

## Customer Satisfaction of Logistics Providers' Services

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**Abstract:** Logistics companies provide logistics and warehousing services to satisfy customer requirements. However, studies related to customer satisfaction of logistics providers' services in Malaysia are lacking. The purpose of this research is therefore to identify the level of customer satisfaction of the logistics services. It focuses on identifying customers' service expectations and service performance of courier service companies that will affect the customer satisfaction. An online survey was used to collect data to achieve the purpose of this research. A descriptive analysis was conducted to analyze the level of customers' service expectations and logistics providers' service performance. The results of mean importance (expectation) and mean performance (satisfaction) were 4.295 and 3.975 respectively. The overall Service Quality Gap (SQG) among service providers in Malaysia was at a low level of service performance (-0.337). Customers had high expectations towards providers' services, but the performance cannot satisfy their needs. According to the Consumer Satisfaction Index (CSI) score, which was used to evaluate the level of customer satisfaction, they were highly satisfied with the strong tracking system provided by logistics companies (4.210). The providers could improve their services continuously to solve the performance gap between customers' expectations with perceived experience.

**Keywords:** Logistics service providers, Customer satisfaction, Service expectations, Service performance

### 1. Introduction

Customers' demand cause the presence of logistics services providers in the market. According to Nazery (2013), logistics services providers (LSPs) is the third parties used by companies or clients to provide logistics services to one or more clients on time. The Logistics Performance Index (LPI) of

Malaysia in 2014 is at the overall rank of 25 but in 2018 it plunged to overall rank of 41 because of the infrastructural development was decreasing (Swamidass, 2018).

Some challenges are faced by the logistics industry in Malaysia. For example, driver shortage, overuse of non-compliant trucks and the absence of a common CIQ (customs, immigration and quarantine) transit centre (Gonzalez-Cruz, 2015). These challenges will affect the service quality provided to the customers and their satisfaction towards the company. This is because most of the logistics companies that lack resources cannot fulfill the market demands in the advance of e-commerce sector (Gonzalez-Cruz, 2015). Logistics industry is important to the economic performance according to the government. The logistics market of Malaysia is expected to increase in the future and will have the new players entering the market. The existing players should adopt the logistics service strategies to compete with new players and increase revenue share (Litvinenko & Aranskis, 2014).

The focus of this study is logistics providers' services to achieve customers satisfaction. This research investigates the level of customers' service expectations, logistics providers' service performance and customer satisfaction of the logistics services. Such studies are needed as the previous studies about customer satisfaction on logistics providers' services was lacking (Chen & Tsou *et al.*, 2016). According to the previous studies such as Meng *et al.*, (2010), Valaei *et al.*, (2016), and Park *et al.*, (2009), service expectations of the customers and service performance of LSPs were through six criteria which consisted of accuracy, convenience, economic efficiency, responsiveness, safety and tangible. Customer satisfaction will be affected by services of providers in terms of different attributes consisted in the criteria.

Various issues identified by the Malaysian industry players such as lack of skilled and trained manpower (Derfuss & Eller, 2017). The forwarding agent operators who do not have basic training in logistics only based on their experience, so the solutions provided to the clients were not proactive. Besides that, lack of research and development (R&D) of the industry (Derfuss & Eller, 2017). The field still under researched, where practitioners and academics are aware the increasing importance of Malaysia logistics and supply chain. Logistics service providers in Malaysia also lack of new technology in their business process improvement (Glenn, 2018). The providers without new technology cannot survive longer in the market when they cannot satisfy customer demands in the right time (Glenn, 2018).

The scope of this research will particularly focus on the studies of customers' service expectations and service performance of courier service companies such as PosLaju, GDex, ABX Express and others that will affect the customer satisfaction.

## 2. Literature Review

Logistics management plays an important role to fulfill customer demands and achieve their satisfaction by planning, provides movement and storage of goods and services from an origin to the destination effectively (Helsinki, 2016). A good logistics management can help the logistics companies reduce their expenses and improve customer service (Asfour & Haddad, 2015). Various elements involved in logistics management such as selecting the suppliers which have the ability to provide transportation facilities, finding out the most qualified delivery method, picking the most effective lines for transportation and handling related processes through IT resources and software (Asfour & Haddad, 2015). However, the wrong decisions in logistics management will cause multiple issues such as dissatisfaction of customers when the deliveries are delayed, damage of goods because of careless transportation and others (Palani, 2016).

The service performance measures can make sure that to fulfill the customer satisfaction reliably and continuously as it assesses the current performance of the service (Balaji, 2015). The courier service

companies should have excellent logistics service performance to gain their revenue and profit now and in the future (Ellinger, 2014). According to Stank (2016), customer satisfaction can be increased through the improvement of logistics service quality. According to Vickery & Innis *et al.* (2015), there is a strong relationship between the logistics services' operational elements with customer satisfaction in terms of delivery speed, delivery reliability, product condition and product availability. Meanwhile there is also a positive relationship between the relational elements with customer satisfaction in terms of responsiveness and communications (Vickery *et al.*, 2015).

