Factors that Influence Students' Perception towards Customer Satisfaction on Delivery Service

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ABSTRACT

Courier businesses have seen a significant transformation with the advent of digital platforms that offer convenience, faster and efficient to deliver online purchases to customers. Therefore, customer satisfaction directly correlates with the sustainability of delivery services. This study is carried out to analyse the association between delivery services features (delivery efficiency, parcel tracking, smooth delivery, and convenience) and customer satisfaction among students of Universiti Malaysia Kelantan (UMK) in Pengkalan Chepa. Non-probability convenience sampling was used in this study and the questionnaires were distributed by Google Forms. The study received a response from 376 respondents from students of UMK. Collected data was analysed using SPSS. The study is implemented descriptive analysis and multiple linear regressions to analyze the data. Result showed that all independent variables of delivery services (delivery services, parcel tracking, smooth delivery, and convenience) are significantly affect customer satisfaction. Results also revealed that the most significance factor that affect the customer satisfaction on delivery services is parcel tracking. Therefore, these findings will enhance the quality and sustainability of courier services. It also offers guidelines to industries, policymakers and stakeholders.

1. Introduction

The rapid growth of e-commerce and the increasing demand for online shopping have significantly transformed the retail industry. One critical aspect of this transformation is the emergence and expansion of delivery services provided by various businesses. The postal and courier industry is expected to continue its growth trajectory in the coming years at a Compound

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Annual Grow Rate (CAGR) of 14.03% from USD1.32 billion or approximately RM6.15 billion in 2023 to USD2.55 billion (RM11.88 billion) in 2028 [1].

Courier services mean a business that specializes in transporting goods such as food, groceries, documents or parcels from one location to another. This business can be run by individuals, small businesses and large companies and usually use various modes of transport such as cars, trucks and motorcycles. The number of courier vehicles in 2022 increased by 11.1% to 123,578 from 111,261 in 2021. The most used vehicles for delivery in 2022 are motorcycles which increased by 37.2% [1].

A total of 39,367 complaints were recorded in 2022 compared to 32,329 complaints reported in 2021, which is a 22.60% increase [1]. Consumer dissatisfaction was mostly on late delivery, contributing 64% (24,196) complaints, poor service delivery 18% (6,626), lost letters/parcels 13% (5,108), other issues 3% (1,249) and poor customer service 2% (777).

In addition, delivery services are important in the smoothness of the experience and customer satisfaction as it is the last touch point in the purchase journey. In businesses, customer satisfaction is crucial to retain consumers and create new customers [2]. An efficient delivery services is crucial in order to fulfill the customer satisfaction. Satisfaction is achieved when the service or product purchased by the consumer meets their expectations [3,4]. Handoko [5] stated that satisfaction occurs when a product's perceived performance aligns with the buyer's expectations. Satisfied customers have repurchased intention and have tendency to recommend products to others [6].

This study aims to investigate factors that influence customer satisfaction such as delivery efficiency, parcel tracking, smooth delivery, and convenience towards customer satisfaction among students of Universiti Malaysia Kelantan (UMK) in Pengkalan Chepa.

2. Literature Review
2.1 Delivery Efficiency

Delivery efficiency is a time-based measurement to deliver a product. The use of delivery services increasing after COVID-19 and last-mile delivery has become the famous delivery method to the customers [7]. According to Saha *et al.,* [8], inefficiencies in delivery, such as late arrival and a long wait period, significantly raise customer dissatisfaction. In addition, sending the parcel as soon as the purchase order is placed, and the buyer receives it in a shorter amount of time would demonstrate the effectiveness of the delivery service and raise customer satisfaction. The buyer's product is undamaged, it is delivered quickly to the destination at the appointed time, and the items will reach the destination by the appointed time [9].

H1: There is a significant relationship between delivery efficiency and customer satisfaction among students of Universiti Malaysia Kelantan (UMK) in Pengkalan chepa.

2.2 Parcel Tracking

Parcel tracking system is a system that provides the information route and location of the goods. It is proving to the customer a convenient way of tracking their order and estimating the time of delivery [10]. In the field of industrial logistics management and customer satisfaction, tracking tracing systems are very helpful [11]. Parcel tracking system is very useful to customers for tracking their parcel anytime and anywhere. Yustin *et al.,* [12] identified that the influence of order management tracking on service level delivery customers, hence to provide satisfaction to customers in using their services.

