

# The Relationship between Logistics Capabilities and Customer Attitudes towards Online Purchasing among Consumers in Malaysia

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## Abstract

Online purchasing in Malaysia is demonstrating significant consumer growth. However, customer's attitude will ultimately determine if a transaction is made and whether to purchase online in the future. The issue is that consumer fears in online purchasing because of late in delivery, non-receipt of products, inaccurate information on delivery time, and poor after sales services. Hence, this study focusses on examining the relationship between logistics capabilities and customer attitudes towards online purchasing among consumers in Malaysia. To achieve the research objective, this study used quantitative approach and a survey was conducted among 384 consumers at the age of 18 years and above in Malaysia with a response rate of 100% where questionnaire-based survey was utilized. Data collected were analysed using descriptive and correlation analysis. The results show that delivery speed, shipment tracking, information quality, and after sales services has a statistically significant positive relationship with customer positive attitudes towards online purchasing. Meanwhile, delivery speed, shipment tracking, and information quality has no statistically significant relationship with customer negative attitude towards online purchasing, whereas there is statistically significant negative relationship between after sales services and customer negative attitude towards online purchasing. Therefore, this study contributes valuable insight and a comprehensive understanding for marketers, e-retailers, and logistics service providers on the relationship between logistics capabilities and customer online purchasing attitudes in Malaysia where logistics capabilities tend to improve customer positive attitudes towards online purchasing.

## 1. Introduction

Consumers' attitude will ultimately determine if a transaction is made and whether to purchase online in the future. Delivery services provided by logistic service provider is critical during online purchasing and it is intended to provide services that can meet customer needs and wants (Yustin *et al.*, 2021). Hence, this study focusses on examining the relationship between logistics capabilities and customer attitudes towards online purchasing among consumers in Malaysia.

## 1.1 Research Background

Technology has taken over as the primary means of connecting consumers with the goods they want to buy as the world gets increasingly connected (Halabi *et al.*, 2022). Online purchasing in Malaysia is demonstrating significant consumer growth. Currently, 80 percent of Malaysian purchase products or services online (Halabi *et al.*, 2022). Therefore, marketers have carefully analysed the customers' attitude towards online purchasing and spend billions of dollars to facilitate all the demographics of online shoppers (Dani, 2017). This is because customer' attitude will ultimately determine if a transaction is made and whether to purchase online in the future and every purchase of goods and services by customers will eventually involve positive or negative emotions (Wahab & Khong, 2019). The positive attitudes performed by the customers are based on the positive factors and benefits that they perceived during their online purchasing (Ozdemir & Sonmezay, 2020). Meanwhile, according to Ozdemir and Sonmezay (2020), customers unable to have a tangible experience because of the absence of physical touch on the products can lead to uncertainty and indirectly increase the perceived risk during the online purchasing. When the perceived risk is high, customers will perform negative attitude towards online purchasing. Thus, identifying the customer attitudes towards online purchasing among the consumers in Malaysia is crucial as it paves the way for future expansion of the e-commerce sector (Marza *et al.*, 2019). Riley and Klein (2021) stated that retailers can influence customers' positive attitude by offering value-added logistics services within the online transaction process. This is because the ability to implement the online sales process would be limited without an effective logistics service (Kawa & Swiatowiec-Szczepanska, 2021). Hence, based on the past studies conducted by Riley and Klein (2021); Wicaksono *et al.* (2022); Noor *et al.* (2023), logistic capabilities are directly related to customer attitudes towards online purchasing.

## 1.2 Problem Statement

Even though online purchasing is one of the most popular approaches to make purchases, not everyone feels comfortable using it (Muthumani *et al.*, 2017). One of the most important problem consumers fears in online purchasing is late in delivering the products (Ravula, 2022). Based on survey conducted by Parcel Perform & meta-search website iPrice Group in 2019, there were 80,000 e-commerce across Southeast Asia including Malaysia shows that 90% of consumers complaints and give negative feedback were related to late delivery (Bernama, 2019). Hence, delivery should be as fast as possible where consumers prefer within three days or even next working day (Riley & Klein, 2021). Besides, one of the biggest worried by consumers are non-receipt of the product occur when customers decided to shop online to purchase (Alrawad *et al.*, 2023). They worried that their product may get corrupt or damage during transportation, the product is delivered to the wrong place or person, and the product is lost in transportation (Basyazicioglu, 2020). Although consumers' concerns about non-delivery of the product when purchasing online are significant, logistical capabilities like shipment tracking employed in the delivery process have lessened the impact of non-delivery risk on consumers' attitudes towards online purchases (Basyazicioglu, 2020).

