

## THE IMPACT OF PERCEIVED SERVICE QUALITY ON CUSTOMER SATISFACTION AND LOYALTY: CASE STUDY AT SUPERMARKET IN SURABAYA

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### ABSTRACT

Nowadays, companies have to improve their service quality in order to increase customer satisfaction and build customer loyalty. This paper aims to investigate the relationship between perceived service quality on customer satisfaction and loyalty, with a case study at a supermarket in Surabaya. The results showed that customers group with different loyalty level have some differences in gender, member or non member, occupation, and shopping variables. Structural Equation Modeling was applied in this study and a total of 100 valid returns were obtained through a questionnaire survey. The results showed that perceived service quality in terms of tangibles, reliability, responsiveness, assurance, and empathy has a significant impact on customer satisfaction (0.598) and also on customer loyalty (0.752), but customer satisfaction does not has a significant impact on customer loyalty. Improvement strategy was prepared using Quality Function Deployment QFD, i.e. seasonal discount, completing local products and giving reward for excellent employee (sorted from the highest importance of how).

**Key Words:** Service quality, customer satisfaction, customer loyalty.

### 1. INTRODUCTION

Companies, as well as retail businesses, have to improve their service quality in order make their customer satisfied and then make them become loyal. Loyal customers are crucial to business survival. For that reason many companies use defensive marketing strategies to increase their market share and profitability by maximizing customer retention (Kassim and Abdullah, 2010)).

This research aims to analyze the impact of perceived service quality on customer satisfaction, and customer loyalty. The research was conducted at a supermarket in Surabaya.

### 2. THEORETICAL BACKGROUND

Parasuraman, Zeithaml, and Berry states that service quality is the customer perception of the superiority of the service. Quality of service is the customer's perception of the excellence of the service.

There are five dimensions of service quality: tangibles, responsiveness, assurance, and empathy (Parasuraman, Zeithaml, Berry, 1988; Zeithaml, Valerie A., Parasuraman and Mary, J., 1996)

Service Quality in this research is measured using Service Performance (SERVPERF) which is an effective method to determine the level of service quality provided by company. According to Cronin and Taylor, SERVPERF only measure perceptions because when customers do a judgment, they will automatically compare with their expectations (Abdullah, 2006).

Customer satisfaction is a level of concordance between the perceived performance of the product in accordance with customer expectation. When perceived performance meet customer expectation, it means customer satisfied (Arnould, Price, and Zinkham (2005) states that there are 3 important things related to customer satisfaction, among others: Consumers can make-satisfaction judgments with respect to any aspect of the

product and service experience, fulfillment, and internal state.

Customer loyalty is the last in-depth commitment to re-subscribe or re-purchase selected products and services are consistently the days to come. According to Griffin (1995), there are attributes forming customer loyalty: makes regular repeat purchase, purchase across product and service lines, refers to other customers, and demonstrates immunity to the pull of the competition.

This research uses Structural Equation Modeling (SEM) which provides statistical efficiency and its ability to assess the relationships comprehensively. It has provided a transition from exploratory to confirmatory analysis (Hair *et al.*, 2006). Moreover, SEM techniques are particularly appropriate for the study of multiple dependence relationships. SEM allows the researcher to answer the research questions that are regressive and dimensional. A complete modeling SEM consists of structural model and measurement model. Structural model of the relationship between independent and dependent constructs, whereas the measurement model is the relationship between indicators (value loading) and construct (latent variables).

Improvements in this research are planned by using Quality Function Deployment, which is a method of planning and development in a structured product that is useful for product development teams in defining consumer desires clearly and then evaluate each proposed product capabilities to meet those needs systematically. QFD process involves the formation of one or more matrices (Cohen, 1995). The first matrix is HOQ (House of Quality). This matrix shows the willingness of consumers on the left and the technical responses from the development team to fulfill on top. The matrix consists of several sub-matrix is incorporated at different sides of the HOQ in which each sub-matrix contains information related to one another.

### 3. RESEARCH METHOD

A survey method approach was used in this study. The hypotheses were tested using cross-tabulation analysis and the structural equations modeling.

There were two steps in data collection; the first is survey by distributing open-ended questionnaire to 25 customers. Second step is doing pre-sampling and sampling by distributing questionnaires to customers, and continued by doing validity and reliability test. A total of 100 valid returns were obtained through this questionnaire survey.

The questionnaire was divided into three parts. It began with general information regarding respondent's behavior in shopping at supermarket. Part two deal with the respondent's assessment of perceived service quality, satisfaction and loyalty. All items were measured with a six-point modified Likert-scale, anchored by (1) strongly disagree and (6) strongly agree. The rating scales of this research, which did not have a mid-point, were used to minimize social desirability bias arising from respondents' desires to please the interviewer or appear helpful. Part three consisted of respondents' demographic and socio-economic characteristics such as ethnicity, gender, age, marital status, education, and income. This information was asked at the end of the questionnaire because of its private and personal nature.

