EVALUATION OF SERVICE QUALITY
AND INNOVATION OF BOGOR CITY PUBLIC
SERVICE MALL

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Abstract: The purpose of this study was to determine the effect of service quality and innovation on visitor satisfaction and loyalty in Bogor City Public Service Mall. Another thing that also needs to be answered from this study is whether there is an effect of customer satisfaction on loyalty in using the services of the Bogor City Public Service Mall. This study used primary data that were collected via interviews and questionnaires distribution to 81 MPP Kota Bogor visitors who were selected by purposive sampling method. The analysis used in this research is modeling analysis using Structural Equation Modeling with the Partial Least Square (PLS) method. The results of this study indicate that service quality has a significant effect on visitor satisfaction and loyalty. Another result is that innovation has a significant effect on visitor satisfaction, but has no significant effect on visitor loyalty. This study also shows that visitor satisfaction has a significant effect on visitor loyalty. Further research is needed with a broader model to explain the diversity of satisfaction and loyalty variables. It is also necessary to conduct a study comparing the services in the Bogor City MPP with the services in the original institution in terms of the level of satisfaction and loyalty of the community.

Public Service Mall (MPP) is a form of integrated public service from several institutions such as the Ministry, Local Government, BUMN, BUMD, and the private sector. MPP is expected to provide efficient services to the community. Service efficiency can be realized by harmonizing operational system procedures, harmonizing service standards, utilizing single data, and strengthening information technology-based services (e-services).

Based on Kotler and Keller (2009), innovation is not only limited to developing new products or services. Innovation also includes new business thinking and new process mechanisms for companies to adapt to dynamic environments. According to Muluk (2008), Innovation in the public sector is
carried out to increase efficiency and reduce costs, considering that public sector organizations always face scarce resources and budget constraints. Innovation can also be used to develop the use of Information and Communication Technology (ICT) to improve the quality of public services, public participation, and transparency. Public Service Mall was formed to provide public services that provide a variety of public service options, a variety of ICT-supported service methods, and increase budget efficiency.

Research related to service quality on satisfaction and loyalty has previously been conducted by Ristanti et al. (2011), Ashari et al. (2013), Despriyatmoko et al. (2016), and Adil et al (2016). The four of them want to know the dimensions of service quality that affect customer satisfaction and loyalty. The research on the effect of innovation on satisfaction and loyalty has also been conducted by Muslichati, et al (2015), Sinurat et al. (2017), and Sasmiyarsi et al. (2019). Specific research on service quality and innovation of Bogor City MPP on customer satisfaction and loyalty has never been done before, so research on the effect of service quality and innovation of MPP Bogor City on quality and consumer loyalty needs to be done.

This study aims to: (1) determine the effect of service quality at MPP Bogor City on visitor satisfaction, (2) determine the effect of innovation in MPP Bogor City on visitor satisfaction, (3) determine the effect of visitor satisfaction on visitor loyalty at MPP Bogor City, (4) knowing the effect of service quality on visitor loyalty at MPP Bogor City, and (5) knowing the effect of innovation on visitor loyalty at MPP Bogor City.

The results of this study are expected to determine the extent of the relationship between service quality and innovation on visitor satisfaction and loyalty, as well as the relationship between satisfaction and visitor loyalty. Thus, the results of this study will help the management of MPP Bogor City to improve service strategies, especially in improving service quality and increasing innovation to increase visitor satisfaction and loyalty.

**HYPOTHESIS DEVELOPMENT**

**Relationship between Service Quality and Satisfaction**

Alruwaiea et al. (2020), examines the factors that influence the public using e-Government services by integrating Social Cognitive Theory, Expectation Confirmation Theory, DeLone model, McLean IS, and E-S-QUAL towards 471 British citizens who are involved in online public services. The results of his research concluded that service quality has a significant effect on the satisfaction of users of e-Government electronic services in the UK.

H1: Service quality has a significant effect on satisfaction.

**Relationship between Innovation and visitor satisfaction**

Research that explores the relationship between innovation and customer satisfaction has been conducted on customers in Swedish hotels by Wikhamn (2019). The findings show that the relationship between innovation and customer satisfaction depends on sustainable HR practices in the organization. The study concluded that sustainable HR practices increase the ability of hotels to innovate and have satisfied customers.

H2: Innovation has a significant effect on visitor satisfaction.

**Relationship between Service Quality and visitor loyalty**

Research on the Effect of Service Quality on Loyalty was conducted by Zhang et al. (2019), on transportation services in China which include 58 public transportation operators and is spread across 13 cities. The results of this study concluded that aspects of service quality such as convenience, safety, reliability, and comfort have a significant effect on passenger loyalty.

