

Conference Paper

The Effects of Service Quality on Customer Satisfaction and Loyalty in a Logistics Company

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Abstract

Service quality plays crucial role in the operational activities of a company since service quality heavily affects the satisfaction and the loyalty of a customer. The aim of this study is to analyze the effects of service quality of a logistics company on customer's satisfaction and loyalty. The service quality was measured using the following five dimensions of information quality, ordering procedures, timeliness, order condition and order discrepancy handling. Courier services or logistics services have been standardized in such a way to generate satisfaction to the customers and thus, achieving customer loyalty. The data processing in the logistics company was performed using AMOS-Structural Equation Modeling (SEM). The sampling technique in the study was based on convenience sampling of 150 respondents from courier service companies (non-probability sampling). The data were collected using questionnaires distributed to the suitable population. The result of the study confirmed the effects of the service quality of courier service companies on customer satisfaction and loyalty. In addition, the study confirmed the relationship between customer satisfaction and loyalty.

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1. Introduction

Logistics companies should maintain their service quality maintenance to thrive in the business competition. The well-maintained service quality of logistics companies helps boost the customers' commitment to using the products and/or services of those companies in the long term. This customers' commitment may impact on the expansion of the market share of the products and/or services of a company. Companies with superior services are capable of boosting their corporate financial performance [1].

The concept of service quality has been developed in a wide variety of sectors including logistics. In value chain management [2], logistics is divided into two areas: inbound and outbound. The inbound logistics covers activities related to input collection, storage, material handling, inventory control, transport scheduling and return to

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suppliers. Meanwhile, outbound logistics covers activities related to finished product collection, storage, and its distribution to buyers, material handling, delivery fleet, ordering process and scheduling.

Service quality in logistics is the key component of marketing to boost customer satisfaction [3]. The wide coverage of logistics companies is an interesting scope to review. The aim of the study is to measure the service quality of a logistics company in order to improve customer satisfaction and loyalty.

The contribution of this study is the generalization of the variables in service quality of a logistics company. The attribute of the service quality of logistics services in this study is based on the five dimensions of service quality [4]: Information Quality, Ordering Procedures, Timeliness, Order Condition and Order Discrepancy Handling on customer satisfaction and loyalty. The impacts of logistics in strategic management correlate positively with customer satisfaction [5] and service quality is a crucial factor in defining customers' decision making to achieve satisfaction [6]. Operational and relational performances in providing logistics-related services correlate positively with customer satisfaction [7]. Logistics service quality correlates positively with customer satisfaction [4]. Based on the evidence, the hypothesis is: logistics service quality impacts on customer satisfaction. Customer satisfaction is measured to ensure that customers continuously purchase, increasingly purchase, and continuously recommend the service providers based on the service quality of the service providers [4]. Logistics plays an important role in achieving customer loyalty to a service provider [8]. Logistics service quality impacts positively on customer loyalty [4] and relates to market share through customer satisfaction and loyalty [9]. Based on these supporting statements, thus, the hypothesis is written as: logistics service quality impacts on customer loyalty.

Customer satisfaction and customer loyalty correlate positively [10] and this means the more satisfied a customer is with a service provider, the more loyal a customer is to that service [4]. However, two critical boundaries interfere with the correlation between customer satisfaction and customer loyalty [11]. When customer satisfaction reaches a certain level, customer loyalty will significantly increase. However, when customer satisfaction decreases to a certain level, customer loyalty will also significantly decrease. Customer satisfaction towards a service provider impacts positively on customer loyalty [4]. Thus, the hypothesis is written as: customer satisfaction impacts on customer loyalty.

2. Methods

This study was a conclusive research with the purpose to generate information to aid in decision making process. The targeted population of this study was the customers of the company who had been using the company’s services within the past year and experiencing discrepancies in delivery. The study was based on interval measurement using convenience sampling (non probability sampling). The total number of the respondents in the study was 150 people with the composition of 59% males and 41% females.

3. Results

The data in the study were processed using AMOS 18 software. The validity testing was based on Gozhali’s concept (2008) that Average Variance Extracted (AVE) value $\geq 0,5$ showed good convergent validity. The reliability testing of the study was based on Ferdinand’s concept (2005) that limit value used to assess acceptable reliability level was 0.7. The calculation of the satisfaction variable confirmed the validity and reliability testing of this study as seen in Table 1.

TABLE 1: Average Variance Extracted and Construct Reliability.

Dimension	Average Variance Extracted	Construct Reliability
Information Quality	0.54	0.70
Ordering Procedures	0.65	0.09
Timeliness	0.65	0.85
Order Condition	0.59	0.74
Order Condition	0.60	0.75
Loyalty	0.76	0.90

Assessed using the AMOS system, the result of the model measurement in this study can be seen in Table 2.

TABLE 2: Goodness of Fit Test of the Measurement Model.

No	Goodness of Fit Test	Criteria	Result
1	CMIN/DF	$CMIN/DF \leq 2$	1.088
2	RMSEA	$RMSEA \leq 0,08$	0,030
3	GFI	$GFI \geq 0,90$	0,921
4	TLI	$TLI \geq 0,90$	0,992
5	CFI	$CFI \geq 0,90$	0,994

The structural model in Table 3 was qualified after the Goodness of Fit Test. Thus, the result of the hypothesis testing could be continued.

TABLE 3: Goodness of Fit Test of the Structural Model.

