The Relationship Between Service Quality and Customer Loyalty in Online Shopping

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Abstract

Online shopping is the practice or action of making purchases of products or services over the internet. Online shopping activities in Malaysia become more popular due to COVID-19 and many people have increased their reliance on buying things thru online commerce and switched to it. During Movement Control Order (MCO), Shopee was the most popular e-commerce platform and followed by Lazada. But in April last year, TikTok has launched TikTok Shop in Malaysia which quickly became an effective E-Commerce solutions provider for its users as it is combining the forces of community, creativity and commers by offering a smooth purchasing experience while enabling brands and creators to reach highly engaged consumers based on their interests. The problem statement is ensuring and maintaining customer loyalty through service quality provided. This study was focused to analyse the level of service quality and customer loyalty in online shopping, to analyse the relationship between service quality and customer loyalty in online shopping. The population of this study comprises of all the 6.5 million Malaysian that using online shopping platforms e.g. Shopee, TikTok in doing online shopping. The Krejcie and Morgan table was used to determine an appropriate sample size for the study is 384 respondents. This study used the method of quantitative which is questionnaire distributed by Google Form to gather the data. This study has collected data from 215 respondents among online shopping user in Malaysia with response rate of 56%. The hypotheses were tested using the Spearman's Correlation Coefficient with the help of Statistical Tool for Social Science (SPSS). All the hypotheses were accepted in this study. The crucial in findings the relationship between service quality and customer loyalty is achieved and the reliability, responsiveness and assurance had significant relationship with customer loyalty in online shopping.

1. Introduction

The increase in the use of the internet across the global has led to a new phenomenon in consumer behavior, where customer prefer to shop through online platform (Nasni, 2021). Online shopping is a practice or action of making purchases of product or services over the internet (Sunitha & Gnanadhas, 2023). Online shopping includes several activities including browsing the seller's website, select the item that you want to buy, arrange for delivery, and settled the payment using a credit or debit card, and payment can also be made in person when

the item is delivered (Market Business News, 2023). The global spread of COVID-19 pandemic has made many people increased their reliance on buying things through online commerce and switch to it (Rothengatter, 2021). To stop the virus from spreading, face-to-face buying activities have been banned and the demand for Internet access is rising fast as more people use digital technology to work, study, and even shop from home (Widodo *et al.* 2023). Shopping through online platform has increased in Malaysia since the use of internet is easy and cheap especially for purchasing goods and services (IqiGlobal, 2023). The use of mobile e-commerce applications and online commerce applications has increased significantly among inactive and new users due to the pandemic (Hasanat, 2020). As a result, COVID -19 influences customer buying habits, which directly affects demand in the electronic commerce industry (Seah, 2022).

Customer loyalty is a consistent, positive relationship that happens between a company and its customers (Shep Hyken, 2022). It makes customers keeps coming back and convinces them to choose your company over other competitor that offer similar services and benefits (Qualtrics, 2023). Loyalty happens because of customer satisfaction, positive customer experiences, and the value of goods or services that customer receives form that business (Internet Marketing, 2023). Loyalty is a behavioral action that refer to customer commitment and trust which shows the supportive behaviors through repeat purchases (Shafiee & Bazargan, 2018). According to Queue it, (2023) there are several studies that online fairness the most important factor in predicting trust and loyalty. Based on the research, it shows that there are many variables that has been studied in relation to loyalty including service quality which fairness leads to trust that creates satisfaction and from the satisfaction the loyalty relationship exists.

Service quality is a measure of how an organization understands the needs of its users and meets their expectations and understanding how to improve the service quality of a product is the critical step to growth for any organization (QuestionPro, 2023). It encompasses various aspects such as the design of the website, customer service, security/privacy measures, and fulfilment (Rita *et al.*, 2019). According to Fiqqih (2023) service quality is found to be a prime determinant of consumer loyalty which is very important for the growth of any business regardless of the industry. The importance of offering customers high-quality services is emphasized, and for businesses to remain competitive in the market, it is crucial that they comprehend and fulfil customer expectations (Agbor, 2011). Al-Nasser *et al.* (2015) stated that delivery, website functionality, privacy of information, and the ability to return and exchange items are all significant concerns for customers is the factors related to service quality provided by online shopping platform.

1.1 Research Background

The change towards online shopping appears to be structural after two years of COVID-19 and now Malaysians are just as likely to do so now as they were a year ago, when the pandemic was at its strongest (Suhaidi, 2022). Due to COVID-19, Malaysia's government implemented a Movement Control Order (MCO) on March 18, 2020, online shopping has become more popular because during MCO and the retail activities are decreased (Vasudevan & Arokiasamy, 2023). According to Statista, (2023) mention that due to its ease and value during the past year, e-commerce in Malaysia has developed into a sizable and aggressive business. So, this is another reason why there are several top online stores in Malaysia that work to facilitate online purchasing and selling. There is survey conducted about Malaysians shopping behavior during the Movement Control Order (MCO) that conducted by Data Trust (2020), Shopee was the most popular e-commerce platform with 88 percent of respondents doing online shopping and it was followed by Lazada with 53 percent of respondents since the Malaysian government issued the (MCO) for two weeks starting March 18 until June 9, 2020, (Statista, 2022). However, there is an assumption that consumer spending has declined, but Shopee report that demand increased across all categories on its platform, with mid- and high-end brands and stores seeing the biggest changes (Semrush, 2023). But in April last year, TikTok has launched TikTok Shop in Malaysia which quickly became an effective E-Commerce solutions provider for its users (Reema Dudekula, 2023). TikTok Shop combining the forces of community, creativity and commers by offering a smooth purchasing experience while enabling brands and creators to reach highly engaged consumers based on their interests (TikTok, 2023).

