THE INFLUENCE OF SERVICE QUALITY AND FACILITIES ON CUSTOMER SATISFACTION IN FORMING CUSTOMERS LOYALTY IN SBU FACTORY MAINTENANCE SERVICES (JPP) OF PT. PUPUK ISKANDAR MUDA

Nurasiah1, Mariyudi2*, Heriyana3

1,2,3 Master's Program in Management Science, Universitas Malikussaleh, Indonesia

*Corresponding author

ABSTRACT

This study examined and analyzed the effect of service quality and facilities on customer satisfaction in forming customer loyalty at SBU Factory Maintenance Services (JPP) of PT Pupuk Iskandar Muda. This study used primary data obtained by distributing questionnaires to all customers, as many as 85 respondents, with 23 questions asked using five Likert scales (strongly agree-strongly disagree). The data analysis tool used was SmartPLS. The results showed that service quality significantly and positively affected customer satisfaction and customer loyalty, and facilities significantly and positively influenced customer satisfaction and customer loyalty. Meanwhile, customer satisfaction negatively but significantly affected customer loyalty. The results of hypothesis testing show that service quality and facilities directly affected customer loyalty. Meanwhile, the test results indirectly revealed that customer satisfaction partially mediated service quality on customer loyalty.

Keywords: Service Quality, Facilities, Customer Satisfaction, Customer Loyalty.

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INTRODUCTION

In developing its business every year, the company must be capable of surviving and carrying out various developments and innovations, especially in providing the best service to its customers. Companies must be able to make customers their top priority to achieve business success. PT Pupuk Iskandar Muda, a company that produces fertilizer products, has developed a business strategy in factory maintenance support services, namely SBU Factory Maintenance Services (JPP). The development of this service sector starts with assets and facilities that have the opportunity to infiltrate the sales of factory maintenance services that can assist companies in their efforts to increase concerning resources and conditions in the area around the company that support them. The supporting assets are workshop units that consist of factory equipment industrial workshops, machine and welding workshops, instrument and electrical workshops, civil workshops (carpentry and woodworking, insulation and refractory stone), Agricultural Machine Tools manufacturing workshops, heavy equipment, and auxiliary equipment workshops. Services provided are factory equipment industry services by leasing heavy tools, valve repair services, machine shop services, welding services, scaffolding services, electric motor repair services, instrumentation services, and laboratory services to external parties by empowering human resources employees and hiring expert workers.
In empowering assets and facilities of the SBU Factory Maintenance Service (JPP), PT PIM, as the management unit, cooperates with external parties under management procedures. By implementing Business to Business, the company will be very profitable in the long run. In addition, Business to Business (B2B) also has characteristics in which suppliers and customers have close relationships (Marjani & Sutisna, 2019). This condition requires more intensive interactions between suppliers and customers (Nyadzayo et al., 2020). Intense interaction involvement with customers when purchasing can serve as an evaluation material in the purchasing process. As a result, it becomes the key to increasing a sustainable competitive advantage for the company (Youssef et al., 2018). Currently, the company is still limiting the number of jobs from external parties due to the limited number of workers caused by the routine workload, so that in completing the work must be adjusted to the availability of time. This factor is also supported by the number of company partner data, which shows that the number of partners who cooperate each year is still inconsistent, where 90.42% or 85 customers have collaborated repeatedly, and 9.57% or 9 customers only have one-time purchasing.

In the industrial world, loyal customers are more likely to focus on long-term benefits and engage in cooperative actions that are profitable to each other in a relationship (Lam et al., 2004). And loyal customers are also not too concerned with the prices set by suppliers but prioritize the value of the benefits they receive (Andersson & Karlström, 2014; Gummesson, 2002). Customer loyalty is customer behavior towards company services (Andreassen & Linestad, 1997). Loyal customers will return to collaborate repeatedly and recommend to their colleagues to use the company's services (Hennig-Thurau et al., 2004). Service quality positively and significantly affects consumer loyalty (Budinewita & Besra, 2020; Marjani & Sutisna, 2019). The implementation of service quality has a positive effect on customer loyalty, as evidenced by tangibility, reliability, assurance, responsiveness, and empathy having a significant and positive influence on the loyalty of the company's business partners (Ifediora et al., 2022). Companies need to increase their understanding of interacting relationships as Business to Business (B2B) companies and provide better service to retain their customers to remain loyal (Ali, 2020).