H3: Service quality has a significant effect on visitor loyalty.
Relationship between Innovation and visitor loyalty

YuSheng and Ibrahim (2018), researched the Effect of Service Innovation on Bank customer loyalty. YuSheng’s research results indicate that service innovation has a direct effect on bank customer loyalty.

H4: Innovation has a significant effect on visitor loyalty.

Relationship between Satisfaction and visitor loyalty

Kasiri et al. (2017) in their research analyzed the direct and indirect impacts of service standardization and customization on customer satisfaction and loyalty related to service quality. The results showed that: (1) integration of standardization and customization in various services is very important to improve service quality; (2) standardization has a higher impact on service quality when compared to customization; (3) functional quality has a higher effect on customer satisfaction when compared to technical quality; and (4) customer satisfaction has a significant effect on customer loyalty. H5: Satisfaction has a significant effect on visitor loyalty.

METHOD

Framework

MPP Bogor City as a service facility owned by the Bogor City Government is required to provide quality, safe, easy, and comfortable public services so that the public can obtain their public rights. Feedback from visitors in the form of perceptions of aspects of service quality, innovation, satisfaction, and loyalty is an important input for public service malls that have been operating for one year. This study uses a structural equation modeling approach to quantitatively measure visitors’ perceptions of service quality, innovation, satisfaction, and loyalty. The results of the analysis of the influence of service

Figure 1. Research Framework
quality and innovation on visitor satisfaction and loyalty are expected to have implications for policies and improvements in the performance of the Bogor City public service mall in the future. The research framework is presented in Figure 1.

**Research variable**

The research variable is a concept that has value and can be measured. The variables that will be used in this study consist of latent variables and manifest variables as indicators of latent variables. Based on the formulation of the proposed problems, in this study, there are four latent variables analyzed, namely service quality, innovation, satisfaction, and loyalty. Each of these variables will be reflected by several indicators. Latent variables and research indicators are presented in Table 1.

In this study, the initial SEM model was adopted from the research of Adil et al. (2016), on the effect of service quality and price on visitor satisfaction and loyalty at Bogor City Hospital. Service quality and innovation are predicted to affect visitor satisfaction, while service quality, innovation, and satisfaction variables are predicted to affect visitor loyalty. The initial research model is presented in Figure 2.

<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>Indicator</th>
<th>code</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tangible</strong></td>
<td>Cleanliness of the room</td>
<td>TG1</td>
</tr>
<tr>
<td></td>
<td>Supporting facilities</td>
<td>TG2</td>
</tr>
<tr>
<td></td>
<td>Lounge comfort</td>
<td>TG3</td>
</tr>
<tr>
<td></td>
<td>Officer appearance</td>
<td>TG4</td>
</tr>
<tr>
<td><strong>Reliability</strong></td>
<td>The presence of employees is ready at any time</td>
<td>RB1</td>
</tr>
<tr>
<td></td>
<td>The clerk arrived on time at the location</td>
<td>RB2</td>
</tr>
<tr>
<td></td>
<td>Employee services do not discriminate against visitors</td>
<td>RB3</td>
</tr>
<tr>
<td><strong>Service quality</strong></td>
<td>The presence of employees is ready at any time when service activities are carried out</td>
<td></td>
</tr>
<tr>
<td><strong>Responsiveness</strong></td>
<td>Officer service speed</td>
<td>RP1</td>
</tr>
<tr>
<td></td>
<td>Employees are responsive to customer complaints</td>
<td>RP2</td>
</tr>
<tr>
<td></td>
<td>Employee readiness in providing solutions to the customer</td>
<td>RP3</td>
</tr>
<tr>
<td><strong>Assurance</strong></td>
<td>The clerk is friendly in providing service</td>
<td>AR1</td>
</tr>
<tr>
<td></td>
<td>The clerk is polite in providing services</td>
<td>AR2</td>
</tr>
<tr>
<td></td>
<td>Employee technical knowledge skills</td>
<td>AR3</td>
</tr>
<tr>
<td></td>
<td>The clerk always provides services thoroughly</td>
<td>AR4</td>
</tr>
<tr>
<td><strong>Empathy</strong></td>
<td>Easy to contact service personnel</td>
<td>EP1</td>
</tr>
<tr>
<td></td>
<td>The officer is responsible for the quality</td>
<td>EP2</td>
</tr>
<tr>
<td></td>
<td>The clerk is attentive in providing service</td>
<td>EP3</td>
</tr>
<tr>
<td><strong>Innovation</strong></td>
<td>A complete range of services</td>
<td>IN1</td>
</tr>
<tr>
<td></td>
<td>Ease of service through the MPP City Bogor website</td>
<td>IN2</td>
</tr>
<tr>
<td></td>
<td>Ease of service via the Bogor City MPP mobile application</td>
<td>IN3</td>
</tr>
<tr>
<td></td>
<td>Integration of services from various institutions</td>
<td>IN4</td>
</tr>
</tbody>
</table>
Types and Sources of Data