Internet had given a lot of benefits to business which retailers can now communicate with potential customers and represent their brand in entirely new ways and the physical stores are now a part of their marketing and sales strategies rather than being their only or primary source of customer engagement (Ellis, 2014). According to Nyxone, (2017), the internet greatly simplifies and accelerates business transactions. As a result, there have been changes in how people do business, with e-commerce or online purchasing experiencing significant global growth. Internet had made online shopping become more easier and impacts for customer by save time for both the customer and the store by cutting down on phone calls for information that may be available on company and product pages, such as availability, specs, operating hours, and other information (Nyxone, 2017).

According to Parasuraman (1988), service quality is an undefined and uncommon term because of three distinctive qualities of services, namely their intangibility, heterogeneity, and inseparability of production and consumption. Service quality can be determined by comparing how well business provider meets customer

expectations (Indeed, 2022). Service quality is closely related to customer loyalty. The development of the customer loyalty idea is influenced by service quality analysis. According to Indeed Editorial Team, (2022), one of the factors most frequently studied to determine customer loyalty is service quality. Developed by Parasuraman (1988) the SERVQUAL model is the most common method for evaluating service quality that contain of five dimensions which is tangibles, reliability, responsiveness, empathy, and assurance. SERVQUAL frequently functions as the tool on which confirmation factor evaluations are done. Iddrisu (2015) justify that service quality and customer satisfaction were found to be related to customer loyalty through repurchase intentions.

Good service quality will lead to customer loyalty. Customer loyalty refers to a continuing emotional bond between you and your customers, which shows up in the degree to which a customer chooses to interact with and keep making purchases from you over your rivals (Oracle, 2023). Loyal customer comes from customer happiness, satisfying customer interactions, and the overall value of the products or services a customer purchases from a business (Zebgra, 2020). Customer loyalty is the act of repeatedly selecting a company's goods and services over those of its competitors. When a customer sticks to one business, they are resistant to being persuaded by availability or cost. They would rather pay more to have the same high-quality service and goods that they are familiar with and love (Sarah, 2022). Customers will be more loyal to a company if it can consistently meet and exceed their expectations. Customer satisfaction is crucial for fostering client loyalty and for businesses to thrive in a competitive marketplace (Sari *et al.* 2022).

1.2 Problem Statements

In today's internet-driven world, buying goods online is attraction to everyone as there are several options for people to purchase the things, they want from online shops (AccountLearning, 2023). Online shopping is viewed as essential if the services offered, please the user. The challenging issue with online shopping is ensuring and maintaining customer loyalty through service quality provided (Misra, 2021). Moreover, Asia Pacific, (2021) state that common problems on Shopee include a slow response time, inconsistent application of a repeat offender policy that fails to deter repeat offenders, a lack of preventative measures, and a convoluted takedown procedure.

Customers can be satisfied with online shopping provided a variety of conditions are met, such as product quality that fulfils expectations, welcoming customer service, and pricing that are affordable given the product's quality. However, many customers often believe that the products they buy beyond of their expectations, the service they receive is poor and delayed due to address problems, and the price that they pay is too high for the quality of the product they receive (Khadka, 2017). In addition, due to the rapid expansion and reputation of Shopee, it is facing many counterfeiting problems. Despite so many safety mechanisms and authorized agents, the problem of counterfeiting could not be eliminated from Shopee. Even today, many counterfeit products are transacted on Shopee store platforms daily (Locad, 2023). If Shopee can supply items and services of a high enough standard, at costs that are reasonable and alluring, and in line with customers' expectations, it will be seen favourably by the public. Now people tend to move to TikTok Shop as they are selling fees are lower than Shopee where the fees charges are about 4%. The integration of TikTok is better as the sellers can promote their products and service more easily through TikTok where people can do online shopping while scrolling into social media without have to open the application to do so (Amy, 2023). Hence, TikTok Shop aims to convert viral content into better sales by capturing all transactions directly on the website instead of redirecting consumers to another marketplace like Shopee (Thu Huong Le, 2023).

According to Joudeh (2018) the definition of service quality was given as "the overall evaluation of a service by the customers." Based on that, the organisation views the degree of service that is determined by customers as being extremely significant in determining its capacity to provide such service and satisfy customers, ultimately leading to their satisfaction. Hence, there are several studies have discussed on service quality and customer loyalty that relate on online shopping, but there are still limited studies that investigate the relationship between service quality and customer loyalty in the context of Malaysia. Moreover, Ludin, (2014) state, study that he conducts excluded potential respondents who might not have knowledge of the indicated characteristics, such as electronic service attributes. As a result, respondents who have never utilised or encountered an electronic service during their online buying experience may provide an answer based only on assumptions.

Therefore, to achieve the research objectives the level of platform's service quality in online shopping is determined. Furthermore, the level of customer loyalty in online shopping also determined. Consequently, the relationship between service quality and customer loyalty in online shopping is identified.

1.3 Scope of the Study

This study analyse the level of service quality in online shopping and the level of customer loyalty in online shopping. This study also analyses the relationship between service quality and customer loyalty. The data collection for this study research through quantitative research and online shopping user in Malaysia have been targeted as the research respondents. The questionnaire was prepared as the instrument and distributed to the respondents by Google Form. Customer who did an online shopping are the main respondents since they are familiar with e-commerce services.