In the Business to Business (B2B) relationship, every quality of service provided must match and exceed the desired expectations so that customers are satisfied and loyal that service quality will have a positive and significant influence on customer loyalty (Nejad et al., 2014; Chenet et al., 2010; Bloemer & Kasper, 1995; Budianto, 2019). Good company service will increase customer satisfaction and consumer repurchase intentions (Nezami, Worm & Palmatier, 2018). With good service quality and maximum satisfaction, the company will be able to keep customers loyal and enable other consumers to work together to use the services provided by the company. Satisfaction is an assessment of the experience of interacting with service providers (Nejad et al., 2014). Satisfaction is based on a comparison between pre-purchase expectations and actual/post-purchase experience (Huang et al., 2019; Kotler, 2003). Service quality has a positive influence on customer satisfaction with a significant value. It means that the better the quality of service provided, the higher the customer's perceived satisfaction (Andreassen & Linestad, 1998; Maulidiah et al., 2023; Nuvriasari, 2012; Huang et al., 2019; Parasaruman et al., 1994; Budinewita & Besra, 2020).

Currently, facilities have become a primary concern for consumers in increasing their satisfaction, such as feeling comfortable with the service. If the services meet the requirements, they will satisfy customers (Oetama & Sari, 2017). In general, the facilities provided by the company have several forms, types, and benefits. Facilities can be in the form of buildings/places, tidiness, cleanliness, supporting equipment, communication media, and decorations that can be functioned and used according to their needs. With the availability of various kinds of facilities at the company, customers can feel comfortable and exceed their expectations by creating satisfaction and establishing good relationships. Facilities have a significant effect on customer satisfaction, where the more facilities available in a company, the higher the value of customer satisfaction (William & Purba,
2020; Riseetyawan et al., 2022; Lepkova & Uselis, 2013; Pantilu et al., 2018; Adawia et al. al., 2020. On the other hand, facilities do not affect customer satisfaction (Pamungkas et al., 2021; Rahman et al., 2017; Fadillah & Haryanti, 2021). Facilities also measure customer loyalty to the facilities provided by the company and will minimize the possibility of customers switching to other companies and reduce commitment-based capititation to service (Setyawan et al., 2022). With more complete and adequate facilities, the higher the effect on high customer loyalty (Sianipar et al., 2022; Nurcahyo et al., 2017; Khadafi et al., 2022; Sofyan et al., 2013; Dora, 2017; Ozdemir & Culha, 2009).

Therefore, based on the reference results in the research above, it is deemed necessary to conduct a study on the effect of service quality and facilities on customer satisfaction in forming customer loyalty to retain regular customers so they do not switch to other competing companies, and will later affect the company revenues.

METHODS

Data and Sample

The location of this research was carried out in Section SBU Factory Maintenance Services (JPP) of PT Pupuk Iskandar Muda. Domiciled in Krueng Geukueh, North Aceh, Indonesia. While the subject in this research is all partners or customers who have relationships in using the service SBU Factory Maintenance Services (JPP) of PT Pupuk Iskandar Muda. This study uses Census sampling, which takes the entire population as the sample. This technique is used when the population is less than 100 respondents (Potale & UHING, 2015). There are 85 respondents as the samples who are partners and use services.

Data Analysis Methods

The data analysis technique used is PLS (Partial Least Squares). According to Ringle et al. (2018), PLS is a data analysis technique with high collinearity through the dependent variable projection from an independent variable. Meanwhile, according to Henseler et al. (2009), PLS is used to avoid a problem with small sample size and can be applied to situations where other methods cannot. Thus, PLS (Partial Least Squares) is a statistical method based on variance, where matrix singularity will never occur. In addition, PLS can also be used on data with nominal, ordinal, interval, and ratio scales where the data does not have to be in large quantity. PLS also does not require data to be multinormal (Abdillah & Jogiyanto, 2015).