According to Rai *et al.* (2019), potential customers are unhappy with the delivery services offering because of lack of accurate information on the delivery time. In addition, customers are confronted with uncertainty in using online platform to make purchases as the authenticity of the information regarding the after sales services provided by the e-retailers is unclear and cannot be guaranteed (Mohammad, 2019). Based on Malaysian Communications and Multimedia Commission (2018), there were 14.9 % of customers feels hard to understand the return policy, there were 54.1 % of consumers are confronted with issues regarding the e-retailers and logistics providers may takes longer time for product replacement and there were also 48.8% of consumers stated that they are required to pay the return shipping cost by themselves. As a result, this has enhanced customer's perceived risk. Thus, a well after sales service plays a critical role in reducing customer concerns before making an online purchasing and ultimately enhance customer positive attitude towards online purchasing (Kawa & Swiatowiec-Szczepanska, 2021).

Therefore, to achieve the research objectives the level of logistics capabilities required by customers in online purchasing in Malaysia is determined. Furthermore, the customer attitudes towards online purchasing in Malaysia also determined. Consequently, the relationship between logistics capabilities and customer attitudes towards online purchasing among consumers in Malaysia.

## 1.3 Research Scope

The scope of this study is to examine the relationship between logistics capabilities and customer attitudes towards online purchasing. There are four dimensions identified for measuring logistics capabilities which are delivery speed, shipment tracking, information quality, and after sales services. Meanwhile, there are two dimensions for measuring customer attitude which are customer positive attitude and negative attitude towards online purchasing. The target population of this study is Malaysian individuals at the age of 18 years and above who live in Malaysia. The target respondents of this study are selected based on specific criteria where the selected respondents must be at the age of 18 years and above who have experiences in online purchasing in

Malaysia. A quantitative approach is adopted and purposive sampling method is utilized in this study where questionnaire-based survey is applied to obtain the data.

## 1.4 Significance of Research

This study implies valuable insight and a comprehensive understanding for marketers, e-retailers, and logistics service providers on the relationship between logistics capabilities and customer online purchasing attitudes in Malaysia. The findings of this study also provide researcher with a good learning opportunity to expand the knowledge in conducting this research.

## 2. Literature Review

### 2.1 Customer Online Purchasing Attitude

According to Setiyawan *et al.* (2019), models of attitude formation by Fishbein and Ajzen (1975) defined attitude as an affection of a people to accept or reject an object or behaviour and measured by using a procedure that places a person on two-sided evaluation scale such as good or bad and agree or disagree. Attitude also known as positive or negative attitudes towards a person, object, or problem (Noor *et al.*, 2023). Thus, according to Raman (2019), theory of attitude formed by Fishbein and Ajzen (1975) explained that an individual's attitude was the magnitude to which he or she favor or disfavor an object or behaviour.

Other than that, the degree of customers positive or negative attitudes towards buying things online is known as their online purchase attitude (Noor *et al.*, 2023). Attitudes can encourage consumers to make online purchases or attract consumers not to purchase the products (Marza *et al.*, 2019). Thus, according to Brand *et al.* (2020), understanding attitudes can help to better understand the various types of personal and interactive behaviour that customers exhibit. There are four antecedents of attitudes which are positive affect, negative affect, perceived benefits, and perceived cost and risk. Perceived benefits and positive affect have been combined into positive attitudes and perceived costs and risks and negative affect have been combined into negative attitudes (Brand *et al.*, 2020). Therefore, positive attitude and negative attitude are measurement for customer attitudes towards online purchasing as summarized in Table 1.

