CUSTOMER SATISFACTION ON MARITIME TERMINAL: CASE STUDY ON FERRY TERMINAL FACILITY IN BUTTERWORTH, PENANG.

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ABSTRACT

In this era of modernity, there are various types of vehicles have been invented, whether on land, air or sea. The focus, about transportation at sea which is Shipping covers ferry. The level of customers satisfaction in supporting facilities in major tourism destinations needs to be assessed from time to time. This research analyses customer satisfaction on maritime ferry terminal facility. The method is using questionnaires that are contributed by the customers at ferry terminal Butterworth. The population that the customers using the terminal is 1536373 while the sample is 68 respondents. A total of 68 questionnaires were collected and the data was analyzed using Statistical Package for the Social Science (SPSS). The results from this research found that the relationship between terminal facilities and customer satisfaction is very weak condition.

Keywords: Terminal Ferry, Customer Satisfaction and Terminal Facilities

I. INTRODUCTION

Ferry terminals, also known as passenger terminals, cruise terminals, marine terminals or maritime passenger terminals, are structures at ports where ferries and cruise ships may pick up and drop passengers and vehicles. Passengers can be loaded by path or by linkage. Vehicles may be taken out of the dispatch straightforwardly, if they are Roll-on / roll-off vessels. Items pressed in holders can be pushed into the dispatch by vehicle and after that elude from the holder and return to shore.

Ibrahim and Ahmed (2011) point out that accessibility and high-quality ferry terminal offices can also be identified as one of the factors influencing the rapid development of tourism at this terminal. In case the ferry terminal is working the vehicle, it will often have facilities, such as a legitimate sign on the ground, to permit the vehicle to be introduced in an efficient manner.

Ferry terminals may change according to the estimate of a few terminals, conceivably in expansive ports, with passenger conveniences comparable to medium-sized airplane terminals, whereas terminals in little island areas may have the as it were implying of securing ships and easy routes to permit vehicles to be driven on them. To support the related tourism activities, the government has built numerous facilities to ensure that each terminal is able to function fully and to the satisfaction of the visitors.

II. LITERATURE REVIEW

A. *Customer Satisfaction*

According to Bernazzani (2018) Customer satisfaction is a measure used to measure how satisfied a customer is with a product, service or experience. Customer satisfaction is a sense of happiness or unhappiness because of contrasting the quality of services or products seen with the performance anticipated Kotler (2008). Customer satisfaction may reflect how customers feel about your brand. Srivastava (2014) defined customer satisfaction as the mental evaluation of the customer derives from the relationship between the personality of the consumer and the business promoting activities from the point of view of the customer's preference for the product and the understanding of the value obtained.

B. Terminal ferry

Defines of ferry port is a town or place with navigable waters with the convenience of loading and unloading ferries. Ferry terminal also known as a terminal on a ferry line. A terminal is literally the place where a freight train, bus, ferry ends, but is the only place it stops, and passengers enter or exit.

The terminals usually offer several facilities for loading or unloading cargo from ships (Fah & Kandasamy, 2011). The marine terminal is very prominent and forms the essential part of the loading part (Arof & Cash Khadzi, 2018) (Karam et al., 2014). Agreeing to Tony (2006), transport systems may incorporate hubs, terminals and locations.

C. Customers' satisfaction on facilities

According to (Ibrahim and Ahmad, 2011), in order to ensure the activities carried out in Langkawi, the government has continued to allocate large sums of money to upgrade facilities in Langkawi and include Langkawi jetty terminals. Nowadays easier for certain parties to provide more resources to build and upgrade existing facilities in addition to the current growth and improvement of users. According to Ibrahim and Ahmad (2011), traffic congestion and vehicles at Langkawi ferry terminals often occur during the holiday seasons.

D. Customers' Satisfaction on cleanliness

We identified four discriminations in satisfaction between "satisfied" and "very satisfied" according to Coffel. This discussion includes "light rail vehicle cleanliness," "heavy rail vehicle cleanliness." and "station cleanliness.

E. Customers' satisfaction in safety

Everyone knows that safety is the most important part of anything they do. however, the phrase 'Safety First' is frequently displayed in every area where its users need it like the workshop area but for services at the ferry terminal as well as customers who use it expect the level of security provided to avoid the accident.

Indicators reflecting actual incidents should be reported more regularly (e.g. monthly), while indirect indicators representing future safety and security rates can be reported quarterly, such as the ratio of transit police officers to transit vehicles (Joewono, Kubota, 2016). Protecting critical transport infrastructure and operations is important for national and local security, public health and safety, economic prosperity and lifestyle (Adebola, etc., 2014).

III. METHODOLOGY

A. Research Design

Quantitative data collection data it is based in a variety of formats on mathematical calculations. Methods of quantitative data collection and analysis include questionnaires with closed-ended questions, methods of correlation, mean, mode and average. The degree to which two or more variables are related is described in quantitative correlation research (Fraenkel and Wallen, 2003).