Measurement Models (Outer Model and Inner Model)

a) Convergent validity

An indicator is categorized to meet Convergent validity if it has a loading value ($\lambda$) above 0.70 (Hair et al., 2014). If one of the variable indicators has a loading value of <0.70, it must be dropped due to an indication of not being good enough to measure variables accurately.

b) Discriminant validity

Testing discriminant validity can be done by comparing the square root of the AVE so that each construct with a correlation value appears between the constructs in the model. Good discriminant validity appears in the AVE square root for each construct which is higher than the correlation between the constructs in the model (Fornell & Larcker, 1981). If the expected AVE value is > 0.5, then this value has good discriminant validity.
c) Internal Consistency

In this study the value of composite reliability and Cronbach alpha is > 0.70, as recommended by Hair et al. (2014). Based on the evaluation by testing the validity and reliability of the models mentioned above, the next step is compiling an equation path pattern that explains the relationship patterns between variables and each indicator (Ghozali & Latan, 2015).

The inner model analysis aims to ensure that the structural model built is robust and accurate that can be evaluated by looking at the R2 value of the endogenous variables and the path coefficient parameter. According to Ghozali (2015), the Inner model is measured by looking at the percentage of variance that can be explained by looking at the R-square value (0.75/strong, 0.50/medium, and 0.25/weak) and R-square value 0.67, 0.33 and 0.19 indicate that the models are strong, moderate, and weak. The inner model/structural model evaluation model appears in several test indicators below:

1. Coefficient of Determination (R2)

   The structural model test using PLS can be started by looking at the R-square value for each endogenous variable, which becomes the predictive power of the structural model. Changes in R-square values can be used to explain whether the influence of certain exogenous latent variables on endogenous variables will have a substantive effect. The R-square values are 0.75, 0.50, and 0.25. It concludes that the models are strong, moderate, and weak. The results of the PLS R-square represent the amount of variance of the construct described by the model. The effect of f2 can be calculated by the following formula:

   \[ f_2 = \frac{R^2_{\text{included}} - R^2_{\text{included}}}{1 - R^2_{\text{included}}} \]

2. Predictive relevance (Q2)

   Predictive relevance is to measure how well the observed values are generated from the model and the results on the parameter estimates. If the Q-Square value is higher than 0 (zero), it will show that the model has a predictive relevance value, and if the Q-square is less than 0, it will show that the model lacks predictive relevance.

Hypothesis Tests

Furthermore, Husein (2015) suggests that, in general, an explanatory research method is a method approach that uses Partial Least Squares (PLS) because there is hypothesis testing and to test hypotheses can be seen from the t-statistics and probability values. The hypothesis testing uses statistics with an alpha of 5%, and the t-statistic value is 1.96. So, the criteria for acceptance/rejection of the hypothesis are that Ha is accepted while Ho is rejected (t-statistic is > 1.96). In the t-test, if t-count > t-table at a specific significance level, this variable will have a significant effect. To reject/accept the hypothesis using probability, Ha is accepted when the value is <0.50. In other words, the P-Value variable is the same, or <5% can be declared as a variable that has a significant effect (Ghozali, 2015).

Mediation Effect Tests

Baron & Kenny (1986) first introduced the mediation model and then developed by Preacher et al. (2007), which explains the mediation effect test path, where the variable M has a mediating effect, X significantly affects Y, X significantly affects M. Thus, M significantly contributes to the variability in Y and X effect on Y decreases when M is entered simultaneously with X as a predictor of Y (Preacher & Hayes, 2008). According to Hayes and Preacher (2014), if (a) and (b) are significant while (c') is not significant,
customer satisfaction is declared as a full mediation variable. If (a) and (b) are significant and (c') is also significant while the coefficient (c') is lower (decreases) than (c), customer satisfaction is a partial mediation variable (partial mediation). If (a) and (b) are significant and (c') is also significant, the coefficient (c') is almost the same as (c), and customer satisfaction is not a mediating variable. If one (a) or (b) or both are not significant, then it is claimed not as a mediating variable.