**Table 1** Customer online purchasing attitudes measurement

Measurement	Author (Year)
Positive Attitude Towards Online Purchasing	
Positive Affect	
Online purchasing is: Fun	Brand <i>et al.</i> (2020)
Perceived Benefits	
Online purchasing is: Informative Efficient Trustworthy Environmentally Friendly Useful Convenient Cheap Easy	Brand <i>et al.</i> (2020)
Negative Attitude Towards Online Purchasing	
Negative Affect	
Online purchasing is: Stressful Frustrating	Brand <i>et al.</i> (2020)
Perceived Costs and Risks	
Online purchasing is: Complicated Time Consuming Risky	Brand <i>et al.</i> (2020)

## 2.2 Logistics Capabilities

Logistics capability is a capability that basically supports the company's logistics function to run properly and logistics capability within a company can be considered as a key strategic resource or capability for achieving sustainable competitive advantage and may have a significant impact on the competitiveness and performance of the company and even the supply chain (Sugiono *et al.*, 2023). According to Cahyadi *et al.* (2021), logistic services are developed to assess logistical capabilities in businesses by raising the value of services such as tracking and tracing information, accuracy of the product received, accuracy of the recipient's location, speed of arrival, product condition, and appropriate shipping fee. Thus, logistics capabilities have become an important concept in logistics (Kirono *et al.*, 2019). Based on the empirical studies conducted by Huang and Huang (2012); Riley and Klein (2021); Bag *et al.* (2020); Wang *et al.* (2020); Song *et al.* (2022); Wicaksono *et al.* (2022), delivery speed, shipment tracking, information quality, and after sales services are chosen as the dimensions of logistic capabilities in this study.

### 2.2.1 Delivery Speed

Delivery speed is the amount of time between placing an order and delivering the goods to the destination that the customer has specified (Riley & Klein, 2021). Delivery speed is measured by the lead time between a consumer placing an order and receiving an order (Zhong *et al.*, 2022). Noor *et al.* (2023) stated that the delivery speed range comprises same-day, next-day, or a level of service that has been agreed upon delivery. Hence, Nguyen *et al.* (2019) explained that shorter waiting time is more convenient for customers, as they are required to spend less time waiting for the delivery to arrive.

### 2.2.2 Shipment Tracking

The capacity to follow or keep track of the status of shipments from the delivery point to the final delivery destination is known as shipment tracking (Nguyen *et al.*, 2019). For example, customers can track packages to determine delivery status and arrival time or just to keep track on the movement of packages (Riley & Klein, 2021). Thus, Wicaksono *et al.* (2022) noted that with shipment tracking capabilities, it lessens the likelihood of the uncertainty associated, such as non-delivery risk.

### 2.2.3 Information Quality

Patma *et al.* (2021) outlined information quality as the degree to which the content of information is informative and present to people in an understandable way. Tam *et al.* (2020) examined the quality of information using measurements of usability, understandable, interesting, reliability, completeness and updated. As a result, timely, accurate, complete, sufficient, and reliable information are the measurements of information quality for this study which is in-line with previous study conducted by Zhong *et al.* (2020). Hence, information quality is important as consumers might obtain delivery information from online retailers during online purchasing (Choi *et al.*, 2019).

### 2.2.4 After Sales Services

After sales service is an activity carried out by the company after the purchase of products by the customers and is a continuous relationship between a seller and customers after the purchase (Setyanta *et al.*, 2020). Doshi (2019) stated that after sales services may include handling online complain, return policy, packing of product, delivery time, and delivery services provided by online retailers. Hence, the ability of delivery service provider provides after sales services like simple return procedure can leave the customers with a positive experience through online purchase (Kawa & Swiatowiec-Szczepanska, 2021).

## 2.3 The Relationship Between Logistics Capabilities and Customer Attitudes Towards Online Purchasing

Several studies have been found to investigate the effect of logistics capabilities in influencing customer online purchasing attitudes. Based on the studies conducted by Riley and Klein (2021); Wicaksono *et al.* (2022); Noor *et al.* (2023), the findings showed that there is statistically significant positive relationship between logistics capabilities and customer online purchasing attitudes.