1.4 Significance of the Study

This study review and gain data on the relationship between service quality and customer loyalty in online shopping. There are benefits of this study, which is first, this study provides information the dimension that include in service quality that led to customer loyalty using online shopping e.g. Shopee and TikTok. Researcher will know the importance of service quality in ensuring customer loyal using the services provided. Respondent will know the type of service quality provided to maintain the loyalty using the services. Lastly, this study could help us deliver the best service quality to customer in future.

2. Literature Review

This chapter provides further discussion on the research keywords that has been used in this research. The discussion starts with the definition of online shopping, service quality, customer loyalty in online shopping and past studies that related to service quality in online shopping and customer loyalty in online shopping. Moreover, this chapter discuss about service quality and customer loyalty factors in online shopping, relevant theories, conceptual framework, and hypothesis.

2.1 Customer Loyalty

Companies must be more capable in times of intense competition to keep customers' loyalty. However, the efforts undertaken are not simple; businesses must engage all resources available, particularly those directly tied to customer behaviors (Ian, 2022). According to Internet Marketing 101, (2023) customer theory, delivering satisfaction is one of the major factors in the beginnings of a loyalty action. Companies must be more capable in times of intense competition to keep customers' loyalty. Furthermore, when establishing trust with business actors, customers are more concerned about order completion. They must be able to offer customers the best services possible in their capacity as business actors, including being trustworthy so that clients will accept the claims made about the items.

Clint, (2022) state that a strong, ongoing relationship between a customer and a company is called as customer loyalty. It's what motivates customer to make additional purchases and convinces them to pick your business over a rival that is providing comparable advantages. Moreover, Sabri (2021) state that gaining clients' trust is essential for businesses selling goods online since it promotes customer comfort and loyalty. In order to eliminate any hesitations, fears, or uncertainties about making an online purchase, it is crucial to develop client trust. So, when users have a positive experience on the website, they will be loyal to the online service (Sabri, 2021).

2.2 Service Quality

The conceptual GAP model has been a major source of inspiration for service quality that developed by (Parasuraman, 1985). In general, service quality can be defined as results perceived from "a comparison of consumer expectations with actual service performance" (A. Parasuraman, 1985). The study of service quality has an impact on the development of the concept of customer loyalty where the service quality is one of the most studied determinants of customer loyalty (Ivanauskiene, 2014). The correlations between service quality, customer satisfaction, and customer loyalty have been the subject of several research. Moreover, numerous research has shown that the effects of service quality on consumers' behavioral intentions, such as repurchase intention and word-of-mouth (Cronin, 2000; Ladhari, 2009; Zeithaml, 1996).

According to Asubonteng (1996), in this study, service quality is defined as the gap between a customer's pre-service expectation of service performance and their post-service opinion of the service. Because quality is high when performance surpasses expectations and poor when performance falls short of those expectations, the customer's expectations serve as the basis to evaluate service quality. As a result, service quality has become a crucial concept for businesses to comprehend, measure, and, when necessary, improve, particularly in areas where expectations and perceptions diverge significantly (Feteh, 2020).

Service quality in online shopping made increasement in internet usage because it boosts the current rapid expansion of the service sector. The emergence of information databases on the internet is the result of this circumstance (Gu *et al.* 2021).

2.3 Online Shopping

Recently, the internet's growth and popularity have been truly amazing. According to Daisy (2021), The Covid-19 outbreak had accelerated the change in customer behaviors at a period when e-commerce was generally accepted. The Covid-19 outbreak was a two-edged chance for e-commerce to boost its economic performance. Moreover, (Commission Factory, 2023) declare that the customers are increasingly making purchases online as a result of expanding internet usage and more advanced, potent devices. The Malaysian eCommerce market expanded by 68% year over year in 2021 and is projected to reach $9.2 billion in 2022. At the same time, Malaysia had a 47% increase in online shoppers year over year, with 14.43 million doing so at the start of 2022. Due to the utilization of Malaysian young who are active spenders, online shopping is also expanding quickly in that country (Puveandharan Vasudevan & Lawrence Arokiasamy, 2021). Clearly, this shows that this age groups like the convenience of online purchasing. In this type of market, growth is exponential. The number of online retailers is growing, and the price war for customers is intensifying (Prajapati, 2021).

The famous online shopping platform in Malaysia is Shopee as it mentions by iMoney (2022), that the best online shopping platforms in Malaysia starting with Lazada, Shopee, Mudah.my, Taobao, Harvey Norman, Signature Market, Carousell, eBay and Amazon. According to (CNA, 2023) currently, Malaysia, Indonesia, Thailand, Vietnam, Cambodia, and the Philippines all use Shopee. With corporate operations in Mexico and Brazil, it has also extended its influence outside of ASEAN. According to Goutam & Gopalakrishna, (2018) high degree of service quality not only keeps customers on one online shopping platform, but it also encourages them to keep on being loyal customers.

2.4 The Relationship Between Service Quality and Customer Loyalty

Studies have shown that service quality and customer loyalty are closely related. These findings have implications for industry players about critical areas to focus on to strengthen the quality of services provided to ensure long-term customer loyalty (Agyei, 2013). According to Kiseleva *et al.*, (2016) loyalty is sometimes equated with customer satisfaction, which is not accurate. The satisfaction is given when the consumer is satisfied and does not regret his purchase. However, customers do not always remain loyal. This shows that there is the correlation between service quality and customer loyalty. Despite their general agreement on the importance of service quality to customer happiness and corporate performance, academics dispute on the model of service quality (Johnson *et al.*, 2018). However, service quality assessment aids managers in detecting problems with providing customer service so they may improve effectiveness and quality to fulfil customer expectations (Daniel *et al.,* 2010).