There are many attributes of logistics services which can be used to evaluate the logistics providers' service performance through the criteria which consist of tangible, convenience, economic efficiency, safety, accuracy and responsiveness (Meng & Zhou *et al.*, 2016; Park *et al.*, 2019). According to Meng & Zhou *et al.* (2016), the criteria of tangible indicate the personnel attitude and facilities of the LSPs. The criteria of convenience indicate the easiness booking and tracking, coverage and schedule of LSPs. Meanwhile the economic efficiency criteria indicate the dimension of price such as the rate structure and the level of price charged by LSPs and others. Safety criteria indicate the product safety of items or parcels that want to be delivered by LSPs. According to Park *et al.* (2019), accuracy criteria indicate the accuracy of time and address of shipment while criteria of responsiveness indicate logistics service providers' customer service. The excessive time, cost, performance losses or organizational disruption should be avoided to achieve the service performance (Upton, 2015).

One of the previous studies by Daugherty and Ellinger (2018) in an industrial setting about the relationships between logistics service performance with customer satisfaction found that logistics performance of relational, operational and cost had a positive relationship with customer satisfaction. Besides that, a study by Rao (2011) about electronic logistics service quality (e-LSQ) and its effect on purchase satisfaction of the consumers. They found out physical distribution service quality (PDSQ) in terms of lead times and time windows besides price impacted to consumer's purchase satisfaction.

### 3. Research Methodology

This study used quantitative method involving survey questionnaire to collect numerical data from the targeted population. The data were analyzed using descriptive analysis and inferential statistics. For this research, the researcher used the simple random sampling which consisted in probability sampling. According to MCMC (2019), there are about 16.6 million e-commerce users in Malaysia. Therefore, the sample should be taken was 384 in this research (Krejcie & Morgan, 1970).

This research used a set of questionnaire for data data collection, which were distributed among customers of courier service companies in Malaysia. Each set of questionnaires divided into three segments. The demographic factors were the focus of Part A of questionnaire that consisted of gender, age, employment, area living and others. Part B consisted of measurement questions related to the scale of the customers' service expectations of logistics service providers. Followed by Part C about the service performance of logistics service providers.

The primary data of this research were obtained through distributing the questionnaire via social media websites which consisted of WhatsApp, Facebook and Facebook Messenger to the customers who use the courier service companies. Secondary data is a data obtained from other researchers' studies, surveys and experiments. The researcher utilized SPSS (Statistical package for the social sciences) software to analyse the data collected from the respondents in this study. By using SPSS the researcher can save time as the results in tables and graphical chart gave a clear form of analysis data. The researcher used the demographic analysis to examine demographic data. Besides, descriptive analysis was used to evaluate the mean, standard deviation (SD) and central tendency of measurement items in this study.

#### 4. Results and Discussion

The researcher managed to collect 155 questionnaires from the respondents. Therefore, the response rate of this research was 40.36%. A reliability analysis was conducted on the measurement variables. The results are as shown in Table 1. The Cronbach's alpha overall value of service expectations and service performance were above 0.95, which are considered as the instrument as having excellent internal consistency.

**Table 1: Reliability test for service expectations and service performance**

Categories	Criteria	Cronbach's Alpha of Pilot Test (N=30)	Cronbach's Alpha of Actual Test (N=155)	N of Items
1. Expectations	Overall	.950	.937	20
	Tangible	.784	.736	4
	Convenience	.870	.834	5
	Economic Efficiency	.790	.785	3
	Safety	.856	.754	2
	Accuracy	.893	.846	3
	Responsiveness	.720	.848	3
2. Performance	Overall	.953	.950	20
	Tangible	.821	.851	4
	Convenience	.864	.914	5
	Economic Efficiency	.846	.853	3
	Safety	.912	.879	2
	Accuracy	.877	.899	3
	Responsiveness	.923	.882	3

Table 2 shows that most of the respondents were female (65.25%) whereas 34.8% were male. There had been 123 respondents (79.4%) at the range age of 20-29 years old, followed by 15 respondents (9.7%) at the range age of 40- 49 years old. Most of the respondents were a full time student which were 111 respondents with 71.6%. Besides that, there had 60.6% of Chinese respondents and 34.2% of Malay respondents. Results illustrated that the majority of the respondents were found living in urban area (57.4%) compared to rural area (42.6%). In term of frequency, it was observed that the majority of the respondents used courier service for monthly basis at 46.5% with 72 respondents. Top 3 courier service company user used the most were J&T Express (41.9%), Poslaju (30.3%), followed by GDex at 9.7%.