### 2.3.1 Delivery Speed with Customer Online Purchasing Attitudes

Wicaksono *et al.* (2022) found that delivery speed has positively influence on attitudes toward online purchasing. Meanwhile, Nguyen *et al.* (2019) noted that with delivery speed, customers are required to spend less time waiting for the delivery to arrive and meet their preferences to have shorter lead time which resulting

in reducing customer negative attitude towards online purchasing. Based on these statement, Hypothesis 1 and Hypothesis 2 are proposed:

H1: There is a positive relationship between delivery speed and customer positive attitude towards online purchasing

H2: There is a negative relationship between delivery speed and customer negative attitude towards online purchasing

### **2.3.2 Shipment Tracking with Customer Online Purchasing Attitudes**

Noor *et al.* (2023) have studied on the effect of shipment tracking on online purchase attitude and the study found that shipment tracking has a statistically significant positive effect on online purchase attitude. Meanwhile, Noor *et al.* (2023) noted that with shipment tracking capability, it helps to reduce the potential for the uncertainty associated with online purchase and consumers are likely to have less anxiety and worry which resulting in reducing customers negative attitude towards online purchasing. Based on these statement, Hypothesis 3 and Hypothesis 4 are proposed:

H3: There is a positive relationship between shipment tracking and customer positive attitude towards online purchasing

H4: There is a negative relationship between shipment tracking and customer negative attitude towards online purchasing

### **2.3.3 Information Quality with Customer Online Purchasing Attitudes**

According to study conducted by Boustani *et al.* (2022), the results indicated that there is statistically significant positive relationship between information quality and customers attitude towards online shopping. Meanwhile, Kawa and Swiatowiec-Szczepanska (2021) noted that information provided such as up-to-date and accurate information about the status of order and the place of delivery or pickup can increase the feeling of security among the consumers which resulting in reducing their negative attitude towards online purchasing. Based on these statement, Hypothesis 5 and Hypothesis 6 are proposed:

H5: There is a positive relationship between information quality and customer positive attitude towards online purchasing

H6: There is a negative relationship between information quality and customer negative attitude towards online purchasing

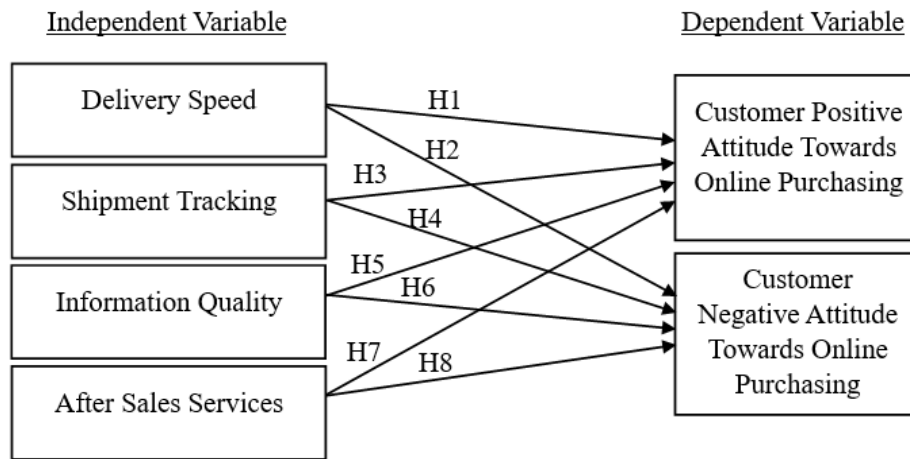
### **2.3.4 After Sales Services with Customer Online Purchasing Attitudes**

According to Datta and Acharjee (2018), the results showed that after sales services has a significant positive correlation with consumers' attitude towards online shopping. Meanwhile, Setyanta *et al.* (2020) noted that after sales services provide solutions in reducing risk perception and improves customer perceptions of the benefits received by customers which resulting in customers have less negative attitude towards online purchasing. Based on these statement, Hypothesis 7 and Hypothesis 8 are proposed:

H7: There is a positive relationship between after sales services and customer positive attitude towards online purchasing

H8: There is a negative relationship between after sales services and customer negative attitude towards online purchasing

Based on the theoretical explanation, a conceptual framework is developed as illustrated in Figure 1.



**Fig. 1** Conceptual framework

### 3. Methodology

#### 3.1 Research Design

Quantitative research approach has been adopted in this study to present a comprehensive understanding on the relationship between logistics capabilities and customer online purchasing attitudes. According to table constructed by Krejcie and Morgan (1970), 384 respondents were chosen as a sample size from the population of Malaysia at the age of 18 years and above which were around 25.1 million people based on the data obtained from Department of Statistics Malaysia (2022). This study used a non-probability sampling method where purposive sampling technique was utilized. Hence, the respondents who involved in this study must meet some specific criteria that was the respondents must be Malaysian individuals at the age of 18 years and above who live in Malaysia and have experiences in online purchasing. The questionnaire was divided into three sections known as Section A, Section B and Section C and in the form of nominal scale for Section A while Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) for Section B and Section C. Pilot test was carried out to ensure the reliability of the Likert Scale.