After doing validity and reliability test, descriptive analysis was applied, followed by cross-tabulation analysis or contingency table analysis. Cross-tabulation analysis was used to evaluate the difference between customer groups with different loyalty level. Hypothesis test can tell if the difference in the percentages is statistically significant, and whether the variables are independent or not. To evaluate the statistical significance of cross-tabulation results, we use a hypothesis test called the chi-square test using SPSS 18.00.

Structural equation modeling (SEM) was used to establish the causal relations between the constructs and to test the

hypothesis, using AMOS 4 software. The result of the study is described in the next section.

The final step was planning some improvements for the supermarket by using Quality Function Deployment (QFD).

#### 4. RESULT AND DISCUSSION

In this research, a total 100 valid returns were collected through questionnaire survey. The first step is doing validity and reliability test. The result of this test shows that the questionnaire has already valid and reliable. After that, descriptive analysis was applied to capture respondent's profile and their behavior in shopping at supermarket.

The next step is doing cross-tabulation analysis and Structural Equation Modeling (SEM).

##### 4.1. Cross-tabulation Analysis

Cross-tabulation analysis or contingency table analysis was applied to evaluate the difference between customer groups with different loyalty level. Hypothesis test can tell if the difference in the percentages is statistically significant, and whether the variables are independent or not. To evaluate the statistical significance of cross-tabulation results, we use a hypothesis test called the chi-square test using SPSS 18.00. Here is the hypothesis proposed:

H<sub>0</sub>: Customers profile and customer loyalty group are not dependent.

H<sub>1</sub>: Customers profile and customer loyalty group are dependent.

The Chi-square statistic is the primary statistic used for testing the statistical significance of the cross-tabulation table. Chi-square tests whether or not the two variables are independent. If the variables are independent (have no relationship), then the results of the statistical test will be "non-significant" and "not able to reject the null hypothesis", meaning that there is no dependence between the variables.

If the variables are related, then the results of the statistical test will be "statistically significant" and we "are able to reject the null hypothesis", meaning that we can state that there is some relationship between the variables. Test results are "statistically significant" at the 0.05 or 5% level. Cross-tabulation test result could be seen in table 1.

Table 1. Cross-tabulation Test Demography Customers that Affect to Low Level and High Level Customer Loyalty Group

No	Variable	Expected Value count <5%	Sig. value	Result
1	Gender	0	0	Reject H <sub>0</sub>
2	Member / Non Member	0	0	Reject H <sub>0</sub>
3	Frequency	25	0	Cannot be analyzed
4	Occupation	0	0	Reject H <sub>0</sub>
5	Shopping expenditure (rupiah)	16.7	0.023	Reject H <sub>0</sub>

From cross-tabulation analysis, customer profiles that are related to customer loyalty group are gender, member or non member, occupation, and shopping expenditure. Customer group with high level loyalty is dominated by women, member card ownership, housewives and high amount of shopping expenditure.

##### 4.2. Structural Equation Modeling (SEM)

In this research, there are several hypotheses proposed:

H1. Perceived service quality (in terms of tangibles, reliability, responsiveness, assurance, and empathy) is positively related to customer satisfaction.

H2. Perceived service quality is positively related to customer loyalty.

H3. Customer satisfaction is positively related to customer loyalty.

The hypotheses were tested using Structural Equation Modeling (SEM) because of its ability to assess the relationships comprehensively. Moreover,

SEM techniques are particularly appropriate for the study of multiple dependence relationships such as those investigated in this research.

Model will be created using Maximum Likelihood (ML) estimate method. This method is more efficient if normality multivariate assume is fulfilled. Model will be tested whether model fit with data and to know correlation in construct. Variables which are used in this model are show in table 2.

Measurement model is a part of SEM that consists of latent variables and manifest variables (indicators) that will explain those latent variables. Measurement model aims to know how exactly manifest variables could explain latent variables. First, we analyse Goodness of Fit. SEM output shows the goodness of fit index in table 3, whereas the validity and reliability test of the model is reported in table 4. We can thus safely conclude that the model is valid (Hair *et al.*, 2006) and therefore, we can continue to analyze the outcome of the hypothesized effects.

After applying the measurement model, the next step is testing the model in structural model. Structural model is a construct that have cause effect relationship. So, there will be independent variable and dependent variable. In this model, customer satisfaction and customer loyalty will become dependent variable and customer loyalty will become independent variable. Figure 1 reveals the structural model applied in this research.

