based on the study, customer satisfaction is defined as the role of expectation and expectancy confirmation or disconfirmation of a satisfied customer (Abdul Kadir Othman, 2019). It also means there is a connection between the accomplishment of the product and services and the expectation of customers to encourage them to re-purchase. Customer satisfaction has become a victorious business's primary factor and pointer (Aimee, 2019).

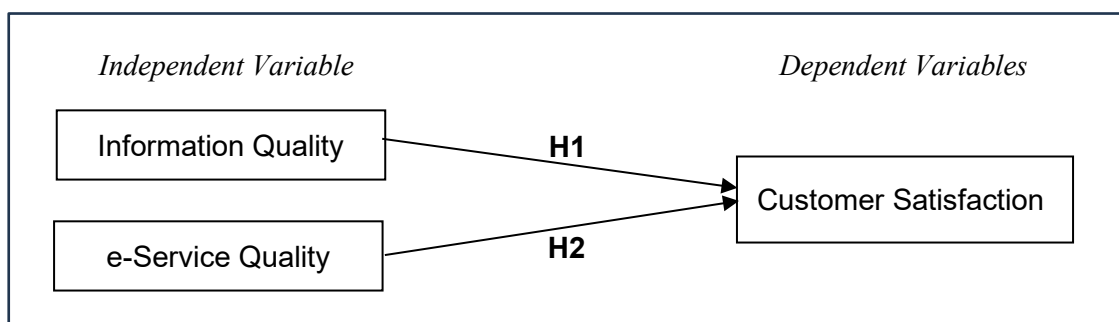
### **Information quality**

A study by Albert (2021) found that information quality influences customer satisfaction with online shopping. It represents the e-retailer's quality dimension that contributes to developing consumer loyalty as long as it is accurate, relevant, etc. Deyalage and Kulathunga (2020) studied a key factor leading to customer satisfaction in online shopping. They found that information quality and customer service are two of the most important factors in examining online customer satisfaction. Customers aim to get all the relevant and correct information from sellers regarding the products and services, and customers admire all the information given with respect to their expectations (Nebojša Vasić, 2019).

### **e-Service Quality**

A study by Deyalage and Kulathunga (2020) shows that e-service quality contributes to customer satisfaction during online shopping. The quality of service is rated as to the extent of assistance online sellers provide to ensure the efficiency and effectiveness of purchase, shipping, and delivery of products and services (Vasić, 2019). According to Othman (2019), e-Service Quality can be described as the overall impression of services provided and the quality of service offered in the virtual marketplace. Some elements of e-service quality include honesty, tolerance, and confidence, which will build customer trust.

## Conceptual Framework



**Figure 1: Conceptual Framework of Factors Affecting Customer Satisfaction Towards Online Shopping During COVID-19 Pandemic**

The conceptual framework shows the relationship between all the independent variables that will affect the dependent variable. Based on the literature review, two factors are regarded as independent variables: Information Quality and e-Service Quality. The dependent variable is Customer Satisfaction.

## Hypothesis Development

H1: There is a significant relationship between Information Quality and Customer Satisfaction.

H2: There is a significant relationship between e-Service Quality and Customer Satisfaction.

## RESEARCH METHODOLOGY

The research design for this research is applied research, descriptive study, and quantitative method. Quantitative analysis is derived from the questionnaire distributed. All data were collected using a non-experimental research design. Questionnaires were distributed using the non-probability sampling technique of convenience sampling, collecting responses by the medium of e-survey distributed through telecommunication such as WhatsApp, Telegram, and Email.

This study's population and unit analysis is consumers in Malaysia who purchase the products online. Non-probability convenience sampling was used in this study due to simplicity and convenience. This method is an unbiased method that allows every member of the population an equal chance of being selected for the sample. This helps ensure the sample is representative of the larger population, which is crucial for drawing accurate conclusions. A pilot test was undertaken to improve the questionnaire's reliability and understandability. Several questions were used in this study to measure Information Quality and e-Service Quality. A sample size of 200 consumers was randomly selected by distributing links through email, WhatsApp messenger, and telegram. Only 150 respondents answered the question, with a response rate of 75 per cent. The questionnaire in this study was distributed to 200 respondents to interpret the quantitative data. All data is evaluated using the primary method of scoring the structural response using the Likert scale. On a scale of 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree.