2.5 Theories Related to Service Quality

There are various models for measuring service quality, one of which is SERVQUAL model by Parasuraman, (1985) which contains five elements of service quality measurement: tangibles, reliability, responsiveness, assurance, and empathy. The theory of service quality is based on product quality and customer satisfaction literature (Cronin, 2000).

2.5.1 SERVQUAL

There are various models for measuring service quality, one of which is SERVQUAL by Parasuraman, (1985) that includes the following five components for measuring service quality: tangibles, dependability, responsiveness, assurance, and empathy. The literature on product quality and customer satisfaction forms the foundation of the philosophy of service quality (Polyakova *et al.* 2015). Bengston, (2020) defined service quality as "an appraisal of consumers from the whole perfection of services." Despite their general agreement on the importance of service quality to customer happiness and corporate performance, academics dispute on the model of service quality. UK Diss (2023) mention that service quality is a measure of how well the service level given meets the expectations of the customer by delivering the exceptional service that involves continuously fulfilling or going beyond customer expectations.

2.5.2 Information Systems Success Model

DeLone and McLean, (2003) had introduce information systems success model which aims to provide a thorough knowledge of IS success by defining, outlining, and elucidating the connections between six of the most important success criteria that are frequently used to assess information systems which is system quality, information quality, use, user satisfaction, individual impact and organizational impact. According to Ojo, (2017) the test is approved in studies to evaluate the effectiveness of e-commerce systems, knowledge management systems, e-government systems, and many other systems. The success of an information system was consistent with service quality where the user can use it as instruments for measuring the information systems service quality (Petter *et al.*, 2008).

2.6 Theories Related to Customer Loyalty

Customer loyalty is defined as the correlation between a person's attitude and the likelihood that they will return. Loyalty is influenced by cognitive, affective, and conative factors as well as motivational, perceptual and behavioral effects (Dick & Basu, 1994). According to (Griffin, 1995) customer retention and total customer share are critical factors for loyalty as the customer retention rate is the percentage of consumers who have made a specified number of repeat purchases within a specific time frame. This is due to the loyal customer having strong preferences for what and from whom they purchase, and loyalty refers to a long-term condition in which it is essential to make at least two purchases. Ngoma and Ntale (2019) stated that loyalty is likely to result in pleasant attitudes and actions, such as recurrent patronage and purchases, as well as positive referrals that may influence other current or prospective customers.

2.6.1 Cognitive Loyalty

Cognitive loyalty is primarily about the relationship between supply and price. If your cost-benefit ratio is lower than that of your competitors, the customer will demand a lower price (Kirill Tšernov, 2023). According to (Oliver, 1999) cognitive loyalty is loyalty that is based entirely on belief in the brand. Cognitive beliefs can be formed on the basis of prior knowledge, experiential knowledge and current information. Loyalty in this phase is directed towards the brand on the basis of this "information" (performance level of the attributes). In the early loyalty phase, the consumer's access to the brand's own information indicates that a brand is preferred to the competition. Hence, cognitive loyalty is heavily impacted by the consumer's evaluative response to an experience, specifically the perceived performance of a product relative to price (Blut *et al.*, 2007).

2.6.2 Affective Loyalty

Affective loyalty can vary greatly depending on the degree of good feelings. At the lower end, it can only be a pleasant feeling such as pleasure or joy. According to (Oliver, 1999) affective loyalty is referred to as emotional loyalty, which is encoded in the consumer's mind as cognition and emotion. This type of loyalty, like cognitive loyalty, is susceptible to change. This shows that it can be emotionally charged and has a strong emotional bond with the customer and the stronger emotional bond offers much more effective protection against potential critics of loyalty (Loyalty Science Lab, 2020). As research shows, many brand defectors state that they were previously satisfied with their brand.

2.6.3 Conative Loyalty

Conation is defined as a type of commitment or plan to return to a brand. According to this notion, conative loyalty is a type of loyalty distinguished by a strong commitment to purchasing from a certain company (Javad TaghiPourian & Mashayekh Bakhsh, 2015). As Oliver (1999) state that conative loyalty is thus a state of loyalty that seems to include the strong willingness to buy mentioned in the definition of loyalty. However, this commitment refers to the intention to buy the brand again, which is more related to motivation. Essentially, the customer wants to buy the brand again, but like any "good intention" this desire may be an expected but unfulfilled action.

2.7 Research Framework

A research framework is the general organisation, strategy, and theoretical foundations that direct a research attempt (Mammadov, 2023). The SERVQUAL model is used as the main concept to measure service quality and customer loyalty. This means that customer loyalty could be measured using the various service quality dimensions. SERVQUAL model will be used as moderator to test the relationship between service quality and customer loyalty. This study has one dependent variable which customer loyalty and one independent variable with five dimensions that include tangibles, empathy, reliability, responsiveness, and assurance.
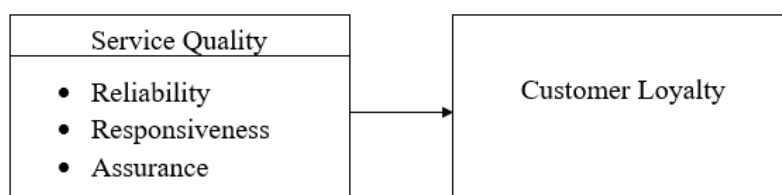

Fig. 1 Research Framework

2.7.1 Reliability

According to (Lupiyoadi, 2009) declare that a company's dependability is demonstrated by its ability to provide service in a fast, accurate, and reliable manner. Consumer expectations should be met, including accuracy, excellent customer service, empathy, and on-time arrival. The capacity to deliver the given service precisely and consistently and the company must carry out all its advertising-related promises (Feriors , 2021).