RESULTS AND DISCUSSION

Descriptive Analysis for Respondents

Based on gender classification, all respondents are male (85 respondents, or 100%). Based on the type of work needed, 34 respondents (40%) used maintenance services, 19 respondents (22.4%) used heavy equipment & equipment rental services, 15 respondents (17.6%) used sales services, 9 respondents (10.6%) used fabrication services, 6 respondents (7.1%) used labor services, and 1 respondent (1.2%) used construction & civil services and inspection services. Based on their experience of using services, more respondents often use services (38 people or 44.7%). Only 26 people (30.6%) used services more than 2 times, and only 21 people (24.7%) used the service for the 2nd time.

Evaluating Measurement Model (Outer Model)

Model evaluation through Smart PLS examines the outer model and inner model (Henseler et al., 2009). The convergent validity is assessed from the loading factor > 0.70 and AVE and community > 0.50. Outer model analysis can be performed to examine the validity and reliability of the model.

From the results of the analysis output in the figure 2 regarding loading factor constructs results with reflective indicators testing the outer model and the outer loading values of each indicator on its latent variables, all constructs with reflective indicators produce a loading factor value > 0.70, which means all indicators of the construct are valid.

![Figure 2. Construct Factor Loading Results with Reflective Indicators for Outer Model Testing](image-url)
Based on Table 2 above, the results of the Average Variance Extracted (AVE) values are good enough, or above 0.50 as recommended by Larcker (1981).

Based on Table 3 above, the results of all latent variable constructs have a Composite Reliability value above 0.70. Therefore, there are no problems in the formed Reliability and unidimensional.

1. Coefficient of determination ($R^2$)

Based on the results in Table 4 above, the latent $R$-square variable of Customer Satisfaction (Y1) is 0.966, or 96%, and the latent $R$-square variable of Customer Loyalty (Y2) is 0.993, or 99%. It indicates that the model is significant, with the $R$-square value of 96% and 99% of the variance of the Service Quality variable (X1) and Facilities variable (X2). Meanwhile, the rest of the 4% and 1% are explained by other variables outside this model.

2. Predictive relevance ($Q^2$)

The equation is as follows:

$$Q^2 = 1-(1-R_1^2) (1-R_2^2) \ldots = 1-(1-0.966) (1-0.993) = 0.999$$

The results of the calculation of the test equation show that the Q-Square Predictive Relevance is 0.99 or 99%. It shows that the model has a very relevant predictive value because the Q-Square value is higher than 0 (zero) (Ghozali & Latan, 2015).
Hypothesis Test Results

The results of data processing using the Smart PLS program version 3.2.9 through the Calculation Bootstrapping process are in the following figure and table:

### Table 5.
Path Analysis Results (Bootstrapping)

<table>
<thead>
<tr>
<th>Latent Variables Constructs</th>
<th>Original Sample</th>
<th>T-Statistics</th>
<th>P-Values</th>
<th>Hypothesis Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Quality (X1) -&gt; Customer Satisfaction (Y1)</td>
<td>0.658</td>
<td>2.606</td>
<td>0.009</td>
<td>Accepted</td>
</tr>
<tr>
<td>Facilities (X2) -&gt; Customer Satisfaction (Y1)</td>
<td>0.329</td>
<td>1.293</td>
<td>0.197</td>
<td>Rejected</td>
</tr>
<tr>
<td>Service Quality (X1) -&gt; Customer Loyalty (Y2)</td>
<td>1.680</td>
<td>9.556</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>Facilities (X2) -&gt; Customer Loyalty (Y2)</td>
<td>0.973</td>
<td>7.310</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>Customer Satisfaction (Y1) -&gt; Customer Loyalty (Y2)</td>
<td>-1.725</td>
<td>7.246</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Source: Data from the analysis of the Smart PLS Program Version 3.2.9, 2023

The Effect of Service Quality on Customer Satisfaction

There is a path coefficient value of 0.658 and a t-count value of 2.606, and the t-count value with its influence is positive and significant (2.606; p < 0.05) or > 1.96. In other words, service quality significantly and positively affects customer satisfaction. So, H1 is accepted.