**Table 1: Instrumentation**

<b>Element of the research question</b>	<b>Total Questions</b>
Information Quality	6
e-Service Quality	6
Customer Satisfaction	6

Validity, normality, and reliability tests will be conducted to validate the instruments used. For the reliability test, Cronbach's alpha value is the most common measure of reliability, especially when multiple interval questions in a questionnaire form a scale and determine whether the scale is reliable. For the normality test, mean and medium values are the measurements used to determine probability. For data collection procedures, the questionnaires were distributed through Google Forms. The link to the questionnaire was given through WhatsApp and email. The data obtained was analyzed using the Statistical Package for the Social Sciences (SPSS). The data was processed using reliability, descriptive, correlation, and regression analysis. Descriptive statistics include mean, standard deviation, and inferential statistics involving Pearson Correlation Analysis to determine customer satisfaction in terms of Information Quality and e-Service Quality in online shopping services. For the reliability test, several questions were used in this study to measure Information Quality, e-Service Quality and Customer Satisfaction. Each question included a five-point scale ranging from 'strongly disagree' to 'strongly agree.'

The main goal of a normality test is to determine if the predicted probability distribution is normal. Kurtosis and skewness are two metrics that can be used to describe the normal distribution, whereas skewness is used to explain the balance of the distribution. When the kurtosis and skewness are within three standard deviations (+/-3), the data is deemed regularly distributed. Pearson's Correlation technique was used to discover the impact of the working environment on employees' performance and determine the nature and degree of the relationship. This study uses multiple regression analysis since it can assess the linear relationship between one dependent variable and two independent factors. Commonly, regression analysis is performed using multiple regression equations to predict the values of the dependent and independent variables.

## **FINDINGS AND DISCUSSIONS**

### **Normality Test**

According to Table 2, the Mean and Median scores for each variable (information quality: mean = 3.9500, median = 4.0000; e-service quality: mean = 3.9433, median = 4.0000; customer satisfaction: mean = 4.2156, median = 4.1667) were nearly identical. Additionally, the skewness and kurtosis scores for each variable (information quality: skewness = -0.344, kurtosis = -0.315; e-Service quality: skewness = -0.128, kurtosis = -0.177; customer satisfaction: skewness = -0.451, kurtosis = -0.058) were also within the range of +/-3. Therefore, the sample was considered normal. The result means the overall findings of the analysis conducted for the study can be generalized for the whole population.

**Table 2: Normality Test**

	<b>Information Quality</b>	<b>e-Service Quality</b>	<b>Customer Satisfaction</b>
Mean	3.9500	3.9433	4.2156
Median	4.000	4.000	4.1667
Skewness	-0.344	-0.128	-0.451
Std. Error of Skewness	0.198	0.198	0.198
Kurtosis	-0.315	-0.177	-0.058
Std. Error of Kurtosis	0.394	0.394	0.394

## Reliability Test

**Table 3: Reliability Analysis Result**

<b>Variables</b>	<b>Number of items</b>	<b>Cronbach's Alpha</b>
Information Quality	6	0.866
e-Service Quality	6	0.840
Customer Satisfaction	6	0.852

Table 3 indicated that the Cronbach's Alpha value for all four variables in this study was greater than 0.60. The result indicates that the variables were measured with reliable and consistent items (Taherdoost, 2016). Both variables are in the range of 0.840 – 0.872, which is considered as excellent reliability. Information quality has 0.866 Cronbach's Alpha value, whereby 0.840 is for the e-Service Quality.

**Table 4: Summary of the Respondents Profile**

		<b>Frequency</b>	<b>Percentage (%)</b>
Gender	Female	94	62.7
Age	21 - 30 years	56	37.3
Occupation	Students	57	38
Monthly income	No Income	57	38

Table 4 above reported the findings of the selected online customers in Malaysia. For gender, it was found that most respondents were female, with a total of 94 or 62.7 per cent. Most respondents were between the ages of 21 and 30, representing 37.3 per cent, with 56 frequencies. The majority of the respondents were students, making up 57 respondents or 38 per cent of the total, and they also represented the same percentages of individuals with no fixed monthly income.