2.7.2 Responsiveness

According to (Lupiyoadi, 2009), cite a policy of customer support and timely service as an example of responsiveness that provides the consumer with clear information. Customers who are kept waiting can receive poor service. Responding to a consumer immediately is crucial, especially in times of crisis. To give one example, if a customer phones to complain about anything, they shouldn't have to wait an hour and grow furious before speaking with a manager about the issue (Feriors , 2021).

2.7.3 Assurance

According to (Lupiyoadi, 2009), state that expertise, courtesy, and the staff's capacity to win consumers' trust are all parts of assurance. The ability of the personnel to create client confidence in our products and services is a trait referred to as assurance. For instance, staff members are educated about their offerings and competent at efficiently resolving customer problems (Feriors , 2021).

2.8 Hypothesis

According to Mike Allen, (2018), a clear, testable, and predictable statement supported by theoretical direction and or prior data is needed to formulate a hypothesis. The research hypothesis is formulated form the research question where the interest in the present study in investigation of the question: "What is the relationship between service quality and customer loyalty in online shopping". This study analyses the variables that are appropriate for the study's goals to comprehend the problem. Variable that applied in this research is tangibility, reliability, responsiveness, assurance, and empathy. The fundamental basis for developing the research's hypotheses was the association between service quality and customer loyalty. In experimental settings, researchers contrast two or more groups of research subjects to look at variations in the findings. Based on the arguments, it was hypothesized that:

> Hypothesis 1 (H1): *Reliability has a positive relationship with customer loyalty in online shopping.*
> Hypothesis 2 (H2): *Responsiveness has a positive relationship with customer loyalty in online shopping.*
> Hypothesis 3 (H3): *Assurance has a positive relationship with customer loyalty in online shopping.*

3. Research Methodology

This chapter discuss the research methodology used to conduct this study. The methodologies and procedures including the research process, study design, sampling strategy and research tools, are covered in this chapter. The aim is to achieve the set goals and objectives, the research methodology's purpose is to establish and make clear the method used to collect the data.

3.1 Research Design

In this research, both descriptive research and quantitative research has been used. Descriptive research provides a thorough and detailed picture of the study. Additionally, it aids in the explanation of types and the identification of new data. The situation's history or context may then be clarified and reported upon in later parts or stages of the sequence. Because it is effective and may cover a wide range of circumstances by choosing samples to represent the community being investigated, this study used quantitative research. In addition, secondary data enables researchers to engage in research more thoroughly by supplying high quality data to everyone, going beyond writing literature reviews or putting out study suggestions (Kim, 2021).

3.2 Data Collection

Data collection refers to the process of representing or coding some existing knowledge or information in a way that makes it easier to use or process. After being gathered and analyzed, data only becomes information that can be used to guide decisions in some way. Either a main source or a secondary source can be used to collect data (Oluwatosin, 2017). The act of acquiring all pertinent information is known as data collection, and it is done in order to test the hypothesis, analyse the findings, and come up with solutions to the study problem. Primary data collecting and secondary data collection are two categories into which data gathering can be categorized.

3.2.1 Primary Data Collection

The process of acquiring data through surveys, interviews, or experiments is known as primary data collection. As a result, surveys using questionnaire forms are the approach used for data collection in this study. The appropriate option is the questionnaire form because it is simple to provide to the responders. The primary source was the information from the questionnaire to identify the relationship between service quality and customer loyalty in online shopping among Shopee user.

3.2.2 Secondary Data Collection

Secondary data is material obtained from primary sources and made easily accessible for researchers to utilize in their own research. It includes journal articles, reviews, and academic publications (JotForm , 2023). The information gathered from the main source will be interpreted, explained, and synthesized to achieve the best comprehension of concepts and information.

3.3 Data Analysis

The collected information was organized in a methodical and understandable manner. The research findings and the likelihood that the research will succeed in its goal have been determined by data analysis. Data obtained from primary sources, including questionnaires, were analyzed using the descriptive analysis approach and correlation analysis.

3.3.1 Descriptive Analysis

Descriptive analysis is performed to determine the percentage, average mean value, and frequency (Urban.org , 2023). In this study, descriptive and inferential analysis been used to gather information about the population from the sample. In addition, it is also used to analyse demographics, the level of service quality in online shopping and the level of customer loyalty in online shopping. The data will be examined using the Statistical Package for Social Sciences (SPSS) software as part of the statistical analysis strategy. The research also clarifies the principal findings and statistical information based on percentage and mean.

3.3.2 Correlation Analysis

Correlation analysis used to evaluate the relationship between each variable. In this study, correlation is used to access the relationship between service quality and customer loyalty in online shopping. Correlation analysis used in this study to determine the degree of correspondence between the variables, which is to determine the degree of correspondence between service quality and customer loyalty in online shopping. Spearman correlation coefficient is used to express the degree to which the variables are correlated. Pearson coefficients requires the relevant data that must be entered in a table similar to Spearman Rank and the resulting result will be in the form of numbers generated by all correlation coefficients that value of -1 to +1. A number of +1 represents the strongest possible positive correlation, whereas a value of -1 indicates the strongest possible negative correlation. As a result, the closer the coefficient is to one of these figures, the stronger the correlation of the data it reflects. On this scale, 0 denotes as no relationship, hence numbers closer to zero reflect the lower correlation.