This is influenced by several factors at SBU Factory Maintenance Services (JPP) of PT Pupuk Iskandar Muda so that the company is able and fulfills its responsibilities to provide maximum services to internal and external parties for increase company profits by empowering existing resources. SBU Factory Maintenance Services (JPP) of PT Pupuk Iskandar Muda has also been able to meet customer needs providing other supporting services and equipment.


The Effect of Facilities on Customer Satisfaction

The analysis results reveal that the path coefficient value is 0.329, and the t-count value is 1.293. The t-count value with the effect is positive but insignificant (1.293; p < 0.05) or > 1.96. In other words, facilities affect customer satisfaction. This is influenced by several factors in meeting needs customers who have the lowest value among other variables. This matter because SBU Factory Maintenance Services (JPP) of PT Pupuk Iskandar Muda has not fully complied customer needs, both in terms of time and number of workers limited. So, that H2 is rejected. It is in line with research conducted by Srijani and Hidayat (2017), Wibisono & Achsa (2020), Riseetyawan et al. (2022), William & Purba (2020), Lepkova & Uselis (2013), Mulyasari et al., (2022), Pantilu et al., (2018), Sakti & Mahfudz (2018), Adawia et al., (2020), Harfika & Abdullah (2017), Ilyas & Mustafa (2022), and Zulpiani & Ridho (2016).

The Effect of Service Quality on Customer Satisfaction

Based on the analysis, the path coefficient value is 1.680, and the t-count value is 9.556, which reveals that the t-count value with its influence is positive and significant (9.556; p < 0.05) or > 1.96. In other words, service quality significantly and positively affects customer loyalty. This is influenced by several factors that exist Commitment to provide the...
right service on time, willingness providing information on when services will be provided, prioritizing customer convenience, availability of accurate work progress reports and maintain confidentiality in transactions and carrying out work in accordance with fair terms and conditions. So, H3 is accepted. It is in line with research conducted by Candi & Kahn (2016), Nejad et al. (2014), Budinewita & Besra (2020), Marjani & Sutisna (2019), Ifediora et al. (2022), Chenet et al., (2010), Bloemer & Kasper, (1995) and Budianto, 2019).

The Effect of Facilities on Customer Loyalty

Based on the analysis results, the path coefficient value is 0.973, and the t-count value is 7.310, which means that the t-count value with its influence is positive and significant (7.310; p <0.05) or > 1.96. In other words, facilities significantly and positively affect customer loyalty. This is influenced by several factors, namely the available facilities SBU Factory Maintenance Services (JPP) of PT Pupuk Iskandar Muda workshop, availability of equipment with the right technology and provision of services provided both internally and externally the company and the conditions of the workshop are well organized and neat. So, H4 is accepted. Research by Sianipar et al. (2022), Khadafi et al. (2022), Sofyan et al. (2013), Setyawan et al. (2022), Nurcahyo et al. (2017), and Nobar & Rostamzadeh (2018) support the results of this study.

The Effect of Customer Satisfaction on Customer Loyalty

The analysis results show that the path coefficient value is -1.725 and the t-count value is 7.246, which indicates a negative and significant influence (7.246 ; p <0.05) or > 1.96. In other words, customer satisfaction negatively but significantly affects customer loyalty. This is influenced by several factors that SBU Factory Maintenance Services (JPP) of PT Pupuk Iskandar Muda provide services and provide facilities according to demand and customer company needs. So, H5 is accepted. This is in line with research conducted by Hafidah (2022), Candi & Kahn (2016), Lee et al. (2018), Nejad et al. (2014), Rauyruen & Miller (2007), Budinewita & Besra (2020), Kim et al. (2018), Kasiri et al. (2017), and Dam & Cuong (2021).