H2: There is a significant relationship between parcel tracking and customer satisfaction among students of Universiti Malaysia Kelantan (UMK) in Pengkalan Chepa.

2.3 Smooth Delivery

Smooth delivery also considering the good service quality of delivery services. Quick delivery to the destination at the designated time, helpful customer service representatives, and advice on how to use the service contribute to customer satisfaction [9]. Transport and logistics centres are linked to various areas and enable the smooth delivery of parcels and information [13]. Moreover, in supply chain, delivery service is also directly connected towards customer satisfaction [14]. It also can be stated that in online shopping environment, reliable, safe and timely delivery is an important aspect for online buyers [15].

H3: There is a significant relationship between smooth delivery and customer satisfaction among students of Universiti Malaysia Kelantan (UMK) in Pengkalan Chepa.

2.4 Convenience

Convenience is correlated with the amount of time and effort customers must invest in completing tasks [16]. Customers' online shopping behavior, delivery method preference, and overall experience are all significantly influenced by convenience in terms of delivery speed. The safe and fast delivery of the goods is important for the customer's convenience while purchasing online. Convenience to customers is when the service provider or seller could provide solution immediately on product, brand, or delivery date [3]. According to Klein and Popp [17], the customers' requests for quick turnaround times and brief, specific delivery windows are also considered convenient.

H4: There is a significant relationship between convenience and customer satisfaction among students of Universiti Malaysia Kelantan (UMK) in Pengkalan Chepa.

2.5 Research Framework

Figure 1 represents research framework of this study. The framework was adapted from Vrhovac *et al.,* [18] and Yuen *et al.,* [19]. Based on the Figure 1, independent variables are delivery efficiency, parcel tracking, smooth delivery, and convenience meanwhile dependent variable is customer satisfaction on delivery services among students of Universiti Malaysia Kelantan (UMK).
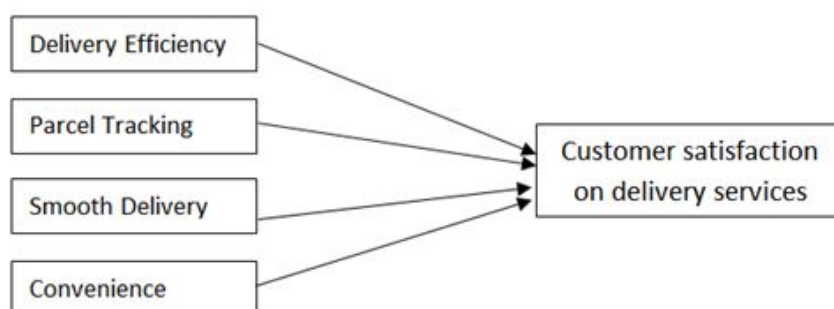

Fig. 1. Research framework

3. Research Methodology

This study was carried out to examine the customer satisfaction on delivery services. A quantitative technique is used in this study as close-ended questionnaires were distributed to the targeted respondents. Respondents were students of Universiti Malaysia Kelantan (UMK) in Campus Kota that located in Pengkalan Chepa, Kelantan. The population of UMK students in Campus Kota is 15,500. For sample size, a total of 376 respondents were chosen [20]. Non-probability convenience sampling method was used in this study. Questionnaires were distributed through Google Forms to respondents who used the courier delivery services. A 5-point Likert scale was used namely (1= Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree and 5= Strongly Agree). Reliability analysis was used to test the suitability of the questionnaires by examining the values of Cronbach's Alpha. Descriptive analysis was used to analyse the demographic profiles. Further, multiple regression analysis was used to predict the value of a dependent variable in regard to the values of two or more independent variables. The analysis is to determine the most influencing independent variables of delivery services (delivery efficiency, parcel tracking, smooth delivery, and convenience) on dependent variable (customer satisfaction). Results are then presented in tables.

4. Results
4.1 Reliability Test

In this study, 376 respondents were chosen to examine factors that influencing the customer satisfaction on delivery services. Independent variables considered are delivery efficiency, parcel tracking, smooth delivery, and convenience meanwhile dependent variable is customer satisfaction were selected in this study. To analyse the reliability of the variables, reliability analysis was implemented whereby each variable comprises of five items. Results revealed that the Cronbach's Alpha Coefficient for delivery efficiency, parcel tracking, smooth delivery, convenience and customer satisfaction 0.756, 0.784, 0.819, 0.793, 0.76 respectively. The values of each variable were good, hence, the questionnaire is highly reliable and accepted [21].