No	Structural Model	Criteria	Result
1	CMIN/DF	≤ 2,00	1,364
2	RMSEA	≤ 0,08	0,049
3	GFI	≥ 0,90	0,922
4	TLI	≥ 0,95	0,974
5	CFI	≥ 0,95	0,983

The hypothesis testing was conducted to assess if the value of Critical Ratio (CR) of every dimension was $CR \geq 1,96$. If so, the indicator was significant, and hypothesis was acceptable.

TABLE 4: Hypothesis Testing.

Hypothesis	Effect	Estimate	S.E	C.R
H1	<i>IQ</i> → <i>Satisfaction</i>	.392	.072	5.437
	<i>OP</i> → <i>Satisfaction</i>	.013	.119	.107
	<i>T</i> → <i>Satisfaction</i>	.472	.114	4.141
	<i>OC</i> → <i>Satisfaction</i>	.250	.128	1.962
	<i>ODH</i> → <i>Satisfaction</i>	.111	.114	.976
H2	<i>IQ</i> → <i>Loyalty</i>	.044	.082	.535
	<i>OP</i> → <i>Loyalty</i>	-.177	.114	-1.562
	<i>T</i> → <i>Loyalty</i>	.296	.121	2.439
	<i>OC</i> → <i>Loyalty</i>	.333	.137	2.432
	<i>ODH</i> → <i>Loyalty</i>	.248	.111	2.243
H3	<i>Satisfaction</i> → <i>Loyalty</i>	.316	.160	1.978

4. Discussion

Based on the CR value, most of the variables of the logistics service quality impacts on customer satisfaction variable. Information quality dimension possesses the highest CR value of 5.437. This means information quality dimension impacts on satisfaction. Ordering procedures dimension on logistics service quality variable possesses a low CR value of 0.107. Ordering procedures dimension does not affect customer satisfaction since a lot of facilities are given in the procedures. As a result, ordering procedures

is no longer considered as a factor that affects customer satisfaction. The timeliness dimension of logistics service quality variable possesses a high CR value of 4.141. This shows that timeliness indicator impacts on satisfaction. Order condition dimension on logistics service quality variable possesses CR value of 1.962. This value confirms that order condition dimension has an impact on customer satisfaction. Order discrepancy handling dimension in logistics service quality variable has a low CR value of 0.976. The value confirms order discrepancy handling dimension does not have any effect on customer satisfaction. This is because the customers have experienced the discrepancies in the delivery services that eventually impacts on their level of satisfaction. Even though the logistics company has tried their best to handle the discrepancies, customers oftentimes still feel disappointed and dissatisfied.

In conclusion, regarding the hypothesis, the logistics service quality significantly impacts on satisfaction and most of the logistics service quality dimensions has CR value of > 1.96 . Thus, the H1 results is acceptable. This result confirms logistics service quality will be further improved when customers are satisfied with delivery service. This study is in line with the study conducted by [4] confirming that logistics service quality positively impacts on customer satisfaction. Table 4 shows information quality dimension in logistics service quality variable possesses a low CR value of 0.535. This shows that information quality dimension has no impact on customer loyalty variable since the quality of information from the logistics company is not considered to have a higher value than that from other logistics companies. The customers of the company do not agree that information quality is a factor that impacts on customer loyalty. Ordering procedures dimension on logistics service quality variable has a low CR value of -1.562 and this means ordering procedures dimension has no impact either on customer loyalty variable. Ordering procedures offered by the logistics company is what customers should know and not exactly an added value to boost customer loyalty. Most of the logistics service quality variable dimensions impact on loyalty variable. Timeliness indicator possesses good CR value of 2.439 which means that timeliness dimension impacts on loyalty. Order condition dimension in logistics service quality variable has a high CR value of 2.432. This shows that order condition dimension impacts on loyalty. Order discrepancy handling dimension in logistics service quality variable has a quite high CR value of 2.243. This confirms order discrepancy dimension impacts on loyalty.

As shown in Table 4, most of the service quality dimensions has critical ratio > 1.96 . Thus, service quality logistics impacted significantly on loyalty factor. Based on this result, the second hypothesis was acceptable since service quality of the logistics company impacted on the customer loyalty. Better logistics service impacts on the more

positive customer loyalty. The loyalty was shown in the customers' preferential selection on a typical courier service company. This result was also confirmed in [4]'s study.

The hypothesis of the effect of satisfaction on customer loyalty had a critical ratio of $1.978 > 1.96$. Thus, satisfaction impacted significantly on loyalty. Based on this result, Hypothesis 3 was acceptable and also in line with the study conducted by [4].

5. Conclusion

The testing of the hypothesis in the study indicated the following results:

1. Logistics service quality significantly and positively impacted on customer satisfaction in customer delivery service.
2. Logistics service quality significantly and positively impacted on customer loyalty towards the delivery service.
3. Customer satisfaction significantly and positively impacted on customer loyalty towards the delivery service.

Based on the result of the study, the testing of the hypothesis had the least impact compared with the other testing. The effect of the order condition dimension on customer satisfaction had lower value than the rest of the dimensions. The delivery service requires improvement in order condition, such as packaging supply for liquid product or special packaging for glassware. This is necessary to ensure the safe delivery of the product to the customers.

The dimension of order discrepancy handling brought the least impact compared with the other dimensions. Efforts to fix or handle the order discrepancies to retain customer loyalty is crucial and this problem can be solved by following up the affected customers. The follow up from the courier service company was done through reporting the discrepancies and delivering the services they had promised beforehand. This, as a result, minimizes the impact of the discrepancies. These impacted customers may also want to recommit themselves to reuse the courier services in the near and far future.

The current study solely focused on the individual customers of a logistics company. Future studies are to focus on a different research object such as B2B and on an industry other than courier service companies.

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