## 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

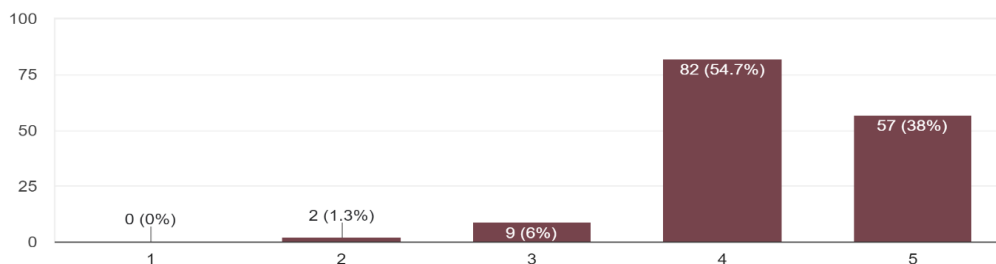


Figure 2: Chart of the Level of Satisfaction

The chart above shows that most of the respondents are satisfied with the decision to buy online, contributing 54.7 per cent.

## Factors Influencing Customer Satisfaction

Table 5: Frequency of factors influencing customer satisfaction

Variable	N	Mean	Standard deviation
Information Quality	150	3.9500	0.74829
e-Service Quality	150	3.9433	0.62416
Customer Satisfaction	150	4.2156	0.61261

Based on the mean value, it shows that the respondents who gave the answers strongly agreed with the questions asked. Nevertheless, the highest score standard deviation for the variable is Information Quality, with 0.74, while the highest mean is Customer Satisfaction, with a 4.2 score.

## Pearson Correlation

### Relationship between Factors Influencing (Information Quality and E-Service Quality) on Customer Satisfaction.

Pearson correlation is applied to analyze the magnitude of association or direction of the relationship between the variables and to measure the multicollinearity problem in the regression. When the result of the correlation is below 0.8, it indicates that there is no multicollinearity problem. When the result of the correlation is above 0.8, it shows that a multicollinearity problem exists between the variables. From the result in Table 6, no multicollinearity problem exists between the variables as the value of correlation is below 0.8.

**Table 6: Correlations**

		INFORMATION_Q UALITY	E_SERVICE_QUAL ITY	CUSTOMER_SATIS FACTION
Information_Quality	Pearson Correlation	1	.670**	.562**
	Sig. (2-Tailed)		<.001	<.001
	N	150	150	150
E_Service_Quality	Pearson Correlation	.670**	1	.658**
	Sig. (2-Tailed)	<.001		<.001
	N	150	150	150
Customer_Satisfaction	Pearson Correlation	.562**	.658**	1
	Sig. (2-Tailed)	<.001	<.001	
	N	150	150	150

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 6 shows the relationship between independent variables (Information Quality and e-Service Quality) and dependent variables (Customer Satisfaction). The relationship between e-Service Quality and customer satisfaction shows a strong relationship at ( $r=0.658$ ). The remaining independent variable, Information Quality ( $r=0.562$ ), shows a moderate association with the dependent variable. All relationships are significant with a p-value of 0.001 ( $p<0.05$ ) at a 0.05 significant level.

### Multiple Regression Analysis

**Table 7: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.767 <sup>a</sup>	.588	.576	.39870	2.004

a. Predictors: (Constant), Information\_Quality, E\_Service\_Quality

b. Dependent Variable: Customer\_Satisfaction

**Table 8: ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	32.869	4	8.217	51.693	<.001 <sup>b</sup>
	Residual	23.050	145	.159		
	Total	55.919	149			

a. Dependent Variable: Customer\_Satisfaction

b. Predictors: (Constant): Information\_Quality, E\_Service\_Quality

According to Table 7, the independent variables resulted at 0.588, indicating 58.8 per cent of the variance in the dependent variable. The remaining 0.412 indicates 41.2 per cent by an unknown variable and may be explained by other factors. The model is significant at 0.001 ( $F=51.693$ ,  $p<0.05$ ), as seen in Table 8.

### Coefficient of Correlation (R)

The correlation coefficient (R) is a number that varies from -1.0 to 1.0. A perfect positive linear relationship exists when R is more than 1.0, and a perfect negative linear relationship exists when R is more significant than -1.0. If R is equal to 0, there is no correlation. The R-value for the relationship



between the independent variables and the dependent variable is 0.767, indicating a positive linear correlation, as shown in Table 9.

**Table 9: Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.308	.282		1.092	.277
	Information Quality	.046	.062	.056	.742	.459
	E_Service Quality	.286	.086	.291	3.327	.001

a. Dependent Variable: CUSTOMER\_SATISFACTION

The table also shows the Beta (B) value. Beta value shows a correlation coefficient ranging from 0 to 1 or 0 to -1. The closer the value is to 1 or -1, the stronger the relationship. Therefore, the significance level of each independent variable is also shown in Table 9: The value for Information Quality (0.056) and e-Service Quality (0.291).