#### 3.2 Data Collection

During the data collection process, the online questionnaire survey has been used as a tool to collect data from the target respondents who were the consumers with age 18 years and above and have experiences in online purchasing in Malaysia through social media platform.

#### 3.3 Data Analysis

Data gathered through the survey were analysed using Statistical Process for Social Science (SPSS) for descriptive and correlation analysis. Descriptive analysis was conducted in this study to calculate the mean and standard deviation to answer the first and second research objectives of this study which was to identify the level of logistics capabilities required by customers in online purchasing in Malaysia and to identify customer attitudes towards online purchasing in Malaysia. Correlation analysis also conducted to answer the third objective of this study which was to examine the relationship between logistics capabilities and customer attitudes towards online purchasing among consumers in Malaysia.

### 4. Results and Discussions

The questionnaires were distributed during the period of data collection which the time taken was around a month which was from September 2023 to October 2023 and a total of 384 sets of questionnaires were collected which reflect the response rate of 100%. Before answering the survey questionnaire, respondents are required to answer a question regarding have or have no experiences in online purchasing to identify the targeted respondents.

## 4.1 Results

### 4.1.1 Reliability Analysis

Table 2 shows the result of reliability analysis for actual study.

**Table 2** Reliability analysis (actual study)

Variables	Cronbach's Alpha Value for The Actual Study (N=384)	No. Items
Logistics Capabilities		
Delivery Speed	0.778	5
Shipment Tracking	0.829	5
Information Quality	0.881	5
After Sales Services	0.838	7
Customer Online Purchasing Attitudes		
Positive Attitude Towards Online Purchasing	0.832	10
Negative Attitude Towards Online Purchasing	0.771	5

The test reveals that Cronbach's Alpha values for all dimensions of independent and dependent variables are exceeding 0.7 which demonstrates high internal consistency. Hence, the overall reliability test result is above 0.7 which indicates good reliability scale.

### 4.1.2 Demographic Analysis

Table 3 summarize the demographic of the respondents of this study. A total of 384 respondents were involved in this study.

**Table 3** Summary of demographic of respondents

No	Demographic	Category	Frequency	Percentage (%)
1.	Gender	Male	131	34.1
		Female	253	65.9
2.	Age (years)	18 to 24	185	48.2
		25 to 34	63	16.4
		35 to 44	48	12.5
		45 to 54	54	14.1
		55 to 64	23	6.0
3.	Ethnicity	65 and above	11	2.9
		Malay	80	20.8
		Chinese	283	73.7
		Indian	17	4.4
4.	Employment Status	Others	4	1.0
		Government Officers	18	4.7
		Private Companies	167	43.5
		Student	164	42.7
		Retired	15	3.9
		Unemployed	16	4.2
5.	Monthly Household Income	Others	4	1.0
		Less than RM 4,850	249	64.8
		RM4,850 – RM 10,960	107	27.9
6.	Car License Ownership	Above RM 10,960	28	7.3
		Yes	304	79.2
7.	Current State of Residence	No	80	20.8
		Johore	166	43.2

		Kedah	9	2.3
		Kelantan	2	0.5
		Kuala Lumpur	29	7.6
		Malacca	27	7.0
		Negeri Sembilan	11	2.9
		Pahang	17	4.4
		Penang	28	7.3
		Perak	33	8.6
		Perlis	2	0.5
		Sabah	5	1.3
		Sarawak	3	0.8
		Selangor	44	11.5
		Terengganu	2	0.5
		Wilayah Persekutuan	2	0.5
		Labuan		
		Wilayah Persekutuan	4	1.0
		Putrajaya		
8.	Urban / Rural Status of Residence	Urban	319	83.1
		Rural	65	16.9
		Amazon	23	6.0
		Lazada	313	81.5
		Mudah	13	3.4
		PGMall	4	1.0
		PrestoMall	3	0.8
9.	The Most Used Online Purchasing Platform	Sephora	24	6.3
		SHEIN	59	15.4
		Shopee	361	94.0
		Taobao	174	45.3
		Zalora	62	16.1
		Others	36	9.4