**Table 2: Respondents' demographic profile**

Items		Frequency	Percentage (%)
Gender	Male	54	34.8
	Female	101	65.2
Age Group	Below 20's	10	6.5
	20's	123	79.4
	30's	7	4.5
	40's	15	9.7
Employment	Self-Employed	11	7.1
	Employed	27	17.4
	Unemployed	6	3.9
	A full time student	111	71.6
Ethnicity	Malay	53	34.2
	Chinese	94	60.6
	Indian	5	3.2
	Others	3	1.9
Area of Living	Urban	89	57.4

	Rural	66	42.6
Frequency of using courier services	Daily basis	5	3.2
	Weekly basis	21	13.5
	Monthly basis	72	46.5
	Few times a year	46	29.7
	Once a year	11	7.1
Courier service company used most	Pos Laju	47	30.3
	GDex	15	9.7
	ABX Express	7	4.5
	J& T Express	65	41.9
	Skynet Express	8	5.2
	DHL Express	8	5.2
	FedEx	5	3.2

#### 4.1 Service Expectations and Performance

**Table 3: Descriptive statistics data of service expectations and performance**

Service dimension	Expectations		Performance	
	Mean	Standard Deviation	Mean	Standard Deviation
1. Tangible	4.245	0.739	4.021	0.861
2. Convenience	4.348	0.730	4.077	0.871
3. Economic efficiency	4.191	0.821	3.894	0.861
4. Safety	4.291	0.849	3.871	0.998
5. Accuracy	4.407	0.687	3.970	0.854
6. Responsiveness	4.271	0.738	3.901	0.864

Based on the results obtained in Table 3, the average mean score of service expectations was within the range of 4.191 (economic efficiency) to 4.407 (accuracy), whereas the standard deviation in the range of 0.687 to 0.849. In terms of specific attributes, the highest mean score at 4.484 was obtained from the attribute of accuracy “Accurate delivery by logistics service providers to address of shipment”. Other than that, the average mean score for all the questions related to service performance were within the range of 3.871 (safety) to 4.077 (convenience), whereas the standard deviation in the range of 0.854 to 0.998. It was also found that the courier company had the highest service performance with their delivery schedule provided, which is in the attribute of convenience “The convenience of delivery schedule provided by logistics service providers” achieved the highest mean score at 4.135. The results also concluded that service expectations and service performance were in high level of central of tendency.

#### 4.2 Service Quality Gap (SQG)

The researcher carried out the Service Quality Gap (SQG) Analysis to explore whether the performance of logistics providers fulfill the expectations of the users. According to Parasuraman *et al.* (2015), difference between the mean of the performance and expectation score evaluated to conduct service quality gap analysis. Table 4 demonstrated that SQG Analysis, while Table 5 demonstrated Top 3 Highest Gap Score in this study.

**Table 4: Service quality gap analysis**

Criteria	Overall Gap Score	Level of Expectation
Tangible	-0.224	Expectations not meet
Convenience	-0.271	Expectations not meet
Economic efficiency	-0.297	Expectations not meet
Safety	-0.420	Expectations not meet

Accuracy	-0.437	Expectations not meet
Responsiveness	-0.370	Expectations not meet
OVERALL SQG	-0.337	LOW

According to the Table 4 above, all the service expectations of users were not met when all the gap scores of attributes were less than 0. Accuracy had the highest gap score (-0.437), followed by safety scored at -0.420, responsiveness at -0.370, economic efficiency at -0.297, convenience at -0.271 and tangible at -0.224. So the logistics service providers must take action to improve all the services performance especially their accuracy.

**Table 5: Top 3 highest gap score**

Criteria	Attributes	Gap Score
Responsiveness	The promptitude of customer service to complaint and resolution of the customers.	-0.490
Safety	Condition of items/ parcels delivered by logistics service providers.	-0.478
Accuracy	Accurate delivery by logistics service providers to address of shipment.	-0.465

The Top 3 Highest Gap Score were “The promptitude of customer service to complaint and resolution of the customers” with the gap score at -0.490, followed by “Condition of items/ parcel delivered by logistics service providers” (-0.478) and “Accurate delivery by logistics service providers to address of shipment” (-0.465). The users made their complaints through the social media and live chat when Internet became more reliable. They expected fast or immediate response from the LSPs, but the limited customer service cannot response too much of the consumers at the same time. Furthermore, due to Covid-19 pandemic, the number of consumers using the courier companies increased since that most of us online shopping to buy the daily suppliers. The accurate delivery by LSPs will be affected but the consumers expected their parcels can be delivered accurately.