4. Data Analysis and Findings

This chapter addressed the research data and findings which the data were collected by a questionnaire that respondents completed via a Google Form. To accomplish the goal of this study, the data analysis was carried out using the Statistical Package for Social Science (SPSS). The data analysis was conducted, including reliability analysis, demographic analysis, descriptive analysis, and inferential analysis.

4.1 Response Rate

In this study, the respondents are Malaysian who are using the online shopping platforms such as Shopee & TikTok. The total population of online shopping user in Malaysia are consists of 4.5 million users. According to Krejcie & Morgan, (1970) calculating the sample size based on population number, this study required at least 384 respondents to answer the questionnaire. But only 215 respondents answered the online survey that being distributed through social media such as WhatsApp, Telegram, and Instagram. The response rate for this study is 56 percent.

Table 1 Questionnaire Response Rate

Population	Sample Size	Questionnaire Distributed	Questionnaire Received	Percentage (%)
6500000	384	384	215	56

4.2 Reliability Test

The result of data collection from questionnaire that had been distributed to respondents determined the validity and reliability by using Cronbach's Alpha method. To know the data collection has a good reliability the Cronbach's Alpha value is close to 1.0 while the data collection is not acceptable when the value is lower than 0.5 (Bonett & Wright, 2015).

4.2.1 Pilot Study

30 questionnaires have been distributed to online shopping users and the result of the questionnaire was analyzed using the Statistical Package for the Social Sciences (SPSS). Table 2 shows that The Cronbach's Alpha values for reliability, responsiveness and assurance are 0.824, 0.892 and 0.816. As for the value of Cronbach's Alpha for customer loyalty is 0.893.

Table 2 Cronbach's Alpha value of 30 respondents

Factors	Cronbach's Alpha	No. Item
Reliability	0.824	4
Responsiveness	0.892	4
Assurance	0.816	4
Customer Loyalty	0.893	5

Table 3 Actual Study for 215 respondents

Factors	Cronbach's Alpha	No. Item
Reliability	0.837	4
Responsiveness	0.941	4
Assurance	0.835	4
Customer Loyalty	0.917	5

Based on Table 3, Cronbach's Alpha value for reliability, responsiveness and assurance are 0.837, 0.941 and 0.835. The value of Cronbach's Alpha for customer loyalty is 0.917. The research instruments used are reliable since the result show the reliability level of the questionnaire is greater than 0.7.

4.3 Descriptive Analysis (Demographic)

Table 4 Respondent's Gender

		Frequency	Percentage (%)	Valid Percentage	Cumulative Percent
Valid	Male	64	29.8	29.8	29.8
	Female	151	70.2	70.2	100
	Total	215	100	100	100

Table 4 shows the number of female respondent's total is 151 and the male respondents is 64 out of 215.

Table 5 Respondent's Age

		Frequency	Percentage (%)	Valid Percentage	Cumulative Percent
Valid	18 – 24 years old	128	59.5	59.5	59.5
	25 – 34 years old	67	31.2	31.2	90.7
	35 – 44 years old	11	5.1	5.1	95.8
	45 – 55 years old	5	2.3	2.3	98.1

	Frequency	Percentage (%)	Valid Percentage	Cumulative Percent
55 – 64 years old	4	1.9	1.9	100
>65 years old	0	0	0	100
Total	215	100	100	

Table 5 shows most respondent's ages is 18 to 24 years old for 128 respondents.

Table 6 *Respondent's States*

		Frequency	Percentage (%)	Valid Percentage	Cumulative Percent
Valid	Johor	55	25.6	25.6	25.6
	Melaka	8	3.7	3.7	29.3
	Pahang	7	3.3	3.3	32.6
	Negeri Sembilan	12	5.6	5.6	38.2
	Selangor	51	23.7	23.7	61.9
	Perak	43	20	20	81.9
	Terengganu	7	3.3	3.3	85.2
	Kelantan	5	2.3	2.3	87.5
	Pulau Pinang	8	3.7	3.7	91.2
	Perlis	3	1.4	1.4	92.6
	Kedah	9	4.2	4.2	96.8
	Sabah	4	1.8	1.8	98.6
	Sarawak	3	1.4	1.4	100
	Total	215	100	100	

Table 6 shows that most respondents are from the states of Johor.

Table 7 Percentage of Respondent's Employment Status

		Frequency	Percentage (%)	Valid Percentage	Cumulative Percent
Valid	Government Employee	22	10.2	10.2	10.2
	Private Employee	34	15.8	15.8	26
	Student	121	56.3	56.3	82.3
	Self Employed	20	9.3	9.3	91.6
	Unemployed	18	8.4	8.4	100
	Total	215	100	100	

Table 7 shows most respondent's employment statues is student for 121 respondents out of 215 respondents.

Table 8 Respondent's Salary

		Frequency	Percentage (%)	Valid Percentage	Cumulative Percent
Valid	< RM 1500	139	64.7	64.7	64.7
	RM 1501 – RM 3000	52	24.2	24.4	89.1
	RM 3001 – RM 5000	18	8.4	8.4	97.5
	> RM 5000	6	2.5	2.5	100
	Total	215	100	100	

Table 8 shows that the highest respondent's salary is below RM 1500 which consist of 139 respondents.

Table 9 Respondent's Years of Using Online Shopping Platform

		Frequency	Percentage (%)	Valid Percentage	Cumulative Percent
Valid	< 1 years	11	5.1	5.1	5.1
	1 – 3 years	124	57.7	57.7	62.8
	4 -6 years	67	31.2	31.2	94
	> 6 years	13	6	6	100
	Total	215	100	100	

Table 9 shows that most respondents using the online shopping platform from 1 to 3 years for 124 respondents.