Based on the table, most of the respondents of this study consists of females with 65.9%, age between 18 to 24 years old with 48.2%, Chinese with 73.7% which accounted for more than half, work in private companies with 43.5%, monthly household income which is less than RM 4, 850 with 64.8% which accounted for more than half, owning a car license with 79.2% which also accounted for more than half, currently staying at Johor with 43.2%, and staying at urban with 83.1% which accounted for more than half. In addition, among 384 respondents, the most popular online purchasing platform that used by respondents are Shopee which accounted for 361 respondents with 94% of them are using it, whereas there are slightly less respondents who used PrestoMall which are only 3 respondents with 0.8%.

### 4.1.3 Descriptive Analysis

Table 4 shows the results of descriptive analysis of the level of logistics capabilities required by customers in online purchasing in Malaysia.

**Table 4** Level of logistics capabilities required by customers in online purchasing in Malaysia

Independent Variables	Average Mean Score	Average Standard Deviation	Level
Logistics Capabilities			
Delivery Speed	4.4760	0.46859	High
Shipment Tracking	4.2401	0.59586	High
Information Quality	4.4333	0.52403	High
After Sales Services	4.1533	0.55965	High
Overall Average	4.3257	0.53703	High

Based on the table, all the logistics capabilities have a high central tendency. Delivery speed has the highest average mean score which is 4.4760 among other independent variables, followed by information quality with



average mean score of 4.4333, shipment tracking with average mean score of 4.2401, and after sales services has the lowest average mean score which is 4.1533 among other independent variables, but still indicating a high central tendency. Therefore, the findings reveal that customers required a high level of logistics capabilities in online purchasing, as evidenced by the overall average mean value of 4.3257 with a standard deviation of 0.53703 across all independent variables.

Table 5 shows the results of descriptive analysis of the customer attitudes towards online purchasing in Malaysia.

**Table 5** *The customer attitudes towards online purchasing in Malaysia*

Dependent Variables	Average Mean Score	Average Standard Deviation	Level
Customer Online Purchasing Attitudes			
Customer Positive Attitude	4.1500	0.50367	High
Customer Negative Attitude	2.3917	0.70783	Medium

Based on the table, the results show that the average mean score of customer positive attitude towards online purchasing is 4.1500 and the average mean score of customer negative attitude towards online purchasing is 2.3917. Hence, customers have high positive attitude towards online purchasing and have moderate negative attitude towards online purchasing in Malaysia.

#### 4.1.4 Normality Test

The data analysis consists of 384 respondents and the Kolmogorov-Smirnov test has been conducted since the number of respondents exceeds 50. The results indicated that the significant value of all the independent and dependent variables is  $p < 0.05$ , which means that the data is not normally distributed. Thus, Spearman's rho correlation analysis is conducted to examine the relationship between logistics capabilities and customer attitudes towards online purchasing among consumers in Malaysia.

#### 4.1.5 Correlation Analysis

Table 6 shows the correlation analysis for logistics capabilities and customer online purchasing attitudes.

**Table 6** *Correlation analysis for logistics capabilities and customer online purchasing attitudes*

Independent Variable		Dependent Variable	
		Customer Positive Attitude	Customer Negative Attitude
Logistics Capabilities	Delivery Speed	Pearson Correlation	0.444**
		Sig. (2-tailed)	0.000
Shipment Tracking	Information	Pearson Correlation	0.541**
		Sig. (2-tailed)	0.000
Quality	After Sales Services	Pearson Correlation	0.518**
		Sig. (2-tailed)	0.000
After Sales Services		Pearson Correlation	0.649**
		Sig. (2-tailed)	0.000