This gave the expression that speed in resolving complaint and resolution were important in customer service besides the delivery accuracy by logistics service providers to address of shipment.

#### 4.3 Level of Customer Satisfaction of The Logistics Services

In order to achieve the objective of this study, Consumer Satisfaction Index (CSI) assessed by the researcher based on the users’ experience towards the logistics service providers’ performance and their expectations on LSPs. Table 6 indicated the Overall CSI Score which was calculated using the formula below:

$$\text{CSI Score} = \frac{\sqrt{\text{Expectation} \times \text{Performance}} + \text{Performance}}{2}$$

**Table 6: Overall CSI score by criteria of providers**

Criteria	Overall CSI Score	Ranking
Tangible	4.076	2
Convenience	4.144	1
Economic efficiency	3.967	4
Safety	3.973	3
Accuracy	4.076	2
Responsiveness	3.991	5

According to Table 6, users were highly satisfied towards three of the criteria. Criteria of convenience topped the list with CSI score of 4.144, followed by tangible and accuracy with the same score (4.076). Meanwhile, the score for responsiveness was 3.991, safety was 3.973 and economic efficiency was 3.967. These CSI score representative that user were adequately satisfied with the criteria.

**Table 7: Strengths and weaknesses of providers**

Items	CSI Score
<b>Strengths</b>	
The ease of tracking and tracing items via telephone and Internet.	4.210
Professional and standard of company's item packaging.	4.187
The convenience of delivery schedule provided by logistics service providers.	4.183
<b>Weaknesses</b>	
Clear compensation policy.	3.882
The promptitude of customer service to complaint and resolution of the customers.	3.887
The promotion/ benefit to the regular customers.	3.934

The survey also evaluated the CSI score among the 20 attributes. Based on Table 7 above, one of the attribute in convenience "The ease of tracking and tracing items via telephone and Internet" achieved the highest CSI score at 4.210. This reflected that the logistics service providers managed to provide an effective e-tracking system in their website to ensure that user can track the location of their parcel in anytime and anywhere without tracking by phone inquiry. Besides that, followed by the second highest CSI score at 4.187, the attribute of tangible "Professional and standard of company's item packaging". The packaging standards were important in order to ensure safety, quality and efficiency of the parcel. Generally, when users received their parcel in good condition, they will felt satisfaction and leave a good comment to the LSPs or sellers. Other than that, the attribute in convenience again had the third highest score at 4.183, which was "The convenience of delivery schedule provided by logistics service providers". Most of the courier company operated from Monday to Saturday, on 9.00 a.m. to 5.00 p.m., LSPs will make a call or the system will send a text to the receiver as their parcel were out of delivery.

Apart from convenience and tangible of LSPs, users also focused on the criteria of safety. One of the attribute "Clear compensation policy" scored the lowest at 3.882. Incidents are unpredictable, user will be perplexed if their parcel damaged or lost when the courier company does not provide a clear compensation policy. "The promptitude of customer service to complaint and resolution of the customers" in responsiveness scored second lowest (3.887), it was quite challenges to the courier company as the number of users and items delivered increased day by day. Third, followed by CSI score at 3.934, attribute in economic efficiency "The promotion/ benefit to the regular customers". Most of the courier companies does not rewarding regular customers to appreciate for they used the services provided continuously.

Hence, logistics service providers need to diversify their services and strategies operation plan to achieve the customer satisfaction in sequence to compete with peers and survive longer in the courier industry.

## 5. Conclusion

In summary, the Service Quality Gap (SQG) Analysis was used to identify the level of logistics providers' service performance, which indicated that all the service expectations of users were not met when all the gap scores of attributes were less than 0. This finding presented due to the higher overall gap score in accuracy, safety, responsiveness, economic efficiency, convenience and tangible. The overall SQG among service providers in Malaysia was at a low level of service performance. Low level of performance indicated that users had high expectations towards service providers but their performance cannot satisfy their needs.

Consumer Satisfaction Index (CSI) assessed by the researcher to identify the level of customer satisfaction of the logistics services. The results were significantly important to study which attributes of the providers achieved high or low level of performance. According to the results, the criteria that customers were satisfied most were convenience, followed by tangible and accuracy. Meanwhile, they were adequately satisfied with the criteria of responsiveness, safety and economic efficiency. The findings also displayed the main strengths and weaknesses of providers. Hence, logistics service providers must have their own strategies to overcome weaknesses and preserve strengths in order to survive longer in the market.

Further research can be conducted to improve our understanding on logistics providers' service performance. One of the suggestions is the future studies can carry out a longitudinal study. The researcher can increase the number of target respondents when time taken to collect the data is longer that will achieve better and accurate results. Besides using online survey questionnaire, the future research also could interview respondents. This may help the researcher to get better understanding about LSPs service performance.

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