As can be seen in table 5, the strength of the relationships among the constructs was represented by the respective standardized path coefficient. Following Cohen's (1988) recommendations, standardized path coefficient ( $\beta$ ) with absolute values of less than 0.10 may indicate "small" effect; values of around 0.30 a "medium" effect; and "large" effects may be suggested by coefficients with absolute value of 0.50 or more.

The results showed that perceived service quality in terms of tangibles, reliability,

responsiveness, assurance, and empathy has a significant positive impact on customer satisfaction (0.598) and also on customer loyalty (0.752). Service quality in this supermarket has a strong impact to customer satisfaction (59.8%) and service quality has strong effect to customer loyalty (75.2%). However, customer satisfaction does not has a significant impact on customer loyalty.

In fact, we need to explicitly recognize that satisfaction is not a direct indicator of attitudinal loyalty because some satisfied customers still defect. Thus, satisfaction may not have been probed deep enough for us to be sure that there is a true loyalty. Instead, it may be necessary to look beyond satisfaction to other variables that strengthen retention (Kassim and Abdullah, 2010).

#### 4.3. Quality Function Deployment (QFD)

Because perceived service quality has a significant strong and positive impact on customer satisfaction and loyalty, in this section we will discuss about the service quality improvement. The planning of this improvement will apply Quality Function Deployment.

##### Identification of What

The priority of improvement is service quality variables with mean value below the grand mean value. These are service quality variables which are included in what element of House of Quality in QFD:

- Price suitability to product quality
- Product variation
- Service speed
- Employee willingness to help customers
- Personal attention to customer
- Attention to customer needs seriously

##### Identification of How

After determining "what" element, the next step is determining "how" element, because the main purpose of this method is to do improvement to increase each variable performance. These are "how" elements:

- Longer discount hours

- Seasonal discount
- Completing local products
- Giving reward to excellent employee
- Applied 4S
- VIP membership
- Sending latest promo information to all members
- Giving greeting card and shopping voucher to members who shop on their birthday
- Lucky draw event
- Events for housewife
- Cooperate with high class store to give some promotions

From the calculation of Importance of the “How”, we can determine the priority of “How” element. “How” with high importance (above the average) is: seasonal discount, completing local products and giving reward for excellent employee (sorted from the highest importance of how). Those variables will be finally detailed in part, process, and 5W (What, Where, Who, When, and Why) as the action plans for the supermarket. These improvements are expected to increase the level of service quality and then improve customer satisfaction and loyalty.

Table 2. Variables in Structural Equation Modeling (SEM)

Factor	Dimension	Variable	Code
Service Quality	Tangibles	Cleanliness supermarket physical facilities (building area, shelves).	SQ1
		Tidiness arrangement of goods in supermarket.	SQ2
		Employee appearance	SQ3
	Reliability	Price suitability to product quality	SQ4
		Product variation	SQ5
	Responsiveness	Accuracy of operating hours.	SQ6
		Speed of service	SQ7
		Willingness to help the customer	SQ8
	Assurance	Reputation or image	SQ9
		Employees are friendly when service the customer	SQ10
	Empathy	Personal attention to the customer	SQ11
		Attention to customer needs seriously	SQ12
Customer Satisfaction	Based on experience, you are happy to shop at this supermarket		S1
	This supermarket has met your expectations		S2
	You believe that shopping at this supermarket is a satisfying experience		S3
	Overall, you believe that this supermarket has been delighting customers		S4
Customer Loyalty	You always shop at this supermarket within a certain time period		L1
	You always buy new products offered in this supermarket		L2
	You always recommend this supermarket to others.		L3
	You always choose to shop at this supermarket rather than other competitors		L4

Table 3. Goodness of Fit Measurement Model

Goodness of Fit Index	Model Result	Cut Off Value	Information
Chi-square	173.731		
Probability	0.014	≥0.05	Not Good
RMSEA	0.061	≤ 0.08	Good
TLI	0.914	≥ 0.90	Good
CFI	0.939	≥ 0.90	Good
IFI	0.944	≥ 0.90	Good
ECVI	4.787	Small number & close to ECVI saturated	Good
AIC	363.781	Small number & close to ECVI saturated	Good
CMIN/DF	1.287	< 2	Good

Table 4. Validity and Reliability Test

Variables	( $\Sigma$ std. loading)	Composite Reliability	Variance Extracted
Tangibles	2.677	0.922	0.797
Reliability	1.825	0.644	0.385
Responsiveness	1.511	0.727	0.571
Assurance	1.869	0.933	0.874
Empathy	1.594	0.777	0.635
Satisfaction	3.581	0.942	0.804
Loyalty	3.044	0.851	0.594