The types of data collected in this study are primary data and secondary data. Primary data in this study is data obtained from visitors to the Bogor City MPP. The data were obtained through filling out online questionnaires regarding the variables of service quality, innovation, satisfaction, and loyalty. Secondary data is data obtained from MPP Kota Bogor, including service data such as types of services, number of visits, service procedures, and MPP facilities. Secondary data were also obtained from the internet, literature studies, and previous research related to this research.

Population and Sample

The population in this study were all visitors to the Bogor City MPP since it started operating until July 28, 2020, with a total visitor number of 55,901 people. In this study, the sample was taken using a purposive sampling method that focuses on the latest visitors, namely in the time range July 10 - July 28, 2020. In this range, 392 potential respondents were obtained. Of the 392 visitors, 110 respondents filled out a questionnaire. This questionnaire is verified and obtained 81 questionnaires that can be processed. Following the analysis tools used, namely Structural Equation Modelling-Partial Least Square (SEM-PLS), the minimum sample size is 10 times the number of paths built for structural model testing (Abdillah and Hartono 2015). In this research model, there are 5 lines, which means that a minimum of 50 samples is needed. The number of samples of 81 samples obtained from this study is sufficient.
Method of Analysis

The data analysis tool used in this research is Structural Equation Modeling Partial Least Square (SEM-PLS). PLS is a causal model approach that aims to maximize the variance of the latent variable criteria which can be explained (explained variance) by the predictor latent variables. PLS can work efficiently with small sample sizes and complex models. The assumption of data distribution in PLS is relatively looser because it does not require a normal distribution and can manage multicollinearity problems. PLS can analyze reflective and formative measurement models as well as latent variables with one indicator without causing identification problems (Sholihin and Ratmono, 2013; Abdillah and Hartono, 2015).

RESULTS

Based on the results of the study, it is known that respondents who visited the Bogor City MPP were dominated by women with a percentage of 61.7% and male visitors 38.3%. The highest percentage of respondents was in the range 41-50 years, namely 38.3%, followed by the age range 31-40 years, 21-30 years, 51-60 years, and >60 years with the consecutive percentages, 34.6%, 17.3%, 7.4%, and 2.5%.

In the education variable, respondents were dominated by strata 1 at 56.8%. Respondents’ occupations were 43.2% housewives, 24.7% private employees, 19.8% self-employed, civil servants 7.4%, other jobs 2.5%, and students 2.5%. Respondents were dominated by visitors who live in Bogor, namely 93.8% and the remaining 6.2% who do not live in Bogor. Based on the economic level variable, the respondent has characteristics with the total expenditure of IDR 1,500,100 - IDR 3,000,000 of 36%, IDR 500,000 - IDR 1,500,000 of 32%, > IDR 500,000 of 15%, IDR 3,000,100 - IDR 5,000,000 of 9%, and > IDR 5,000,000 of 8%. The frequency of respondent visits to the Bogor City MPP was 59% one time, 20% two visits, 6% three visits, and 15% more than three visits.

PLS model evaluation is done by evaluating the outer model and inner model. The outer model is a measurement model to assess the validity and reliability of the model. Through the algorithm iteration process, the measurement model parameters (convergent validity, discriminant validity, composite reliability, and Cronbach’s alpha) were obtained, including the R² value as a parameter of the prediction model accuracy. The inner model is a structural model to predict causality between latent variables. Through the bootstrapping process, the t-count parameter is obtained to predict a causality relationship.

According to Abdillah and Hartono (2015), although the reflective measure of the indicator is said to be valid if it has an outer loading e" of 0.7, researchers should not remove indicators that have an outer loading between 0.5-0.7 as long as the AVE score and the variable communality are more than 0.5. Factor load weights of 0.50 or more are considered to have sufficiently strong validity to explain latent constructs (Hair et al., 2014). According to Sharma (1996), the weakest acceptable outer loading is 0.40 so that in this study, indicators that have an outer loading above 0.4 are still used. The results of the outer loading output can be seen in Figure 3.

The result of outer loading output is strengthened by the next step, which is to ensure that the AVE value and the communality of all latent variables have a value above 0.5. The AVE and communality values of all latent variables can be seen in Table 2. The results of data processing show that all latent variables in the model have AVE and communality values of more than 0.5, which means that all indicators are convergent valid.