By generating numerical data or data that can be converted into usable statistics, quantitative research is used to measure problems. Quantitative research uses measurable data to summarize facts and to detect patterns of research. The method of collecting quantitative data is much more structured than the method of collecting qualitative data. Likert scale is the measurement that will represent the different perception of the statement that has been given in questionnaires as shown in Table 1.

Table 1

Not all Satisfied	Slightly Unsatisfied	Neutral	Satisfied	Very Satisfied
1	2	3	4	5

The survey questionnaire consists of four sections:
Section A: Demographic details
Section B: Terminal Butterworth Penang

Section C: To determine the level of facilities condition provided at Terminal Butterworth, Penang.

Section D: To interpret the customers' satisfaction with the facility that are provided in Ferry Terminal at Butterworth, Penang.

B. Data analysis

The steps involved in importing clean or aggregated information into the analysis tool. This tool helps to analyze data, find patterns in it, and if you need to ask and answer questions. This is the system which uses reliable statistical methods to use the data collected in the study.

C. Population

A population is for example customers that are using the ferry at the ferry terminal Butterworth Penang. The formula in the table are constructed to determine the sample size (Robert V. Krejcie, Daryle W. Morgan, 1970). The population that the customers using the terminal is 1536373 while the sample is 68 respondents.

Formula for determining sample size

$$s = X^2 NP(1 - P) \div d^2(N - 1) + X^2 P(1 - P)$$

$s =$ required sample size.

$X^2 =$ the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).

$N =$ the population size.

$P =$ the population proportion (assumed to be .50 since this would provide the maximum sample size).

$d =$ the degree of accuracy expressed as a proportion (.05).

Source: Krejcie & Morgan, 1970

Figure 1: Formula for determining sample size

D. Sampling

The sample very important as it can reflect the actual amount of the research. The sample of this research collected data from users using ferry service at Butterworth Penang ferry terminal.

E. Statistical packaged for social science (SPSS)

The Social Sciences Statistical Package (SPSS) is a software package that is used for statistical data analysis as shown in Table 2. It was developed and bought by IBM in 2009 from SPSS Inc. The software was renamed officially IBM SPSS Statistics in 2014.Originally intended for social science, the software has become popular in other fields such as health science and in marketing, market research and data mining. The Statistical Package social science is a widely used program for social science statistical analysis, particularly in education and research. Nevertheless, it is also widely used by market researchers, medical researchers, research organizations, governments and, most importantly data miners as shown in Figure 2.
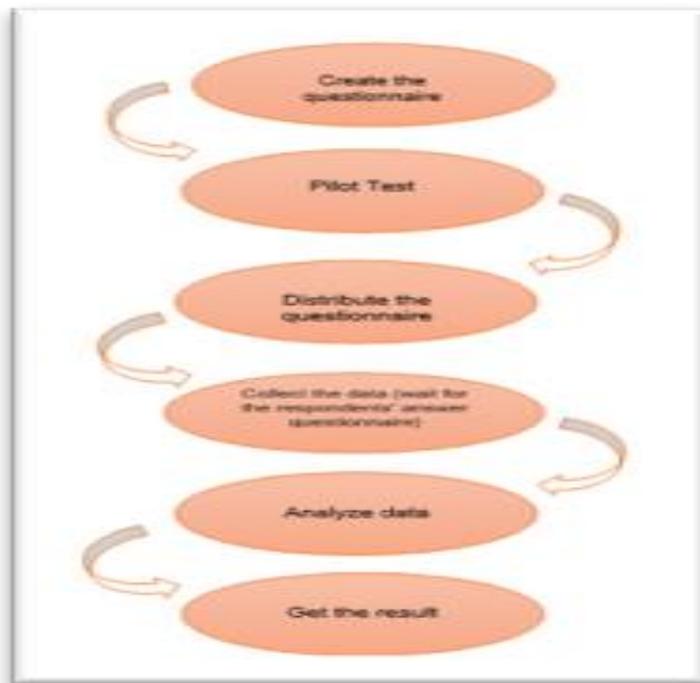
F. Data Collection Method

Figure 2

Table 2: Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Data.Information	.252	68	.000	.894	68	.000
Facilities	.180	68	.000	.925	68	.001
Cleanliness	.224	68	.000	.901	68	.000
Safety	.419	68	.000	.619	68	.000

IV. RESULT AND DISCUSSION

A.. *Data Analysis*

The data analysis various concepts and transformation and data knowledge for decision analyze data, find ask and answer is to check the user ease of use, flexibility accessible to users of all provides an overview of the methods used. Processes of processing to identify valuable making. This tool helps to patterns in it, and if you need to questions. The purpose of SPSS experience in more detail. The and scalability make SPSS skill levels.