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

The correlation results indicate that there is statistically significant positive relationship between delivery speed, shipment tracking, information quality, and after sales services with customer positive attitude towards online purchasing at  $r = 0.444$ ,  $r = 0.541$ ,  $r = 0.518$ , and  $r = 0.649$  respectively with significant value  $p < 0.01$ . Hence, all the hypothesis that investigate the relationship between delivery speed, shipment tracking, information quality, and after sales services with customer positive attitude towards online purchasing are accepted which are H1, H3, H5, and H7 respectively. Meanwhile, there is no statistically significant relationship between delivery speed, shipment tracking, and information quality with customer negative attitude towards online purchasing at  $r = 0.096$ ,  $r = -0.049$ , and  $r = 0.015$  respectively with significant value  $p > 0.01$ , whereas there is statistically significant negative relationship between after sales services and customer negative attitude towards online purchasing at  $r = -0.158$  with significant value  $p < 0.01$ . Thus, hypothesis that investigate the relationship between delivery speed, shipment tracking, and information quality with customer negative attitude towards online purchasing are rejected which are H2, H4, and H6 respectively, whereas hypothesis that

investigate the relationship between after sales services with customer negative attitude towards online purchasing is accepted which is H8.

## 4.2 Discussions

### 4.2.1 Level of Logistics Capabilities Required by Customers in Online Purchasing in Malaysia

The first objective of this study is aimed to identify the level of logistics capabilities required by customers in online purchasing in Malaysia. According to the findings of this study, it is found that delivery speed has the highest average mean score which is 4.4760 among other independent variables, indicating a high level of delivery speed required by customers in online purchasing. This study is aligned with previous study conducted by Wicaksono *et al.* (2022) stated that delivery speed is one of the value-added services of online purchasing. Other than that, based on the findings of this study, the average mean score for shipment tracking is 4.2401, indicating a high level of shipment tracking required by customers in online purchasing. The findings are consistent with previous study conducted by Riley and Klein (2021) stated that consumers value shipment tracking capabilities because it can reduce potential uncertainty associated with online purchases.

Furthermore, based on the findings of this study, the average mean score for information quality is 4.4333, indicating a high level of information quality required by customers in online purchasing. The findings are consistent with previous study conducted by Boustani (2022) showed that information quality offered through online purchasing posed a high level of mean value by consumers indicated that information quality can affect consumers' desire to make online purchases. In addition, according to the findings of this study, it is found that after sales services has the lowest average mean score which is 4.1533 among other independent variables, but still indicating a high level of after sales services required by customers in online purchasing. The findings are consistent with previous study conducted by Javed and Wu (2019) showed a high level of importance for after delivery services or known as after sales services among customers who purchased online with mean value 3.8874 indicated that after sales services provided by service provider can encourage customers to continue online purchasing. Therefore, the findings of this study reveal that customers required a high level of logistics capabilities in online purchasing where delivery speed, shipment tracking, information quality, and after sales services are crucial for customers in online purchasing in Malaysia.

### 4.2.2 Customers Attitudes Towards Online Purchasing in Malaysia

The second objective of this study is aimed to identify customers attitudes towards online purchasing in Malaysia. Based on the findings of this study, the average mean of customer positive attitude towards online purchasing is 4.1500 with a standard deviation of 0.50367, indicated that respondents have high positive attitude towards online purchasing. The findings are consistent with previous study conducted by Boustani (2022) revealed that both male and female respondents have high positive attitude towards online purchasing with mean value 4.4513 and 4.4580 respectively. This means that respondents expressed a strong belief in the general benefits and positive affect in online purchasing (Brand *et al.*, 2020).

Other than that, based on the findings of this study, the average mean of customer negative attitude towards online purchasing is 2.3917 with a standard deviation of 0.70783, indicated that respondents have moderate negative attitude towards online purchasing. The findings are consistent with previous study conducted by Brand *et al.* (2020) showed that respondents have moderate negative attitude towards online purchasing with mean value 2.80. This can be explained as customers' negative attitudes concerned the perceived costs, risks and impractical aspects of online purchasing when compared to purchasing in store. Customers who have negative perception toward online purchasing tend to find online purchasing emotionally and cognitively challenging (Brand *et al.*, 2020).