## Summary of Hypothesis Testing

**Table 10: Summary of Hypothesis Testing**

Research Objectives	Hypothesis Statement/ Research question	Decision
Identify the satisfaction level of the customers on online shopping during pandemic Covid 19 time.	What is the level of customer satisfaction with online shopping?	<b>Satisfied</b>
Analyze factors that influence customer satisfaction in online shopping.	H1: There is a significant relationship between Information Quality and customer satisfaction.	<b>Rejected</b>
	H2: There is a significant relationship between e-Service Quality and Customer Satisfaction.	<b>Supported</b>

**Research Objective 1:** Identify the satisfaction level of the customers on online shopping during pandemic covid19 time.

The result of the study shows that the majority of the respondents were satisfied with online shopping. The majority agree with online shopping websites that constantly meet their requirement which represents the highest mean value of 4.31.

**Research Objective 2:** Analyze factors that influence customer satisfaction in online shopping.

H1: There is a significant relationship between Information Quality and customer satisfaction.

Through Correlation Coefficient analysis, the findings revealed that Information Quality is not significant because the value is  $> 0.05$ . So, H1 is rejected.

## CONCLUSION AND RECOMMENDATIONS

**Research Objective 1:** Identify the satisfaction level of the customers in online shopping during the pandemic Covid-19.

The study results show that most respondents are satisfied with online shopping. The majority agree with online shopping websites that constantly meet their requirement, representing the highest mean

value of 4.31. This study's result is consistent with a previous study (Nebojša Vasić, 2019) that found the majority of customers were satisfied with online shopping.

**Research Objective 2:** Analyze factors that influence customer satisfaction in online shopping.

The study's result shows that all factors have a significant relationship with customer satisfaction. Through Correlation Coefficient analysis, the findings revealed that the relationship between e-Service quality ( $r=0.658$ ) and customer satisfaction shows a strong relationship. It was based on the rule of thumb, which stated that the coefficient range between  $+_{-} 0.61$  to  $+_{-} 0.80$  means that it has a strong relationship.

The result of this study is also consistent with the result of a previous study (Phuong, 2020; Nebojša Vasić, 2019) in factor of e-Service Quality and also (Albert, 2021; Nebojša Vasić, 2019) in Information Quality. These researchers agreed that information quality has a moderately significant relationship with customer satisfaction, where customers admire that all information about products and services is relevant and correctly given by sellers in line with their expectations. However, this study contradicts the result reported by P.A. Devalage and D. Kulatunga (2020), who reported that Information Quality is the most important key to customer satisfaction in online shopping.

In conclusion, this study helps realize that customer satisfaction is the most crucial element to prioritize by every business organization to enhance their positive reputation in the market. Customer satisfaction refers to the customer's happiness and comfort. It means that if the customer is happy with the product and the service quality, it will show and describe positive views toward the business organization. This study also helps understand the factors that influence customer satisfaction in online shopping which consists of Information Quality and e-Service Quality. For example, sellers may not disclose exact information regarding products or services. Many customers commonly face this situation when buying using the Shopee platform, whereby items purchased by customers differ from what has been advertised in the catalogue. That is one of the reasons why customers moderately agree with the Information Quality.

The researchers experienced some limitations while conducting this study. This study occurred in the middle of the COVID-19 pandemic, so it was conducted during the Management control order (MCO) period. Therefore, the questionnaires were only completed using Google Forms. It took much work to gather the responses from the respondents during the period because there were no face-to-face interactions as most people were working and studying from home. The researchers can only rely on emails and WhatsApp messenger applications. Because of this, the researchers only ended up with a 75 per cent response rate.

For the recommendations, this study can be conducted to identify other variables that can influence customer satisfaction in online shopping. The researchers also believe that the study's time frame, which is during the crisis of a pandemic, has very much caused some unforeseen limitations. In the future, when a crisis is over, future study is highly recommended because there would be access to a broader sample. Thus, the researchers view that this study finding would benefit the retailer or business owner involved in the business sector to give and improve better services for the customer.

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## AUTHORS' CONTRIBUTION

AMZ is the leader in writing this manuscript. NEN contributed to the review of the literature. ZM contributed to the interpretation of the results. RDHS, NIM, and NAA assisted in reviewing the entire manuscript and providing feedback to ensure its quality. All authors contributed and approved the final manuscript.

## CONFLICT OF INTEREST DECLARATION

None declared

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