4.2 Descriptive Statistics

Table 1 demonstrates demographic profile of the respondents. The respondents are from three different of faculty which are Faculty of Entrepreneurship & Business (FKP), Faculty of Hospitality, Tourism and Wellness (FHPK) and Faculty of Veterinary Medicine (FPV).

Table 1
Respondents' profile

Demographic Profile of Respondents	Number of Respondents (n)	Percentage (%)
Gender		
Female	199	52.9
Male	177	47.1
Age		
20 years and below	22	5.9
21 – 25 years old	326	86.7
26 – 30 years old	24	6.4
31 years and above	4	1.2
Race		
Malay	283	75.3

Chinese	45	12.0
Indian	48	12.8
Faculty		
Faculty of Entrepreneurship & Business (FKP)	317	84.3
Faculty of Hospitality, Tourism and Wellness (FHPK)	52	13.8
Faculty of Veterinary Medicine (FPV)	7	1.9
Program		
Bachelor of Entrepreneurship (Commerce)	202	53.7
Bachelor of Entrepreneurship (Logistic and Distributive Trade)	66	17.6
Bachelor of Entrepreneurship (Retailing)	40	10.6
Bachelor of Business Administration (Islamic Banking and Finance)	16	4.3
Bachelor of Entrepreneurship	3	0.8
Bachelor of Accounting	17	4.5
Bachelor of Entrepreneurship (Tourism)	13	3.5
Bachelor of Entrepreneurship (Hospitality)	4	1.1
Bachelor of Entrepreneurship (Wellness)	8	2.1
Bachelor of Veterinary Medicine	7	1.9

Table 2 shows six types of courier services that were used by respondents. The J&T Express has the highest number of respondents which corresponds to 58.5% in which more than half of the respondents used this courier service. The second highest is DHL Express (15.4%) and followed by Ninja Van (12%).

Table 2
Types of courier services used by respondents

Types of courier services	Number of Respondents (n)	Percentage (%)
DHL Express	58	15.4
Pos Laju	30	8.0
J&T Express	220	58.5
Ninja Van (GDEX)	45	12.0
GD Express	15	4.0
Skynet Express	8	2.1
Total	376	100.0

4.3 Regression Analysis

Simple Linear Regression is utilised to conduct univariable analysis as shown in Table 3. Four significant unadjusted factors with p-values less than 0.05 ($p < 0.05$) were presented and included in the variable selection.

Table 3
Simple linear regression

Variables	b^a	t	Sig	95%CI
Delivery efficiency	0.575	14.689	.000	0.498, 0.652
Parcel tracking	0.619	17.063	.000	0.547, 0.690
Smooth delivery	0.556	15.355	.000	0.485, 0.627
Convenience	0.543	13.732	.000	0.466, 0.621

Then, variable selection was carried out using stepwise method as presented in Table 4. Results showed that delivery efficiency, parcel tracking, smooth delivery, and convenience variables have p-values are less than 0.000. Therefore, delivery efficiency, parcel tracking, smooth delivery, and

convenience variables are significant predictor to customer satisfaction on delivery services. The regression equation can be written as;

$$y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 \tag{1}$$

where,
y = Customer Satisfaction
x_1 = Delivery Efficiency
x_2 = Parcel Tracking
x_3 = Smooth Delivery
x_4 = Convenience

Hence, the Eq. (1) becomes,

$$y = 0.949 + 0.224 x_1 + 0.267 x_2 + 0.191 x_3 + 0.109 x_4 \tag{2}$$

For every unit increase in parcel tracking, customer satisfaction increases by 0.267, provided delivery efficiency, smooth delivery, and convenience remains constant. For every unit increase in delivery efficiency, customer satisfaction will increase by 0.224, stated that parcel tracking, smooth delivery, and convenience remains unchanged. Customer satisfaction increases by 0.191 for every unit increase in smooth delivery meanwhile delivery efficiency, parcel tracking, and convenience remains unchanged. Delivery efficiency, parcel tracking, and smooth delivery remains constant for every unit increase in smooth delivery contributes to increasing by 0.109 for customer satisfaction. Furthermore, no multicollinearity was detected since the variance inflation factor (VIF) values were less than 5.