Mediation Test Results

Mediation testing uses the bootstrapping method using Smart-PLS 3.2.9, and there is a mediating variable, namely customer satisfaction, with 2 mediation effect hypotheses (H6 and H7). The results of the mediation effect tests are in the following table:

<table>
<thead>
<tr>
<th>Latent Variables Constructs</th>
<th>Original Sample</th>
<th>T Statistics</th>
<th>P Values</th>
<th>Mediation Effect Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Quality (X1) --&gt; Customer Satisfaction (Y1) --&gt; Customer Loyalty (Y2)</td>
<td>-1,136</td>
<td>2,523</td>
<td>0,012</td>
<td>Significant</td>
</tr>
<tr>
<td>Facilities (X2) --&gt; Customer Satisfaction (Y1) --&gt; Customer Loyalty (Y2)</td>
<td>-0,568</td>
<td>1,277</td>
<td>0,202</td>
<td>Insignificant</td>
</tr>
</tbody>
</table>

Source: Data from the analysis of the Smart PLS Program Version 3.2.9, 2023
Customer Satisfaction Mediates Between Service Quality and Customer Loyalty

Based on the data analysis results, the direct effect test from bootstrapping show that the T value is (2.523), the P value is (0.012). The results show that the effect of service quality on customer loyalty through the mediation of customer satisfaction is (-1.136) and a significant p-value of 0.012 <0.05. Then H6 = Customer satisfaction plays a significant role as a variable that mediates the effect of service quality on customer loyalty. It is in line with research conducted by Caruana et al., 2000; Olorunniwo & Hsu, 2006; Dhandabani, 2010; Ilias & Panagiotis, 2010; Izogo & Ogba, 2015.

The results of the mediation test obtain values (a) and (b), and (c) significant (P <0.05). Thus, it shows that customer satisfaction can mediate the effect of service quality on customer loyalty, with the results of the mediation test of customer satisfaction said to be a partial mediation variable (partial mediation).

Customer Satisfaction Mediates Between Facilities and Customer Loyalty

Based on the data analysis results, the results of the direct effect test from bootstrapping show that the T value is (1.227), and the P value is (0.202). These results indicate that the effect of facilities on customer loyalty through the mediation of customer satisfaction is (-0.568) and has a significant p-value (0.202 > 0.05). Then H7 = Customer satisfaction is insignificant. So, it did not act as a variable that mediated the effect of facilities on customer loyalty. It is relevant to research by Akbar & Ariansyah (2021) that did not directly show a significant influence between facilities and infrastructure on consumer loyalty through customer satisfaction.

The results of the mediation test obtained values of (a) not significant because of the P value (> 0.05), (b) significant, and (c) significant (P< 0.05). It means that the value of customer satisfaction cannot mediate the effect of facilities on customer loyalty because one value, namely (a) is insignificant, whereas (b) and (c) are significant. Thus the mediation test of the influence of customer satisfaction mediates between facilities and customer loyalty is declared not as a mediating variable.

CONCLUSIONS

This study examined and analyzed the effect of service quality and facilities on customer satisfaction in forming customer loyalty at SBU Factory Maintenance Services (JPP) of PT Pupuk Iskandar Muda. We utilised SmartPLS for the purpose of confirmatory factor analysis to create, verify and confirm the effectiveness of our measurement models. We also used a structural equation model to examine whether the measurement model was fit for purpose. This study used primary data obtained by distributing questionnaires to all customers, as many as 85 respondents, with 23 questions asked using five Likert scales (strongly agree-strongly disagree). Our results reinforce our 7 hypotheses and they also suggest that our model is fit for purpose due to its correspondences.

Based on the results, it concludes that service quality significantly and positively affects customer satisfaction and customer loyalty. Furthermore, facilities positively but insignificantly affect customer satisfaction and significantly and positively affect customer loyalty. Meanwhile, customer satisfaction has a negative but significant effect on customer loyalty. The results of hypothesis testing show that the quality of services and facilities directly affects customer loyalty. Meanwhile, the test results indirectly show that partial mediation of customer satisfaction can mediate the quality of services and facilities on customer loyalty. However, customer satisfaction mediates between facilities and customer loyalty and does not significantly affect indirect
influence and is not said to be a mediating variable.

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*Program Magister Ilmu Manajemen, Fakultas Ekonomi dan Bisnis, Universitas Malikussaleh*