4.4 Descriptive Analysis (Variables)

Descriptive analysis is carried out to assess the data and describe the mean and standard deviation for all variables such reliability, responsiveness, assurance, and customer loyalty. Descriptive analysis is an effective method in differentiating each component of the mean distribution using Likert Scale to assess the degree of independent variable and dependent variable. Table 10 shows the level of measurement of the center of tendency for each question item in the questionnaire.

Table 10 Level of Measurement

Average Mean Score	Level
1.00 – 2.33	Low
2.34 – 3.67	Medium
3.68 – 5.00	High

Table 10 shows that the average mean score is low when the value is between 1.00 to 2.33. The average mean score is moderate when the value is 2.34 to 3.67 and the average mean score is high when the value is between 3.68 to 5.00.

4.4.1 Reliability

Table 11 Mean and Standard Deviation Analysis for Reliability

No	Item Reliability	Mean (M)	Std. Dev.(SD)	Level
1	Online shopping platforms (e.g. Shopee, TikTok) has fulfil their word and deliver on their promises.	4.14	0.606	High
2	Online shopping platforms genuinely care about resolving customer problems.	4.03	0.690	High
3	Online shopping platform provides services on time.	4.02	0.680	High
4	Online shopping platform service fees are fair.	4.04	0.655	High
	Total Average	4.06	0.66	High

Table 11, it shows the value of mean, standard deviation, and level of variables of each question for Reliability variable. The level of reliability towards customer loyalty is high with an average mean of 4.06.

4.4.2 Responsiveness

Table 12 Mean and Standard Deviation Analysis for Responsiveness

No	Item Responsiveness	Mean (M)	Std. Deviation (SD)	Level
1	Online shopping platform staff are always available whenever I have any issues.	3.81	0.889	High
2	Online shopping platform employees are always ready to assist.	3.82	0.917	High
3	Online shopping support line is easily reachable.	3.88	0.888	High
4	Online shopping help desk always respond to my questions promptly.	3.87	0.874	High
	Total Average	3.84	0.89	High

Table 12, it shows the value of mean, standard deviation, and level of variables of each question for Responsiveness variable. The level of responsiveness towards customer loyalty is high with an average mean of 3.84.

4.4.3 Assurance

Table 13 Mean and Standard Deviation Analysis for Assurance

No	Item Assurance	Mean (M)	Std. Deviation (SD)	Level
1	I have confidence in using online shopping platform.	4.17	0.547	High
2	I always get treated politely by online shopping platform help desk.	4.11	0.624	High
3	My personal information is kept confidential by online shopping platform.	4.21	0.610	High
4	Service provided by online shopping platform staff is quick.	4.13	0.640	High
	Total Average	4.16	0.61	High

Table 13, it shows the value of mean, standard deviation, and level of variables of each question for Assurance variable. The level of responsiveness towards customer loyalty is high with an average mean of 4.16.

4.4.4 Customer Loyalty

Table 14 Mean and Standard Deviation for Customer Loyalty

No	Item Customer Loyalty	Mean (M)	Std. Deviation (SD)	Level
1	I am loyal towards using online shopping platform (e.g. Shopee, TikTok).	4.17	0.614	High
2	I will recommend to my family members and friends to use online shopping platform (e.g. Shopee, TikTok).	4.23	0.620	High
3	I will spread to others the good thing about online shopping who seek advice from me.	4.23	0.573	High
4	I will spread the word about these online shopping platform services to others.	4.22	0.577	High
5	Online shopping platform will be my first choice in buying things.	4.15	0.655	High
	Total Average	4.2	0.61	High

Table 14, it shows the value of mean, standard deviation, and level of variables of each question for Customer Loyalty variable. The level of customer loyalty variable is high with an average mean of 4.2.

4.4.5 Analysis of Service Quality towards Customer Loyalty

Table 15 Analysis of Service Quality towards Customer Loyalty

Item	Average Mean Score	Level
Reliability	4.06	High
Responsiveness	3.84	High
Assurance	4.16	High
Customer Loyalty	4.2	High

Table 15, the variable that had the highest mean score is an independent variable which is Assurance with total average value (M= 4.16). The variable that had the lowest mean score is Responsiveness with total average value (M= 3.84).

4.5 Normality Test

Normality Test is an evaluation of data sets consistency with a normal distribution in terms of distribution (Statisca, 2023). When using a parametric data test, a normally distributed set of data is tested using the Pearson correlation test. The non-parametric test will use the Spearman correlation test in the meantime if the data is not normally distributed.

Table 16 Normality Test Analysis

Variables	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Reliability	0.234	215	<0.001	0.901	215	<0.001
Responsiveness	0.268	215	<0.001	0.860	215	<0.001
Assurance	0.273	215	<0.001	0.870	215	<0.001
Customer Loyalty	0.264	215	<0.001	0.841	215	<0.001

Table 16 shows the result of normality test using Kolmogorov-Smirnov and Shapiro-Wilk test. The analysis used 215 respondents and Kolmogorov-Smirnov test value were taken. The analysis shows that there is no significant in normality test where all the values of variables p-value <0.001. As result, the data is not normal and nonparametric. To find the relationship between service quality and customer loyalty and meets the study objectives, Spearman correlation test has been used.

4.6 Correlation Analysis

In this research, the parametric test of Spearman correlation test was used to describe the relationship between two variables.