Table 4
Multiple linear regressions

Model	Unstandardized Coefficient		Standardized Coefficient			95%CI		Correlations			Collinearity Statistics	
	B	Std. Error	Beta	T	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	0.949	0.176		5.378	.001	0.602	1.295					
Parcel tracking	0.267	0.053	0.285	4.989	.001	0.162	0.372	0.662	0.251	0.177	0.386	2.589
Delivery efficiency	0.224	0.046	0.235	4.889	.001	0.134	0.314	0.605	0.246	0.174	0.546	1.833
Smooth delivery	0.191	0.047	0.214	4.035	.001	0.098	0.284	0.622	0.205	0.143	0.449	2.226
Convenience	0.109	0.049	0.117	2.258	0.025	0.014	0.205	0.579	0.116	0.080	0.473	2.115

Table 5 depicts the coefficient of determination is the square of correlation coefficient (r) that measure the variation of dependent variable that can be explained by the independent variable. R^2 = 0.532 implies that 53.2% of the changes in customer satisfaction can be explained by delivery efficiency, parcel tracking, smooth delivery, and convenience. This leaves only 46.8% unexplained by the model as in Eq. (2).

Table 5
Model summary

Model	R	R Square	Adjust R Square	Std. Error of Estimate	Durbin- Waston
4	0.729	0.532	0.526	.26893	1.792

The Durbin-Watson statistic was performed to examine for any serial correlation among the residuals. As shown in Table 6, the Durbin-Watson statistic of approximately 2 indicates no serial correlation. Since the p-value is less than 0.001, therefore, the model is a good fit (p-value 0.000).

Table 6
ANOVA results

	Sum of Squares	df	Mean Square	F	Sig.
Regression	30.443	4	7.611	105.231	.001
Residual	26.832	371	0.072		
Total	57.275	375			

Based on the multiple linear regression analysis, result showed that Hypothesis 1 (delivery efficiency), Hypothesis 2 (parcel tracking), Hypothesis 3 (smooth delivery), and Hypothesis 4 (convenience) significantly affected customer satisfaction. The relationship between customer satisfaction and delivery efficiency toward customer satisfaction among students of Universiti Malaysia Kelantan (UMK) in Pengkalan Chepa is significant $\beta=0.224$, $p<0.05$; hence Hypothesis 1 is accepted. Saha *et al.,* [8] considered that delivery efficiency factor is used to better understand customer satisfaction for effective delivery in online shopping.

The second hypothesis is significant in which $\beta=0.267$, $p<0.05$. Therefore, Hypothesis 2 is accepted. According to Shamsuzzoha and Helo [11] parcel tracking is an important feature of delivery service to customer satisfaction. Parcel tracking is not only increasing efficiency in the delivery and collection processes but also enables businesses to provide considerably better customer service. Vrhovac *et al.,* [18] stated that customers could receive further protection and reassurance that the parcel is on its way. They can prepare their schedule and get ready for the parcel to arrive with the assistance of the parcel tracking.

Since the third hypothesis is significant $\beta=0.191$, $p<0.05$, therefore Hypothesis 3 is accepted. This result aligned with Uzir *et al.,* [22] that smooth delivery has a significant relationship to customer satisfaction. In addition to that, as stated by Vrhovac *et al.,* [18], smooth delivery would increase customer satisfaction to the delivery service providers by the delivery speed, safety, and communication with customers.

The fourth hypothesis is accepted as it is significant $\beta=0.109$, $p<0.05$. The results of the relationship between convenience and customer satisfaction were supported by Mehmood and Najmi [3]. When buying online, consumer want their purchases delivered swiftly, easily, and reliably while they sit at home. Vrhovac *et al.,* [18] mentioned that online ordering is frequently preferred by consumers over conventional in-person purchasing since it is more convenient and time-efficient.

5. Conclusions

In conclusion, four factors namely; efficiency, parcel tracking, smooth delivery, and convenience that influence customer satisfaction on delivery services. 376 data were collected are the respondents of UMK students in Pengkalan Chepa. From regression analysis, all the independent variables (efficiency, parcel tracking, smooth delivery, and convenience) are significantly influence the dependent variable (customer satisfaction). These independent variables are contributed 53.2% in customer satisfaction. It was discovered from the analysis that parcel tracking is the most factors that influence customer satisfaction on delivery services. Therefore, these findings are offering valuable insights for academicians, industries and policymakers.

Acknowledgement

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