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Satisfaction	.136	68	.003	.961	68	.031

B. *Reliability*

Statistic

The set of relevant Cronbach's in good as

studies was tested in one pilot test to 20 respondents. Basically, in this research the alpha 0.886 with means internal consistency is shown in Table 3.

Table 3: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.886	.851	43

C. *Normality Test*

In statistics, normality test is used to assess if a series of data is based on regular distribution.

In this research using the Kolmogorov-Smirnov. The Kolmogorov – Smirnov test is a non-parametric equality test of continuous one-dimensional probability distributions that can be used to compare a sample to a reference probability distribution (one-sample K – S test), or to compare two samples (two-sample K – S test). According to Mishra et. Al (2019) stated that, the Kolmogorov-Smirnov respondents is fifty (50) or more than fifty (>50). It is because the respondent is equal to 68 respondent that involve. The aim for the test is to determine if the sample data is close to the normal distribution. The data statistic is 0.252, 0.180, 0.224 and 0.419 with means that the data is not significant. It is because the significant value less than alpha. The result of this normality test is accepting H1 and reject H0. Also, for this section D, the Kolmogorov – Smirnov test is 0.136 with means that the data is not significant because the data less than alpha ($p<0.10$). the result of this normality test is accepting H1 and reject H0.

D. *Paired Sample t-Test*

The sample for the two-sample test should come from a nearly normal distribution. The condition is called normal assumption. The two-sample t Test's null hypothesis (H0) and alternative hypothesis (H1) can be expressed in two different but equivalent ways:

H0: There is no significant difference between the respondents know the facilities condition.
H1: There is significant difference between the respondents know the facilities condition

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Table 4: Comparison Mean Different

	Data Information	Facilities	Cleanliness	Safety
Data Information		0.36765	0.34314	0.17647
Facilities	-0.36765		-0.02451	-0.19118
Cleanliness	-0.34314	0.02451		-0.16667
Safety	-0.17647	0.19118	0.16667	

The Table 4 shows the result of mean by using method Two Sample t-Test for the elements that have been classify by their own categories. For paired from data information the highest mean is between data information with facilities with is 0.36765. Then next comparison is paired for facilities with data information being the highest mean among its elements with a mean rate of -0.36765.

For paired element cleanliness with data information the highest mean compared to other paired elements was -0.34314. While for the paired the highest compared to the other elements of safety with facilities mean of 0.19118. It can be concluded that the dominant data is data information.

G. Pearson Correlation Analysis
From this objective needed to know whether there is a significant relationship between elements and the satisfaction at Terminal Butterworth, Penang. The research is using the Pearson Correlation coefficient method. There is positive relationship between the elements and the satisfaction. For the results of correlations coefficient 0.108 for Data information, for facilities is 0.053 while for cleanliness is 0.050 and lastly the safety is 0.131.all of the result show that the relationship between the elements and the satisfaction is very weak. But the highest relationship is between element safety and satisfaction as shown in Table 5.

Table 5: Correlations

Correlations

		Data.Information	Facilities	Cleanliness	Safety	Satisfaction
Data.Information	Pearson Correlation	1	.233	.213	.234	.108
	Sig. (2-tailed)		.056	.080	.055	.381
	N	68	68	68	68	68
Facilities	Pearson Correlation	.233	1	.656**	.314**	.053
	Sig. (2-tailed)	.056		.000	.009	.667
	N	68	68	68	68	68
Cleanliness	Pearson Correlation	.213	.656**	1	.329**	.050
	Sig. (2-tailed)	.080	.000		.006	.683
	N	68	68	68	68	68
Safety	Pearson Correlation	.234	.314**	.329**	1	.131
	Sig. (2-tailed)	.055	.009	.006		.287
	N	68	68	68	68	68
Satisfaction	Pearson Correlation	.108	.053	.050	.131	1
	Sig. (2-tailed)	.381	.667	.683	.287	
	N	68	68	68	68	68

V. CONCLUSION

To conclude that the transport terminal is more often a function and very importance nowadays. Large transport terminals, especially ports and airports, give their locations a status as a gateway or hub, as they become compulsory transit points between different segments of the global transportation system. small local airports with limited daily service.

There are many reasons why customers need to choose the terminal ferry as their option to used when want to go place that are provided the ferry. But in the other words is the terminal ferry also has their own strengths and weaknesses. The advantage of the ferry terminal is that it can attract more customers to use it however its disadvantages also slightly adversely affect the continuation of activity at the ferry terminal.

Subsequently all research questions will be answered and the achievement of research goals is effective supporting. Even though we know that to the extent that we cannot deny that the ferry terminal will continue to operate by ferry, it will always be the choice of the user to use it.

VI. ACKNOWLEDGMENT

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