4.6.1 The relationship between Reliability (R) and Customer Loyalty (CL)

Table 17 Spearman's Correlation between Reliability and Customer Loyalty

		Customer Loyalty
	Correlation Coefficient	0.701**
Reliability	Sig. (2-tailed)	<0.001
	N	215

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

H1 = There is a significant relationship between Reliability and Customer Loyalty in Online Shopping.

4.6.2 The relationship between Responsiveness (R) and Customer Loyalty (CL)

Table 18 Spearman's Correlation between Responsiveness and Customer Loyalty

		Customer Loyalty
	Correlation Coefficient	0.417**
Responsiveness	Sig. (2-tailed)	<0.001
	N	215

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

H2 = There is a significant relationship between Responsiveness and Customer Loyalty in Online Shopping.

4.6.3 The relationship between Assurance and Customer Loyalty

Table 19 Spearman's Correlation between Assurance and Customer Loyalty

		Customer Loyalty
	Correlation Coefficient	0.757**
Assurance	Sig. (2-tailed)	<0.001
	N	215

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

H3 = There is a significant relationship between Assurance and Customer Loyalty in Online Shopping.

5. Discussion, Recommendation and Conclusion

5.1 Introduction

This chapter review and summarizes the findings of the data analysis presented in Chapter 4. The result and discussion will be compared with the results from the previous researchers. Despite that, there are limitation and recommendation were suggested based on the finding at the end of the chapter.

5.1.1 Research Question 1

Result shows the level of average mean score for each variable. Based on the three variables, it shows that all variables which are reliability, responsiveness and assurance are at a high level with the total average of mean is 4.06, 3.84 and 4.16. The result shows that service quality has become a crucial factor for business to comprehend, measure and when necessary, improve, particularly in areas where expectations and perceptions diverge significantly (Feteh, 2020). According to Yeo et al (2023) the better the consumer perception of reliability on company, the customer satisfaction will be high. The same goes for responsiveness and assurance, where responsiveness needs to be alert in helping customers and provide good services such as fast response and handling complaints. As for assurance, customers will have higher expectations on the assurance in online shopping by looking at the personal safety was one of the important things in assurance.

5.1.2 Research Question 2

The findings show the overall level of customer loyalty influence in online shopping is high. For this study, the results show that reliability, responsiveness, and assurance are strong factors that influence customer loyalty in online shopping. Respondents show they agree that good service quality will make them loyal in using online shopping platforms (e.g. Shopee, TikTok). According to Queue It (2023) building customer loyalty is not difficult if practitioner recognizes the flow of such domino effects and takes advantage of the key role of fairness to consolidate the strategy of the companies.

5.1.3 Research Question 3

The results show that all variables have a positive significant relationship with customer loyalty in online shopping. All the hypotheses have been accepted and two of the hypotheses is high which are there is significant relationship between reliability and customer loyalty and there is significant relationship between assurance and customer loyalty. Hypotheses of there is significant relationship between responsiveness and customer loyalty has weak level of correlation.

5.2 Limitation Study

This research carries a variety of limitations, same as other studies. Firstly, population for data sampling. There is limitation of information in finding the data of online shopping user by every state in Malaysia and the information exists only focuses on Malaysia as a whole. Despite that, there is a limitation in reaching the respondents that using online shopping platform e.g. Shopee and TikTok in Malaysia accurately as it's a privacy of respondents and the solution is by reach close friend and family that use online shopping as main respondents. So the accuracy of the result is not fair. Respondents rate their answer based on their opinions and experiences with the statement extracted from the questionnaire. It is possible that respondents purposefully gave different ratings than what is true.

Next is the short time frame for data collection for the study, as the method used for data collection is an online questionnaire via Google Form. It is time-consuming to collect the data as the respondents are busy or reluctant to answer the questionnaire. So, researchers need to come up with new strategies which show QR code physically to the respondents to answer the online survey.

5.3 Recommendation of Study

In this study, there are several recommendations that can be made to further improve the findings research. Firstly, this study pursues by using mixed method methodologies that include quantitative and qualitative methods in order to get some feedback. For example, respondents can give their opinion on main factors of service quality in order to them being loyal in using online shopping platforms if the qualitative method is being implemented in further studies. By this the researcher can get more information on factors that can be improvised in improving the service quality. Besides that, longer time is given in gathering data collection so the data can be gain more and precise. Lastly, I suggest that the researchers will do the research on what online shopping platforms that mostly being used in Malaysia and what differentiate them with other online shopping platforms in context of service quality.

5.4 Conclusion

In this era of digitalization, online shopping is an activity that are common with people nowadays where they have experienced in doing online shopping activity and feel the service quality that being served by certain company. The objective of the research is to analyse the level of service quality in online shopping and to analyse the level of customer loyalty in online shopping. Hence, to analyse the correlation between service quality and customer loyalty in online shopping.

As a conclusion, this study determined the relationship between two variable which is the relationship between service quality and customer loyalty in online shopping. 3 of the independent variables which is reliability, responsiveness and assurance have the significant relationship with customer loyalty. The highest significant correlation of independent variables is assurance and reliability on customer loyalty. The future researchers should conduct this study in different areas of study, such as different regions or states to strengthen the validity and trustworthiness of data acquired.

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Conflict of Interest

Authors declare that there is no conflict of interests regarding the publication of the paper.

Author Contribution

The authors confirm contribution to the paper as follows: **study conception and design:** *N.A.H., and S.A.S;* **data collection:** *N.A.H.;* **analysis and interpretation of results:** *N.A.H.;* **draft manuscript preparation:** *N.A.H., and S.A.S. All authors reviewed the results and approved the final version of the manuscript.*

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