Table 5. Regression Weight

Variable	Variable	P	Standardize	Result
RELIABILITY	<--- SERVICE QUALITY	***	1.009	Significant
TANGIBLES	<--- SERVICE QUALITY	0.633	0.084	Not Significant
RESPONSIVENESS	<--- SERVICE QUALITY	0.002	0.518	Significant
ASSURANCE	<--- SERVICE QUALITY	0.004	0.624	Significant
EMPATHY	<--- SERVICE QUALITY	***	0.794	Significant
SATISFACTION	<--- SERVICE QUALITY	***	0.598	Significant
LOYALTY	<--- SERVICE QUALITY	0.004	0.752	Significant
LOYALTY	<--- SATISFACTION	0.539	0.095	Not Significant

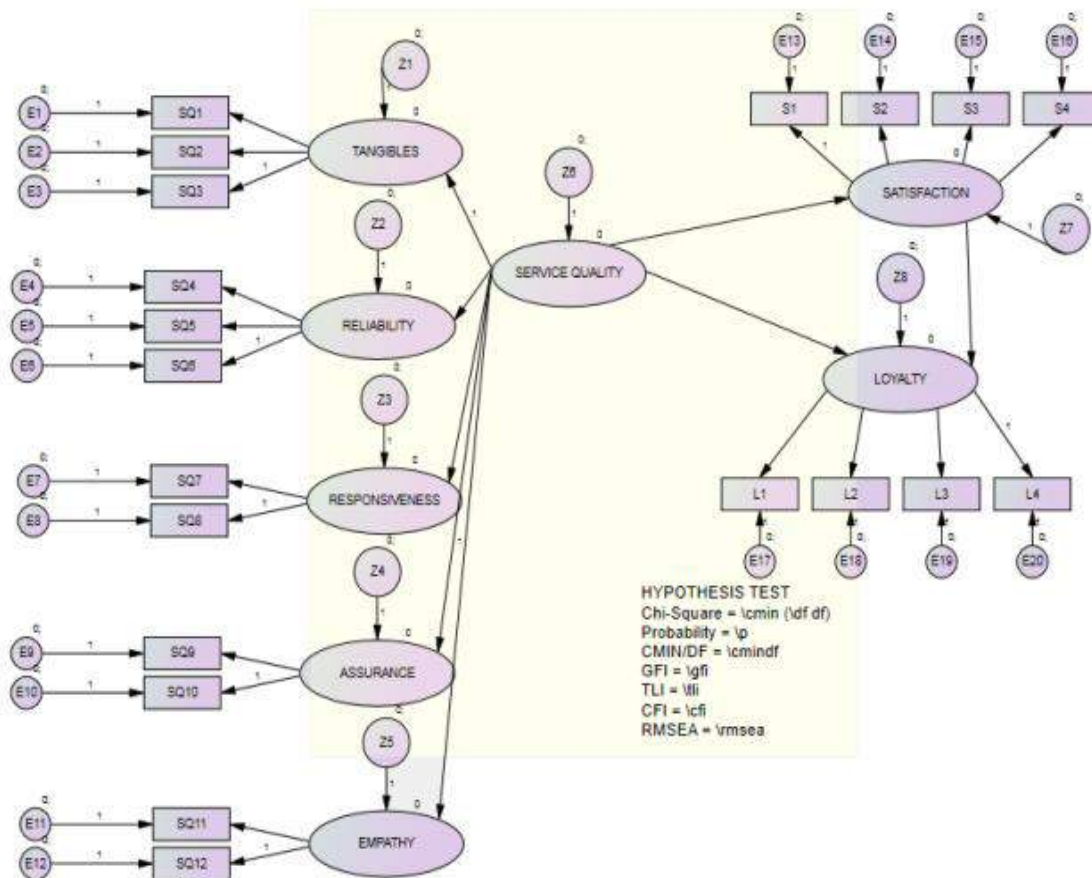


Figure 1. Structural Model

## 5. CONCLUSION

From the above discussion, the results show that perceived service quality in terms of tangibles, reliability, responsiveness, assurance, and empathy has a significant strong and positive impact on customer satisfaction (0.598) and also on customer loyalty (0.752), but customer satisfaction does not have a significant impact on customer loyalty.

The prioritized improvement strategies are seasonal discount, completing local products and giving reward for excellent employee (sorted from the highest importance of how). These improvements are expected to increase the level of service quality and then improve customer satisfaction and loyalty.

This study still suffers from a limitation in that it uses a convenience sampling technique. However, the satisfactory fit of the estimated model allows for the study to be a basis of a reliable comparison for future research.

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