### 4.2.3 Relationship Between Logistics Capabilities and Customer Attitudes Towards Online Purchasing Among Consumers in Malaysia

The third objective of this study is aimed to examine the relationship between logistics capabilities and customer attitudes towards online purchasing among consumers in Malaysia. Based on the findings of this study, the results reveal that delivery speed, shipment tracking, information quality, and after sales services has statistically significant positive relationship with customer positive attitude towards online purchasing. This is aligned with previous studies where delivery speed (Wicaksono *et al.*, 2022), shipment tracking (Riley & Klein, 2021), information quality (Boustani, 2022), and after sales services (Datta & Acharjee, 2018) will positively influence consumers' attitude towards online purchasing, indicated that consumers value delivery speed, shipment tracking, information quality, and after sales services when completing online purchasing.

Other than that, based on the findings of this study, delivery speed, shipment tracking, and information quality has no statistically significant relationship with customer negative attitude towards online purchasing. According to Marza *et al.* (2019), models of attitude formation by Adzen (1991) can explain this finding where when customers have experiences in online transaction, their belief structure was more complex and consistent. This means that they already believe in the online transactions and the benefits perceived through delivery speed capability, shipment tracking capability, and information quality capability which causes negative attitude were no longer taken into consideration in online purchasing. Meanwhile, after sales services has statistically significant negative relationship with customer negative attitude towards online purchasing. With after sales capability like convenience of returns will leave the customer with a positive experience which resulting in reducing their negative attitude towards online purchasing (Kawa & Swiatowiec-Szczepanska, 2021). Therefore, after sales services capabilities offered will influence consumers' attitude toward online purchases, indicated that consumers value after sales services when completing online purchases (Datta & Acharjee, 2018).

## 5. Conclusion

The purpose of this study is to examine the relationship between logistics capabilities and customer attitudes towards online purchasing among consumers in Malaysia. The level of logistics capabilities required by customers in online purchasing in Malaysia are delivery speed, shipment tracking, information quality, and after sales services reveals as a high level which indicate that logistics capabilities are important in online purchasing especially for delivery speed. Moreover, customers have high positive attitude towards online purchasing and have moderate negative attitude towards online purchasing in Malaysia which indicate that respondents have positive attitude when they perceived convenience in online purchasing, whereas they have negative attitude when they perceived risk in online purchasing. Furthermore, delivery speed, shipment tracking, information quality, and after sales services has statistically significant positive relationship with customer positive attitude towards online purchasing. Meanwhile, delivery speed, shipment tracking, and information quality has no statistically significant relationship with customer negative attitude towards online purchasing, whereas there is statistically significant negative relationship between after sales services and customer negative attitude towards online purchasing.

There were a few limitations in this study that can be addressed in future research. First, the data obtained for this study were limited to a specific demography of respondents such as one age group was much greater than the others because the researcher was unable to select respondents based on their demography when distribution of questionnaire through online. Other than that, the findings of this study were limited to a specific of time in gathering large sample of size of respondents across the Malaysia which was from September 2023 to October 2023. Lastly, the limitation of this study was it only focusses on four dimensions of logistics capabilities such as delivery speed, shipment tracking, information quality, and after sales services in influencing customer positive and negative attitudes towards online purchasing. Even though these four dimensions were the most important dimensions for logistics capabilities, however involving more dimensions in logistics capabilities can provide more valuable insight towards this study in influencing customer online purchasing attitudes.

Based on the results and findings presented in this study, future studies are recommended to use both research method which are quantitative and qualitative methods to enhance the chances to get responses from different demography of respondents and achieve a comprehensive understanding in this study. Other than that, future studies are recommended to conduct this study focussing on all states in Malaysia by involving more respondents that have experiences in online purchasing because the larger the sample size, the results will be more reliable and achieve a significant result. In addition, this study recommends the expansions of the scope particularly regarding the dimensions of logistics capabilities other than delivery speed, shipment tracking, information quality, and after sales services. Future researcher can include other dimensions of logistics capabilities such as customer service capability, safety of delivery capability, and reverse logistics capability to provide more studies on how logistics capabilities can influence customers online purchasing attitudes.

In conclusion, the findings of this study have provided valuable insight for online retailers and logistics service providers to evaluate, make predictions, and innovate strategies to enhance the capabilities of logistics services to improve customer attitude towards online purchasing in Malaysia.

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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:** L.Y.S and W.N.K.W.; **data collection:** L.Y.S.; **analysis and interpretation of results:** L.Y.S and W.N.K.W.; **draft manuscript preparation:** L.Y.S and W.N.K.W. All authors reviewed the results and approved the final version of the manuscript.

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