Testing the discriminant validity of the outer model is done by comparing the correlation value of the latent variable with the AVE root. Based on Table 3, it is known that the majority of the AVE Root values are greater than the correlation values be-

### Table 2. Convergent validity test results

<table>
<thead>
<tr>
<th>Variable</th>
<th>AVE</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality</td>
<td>0.545393</td>
<td>0.545393</td>
</tr>
<tr>
<td>Innovation</td>
<td>0.671042</td>
<td>0.671043</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.769377</td>
<td>0.769377</td>
</tr>
<tr>
<td>Loyalty</td>
<td>0.666343</td>
<td>0.666343</td>
</tr>
</tbody>
</table>
This indicates that the latent variable has fairly high discriminant validity.

In addition to the validity test, a reliability test was also conducted to measure the internal consistency of the measuring instrument. Reliability shows the accuracy, consistency, and accuracy of a measuring instrument in making measurements. In this study, a variable is said to have sufficient reliability if the variable has a composite reliability value and Cronbach’s alpha is greater than 0.7. Table 4 presents the results of the variable reliability test for each of the latent variables in the model.

Based on Table 4, the test results show that all latent variables in the study all have composite reliability and Cronbach’s alpha values greater than 0.7. These results can conclude that the indicators used in latent variables already have strong reliability or can measure the variables.

The structural model in PLS is evaluated using $R^2$ for the dependent variable, path coefficient value,
and $t_{\text{count}}$ for each path to test the significance between variables in the model. Table 5 presents the $R^2$ value for the dependent variable of the study, namely the satisfaction variable and the loyalty variable.

From Table 5, it is known that the $R^2$ value in the satisfaction variable is 0.6922 and the $R^2$ value in the loyalty variable is 0.6866. This shows that the independent variables (service quality and innovation) can explain the moderate diversity of visitor satisfaction, which is 69.22%. The remaining 30.78% is explained by other variables outside the model. The variables of service quality, innovation, and satisfaction can explain the moderate diversity of loyalty variables, which is 68.66%. The remaining 31.34% is explained by other variables outside the model.

The path coefficient value shows the level of significance in testing the hypothesis. The path coefficient score shown by the $t_{\text{count}}$ must be above the $t_{\text{table}}$ value with an alpha significance level of 5%, which is 1.96. Hypothesis testing is done by looking at the results of the bootstrapping analysis on the path coefficient, namely by comparing the $t_{\text{count}}$ with the $t_{\text{table}}$. When the value of $t_{\text{count}} > t_{\text{table}}$ (1.96), then the formulation of the hypothesis is accepted, but if the value of $t_{\text{count}} < t_{\text{table}}$ (1.96), then the formulation of the hypothesis is rejected. The results of the analysis using the bootstrapping process on the path coefficient with a 95% confidence interval are presented in Figure 4.

![Figure 4. The Output of the Bootstrapping Path Coefficient](image)

Figure 4 shows the $t_{\text{count}}$ value of all paths in the structural model of the study. In summary, the results of the $T_{\text{test}}$ analysis output on the path coefficient are presented in Table 6.
DISCUSSION

In the results of the T-test analysis output on the path coefficient (Table 6), the variable service quality has a significant effect on visitor satisfaction. Strengthening the dimensions of service quality includes physical aspects (tangible) in the form of the cleanliness of the room, adequate facilities, comfort in the waiting room, appearance of officers, playroom, and reading corner; reliability aspects such as friendly and courteous officers, service speed of officers, and employees who are responsive and always provide a solution; assurance aspects in the form of friendly, polite, and skilled officers; aspects of empathy such as ease in contacting officers and services regardless of social status. This is in line with previous research conducted by Alruwaia et al. (2020), who stated that service quality has a significant effect on user satisfaction of UK government electronic services.

The innovation variable has a significant effect on visitor satisfaction. Public service innovation can increase MPP visitor satisfaction so that management needs to increase innovation in the form of a variety of complete services, easy access to the Bogor City MPP website, ease of MPP application services, and integrated services of various institutions. This is in line with research on hotel customers in Sweden by Wikhamn (2019), which states that innovation has a significant effect on customer satisfaction.

The collection of various services in one place in the form of a mall is one form of public service innovation that makes it easier for people to obtain service rights. The availability of website and application services means that people do not need to come to the location to get queue numbers and information about the requirements needed. The website and the MPP City Bogor application provide detailed information about things needed before coming to MPP as well as providing information about the number of customers that can be served on that day so that there is no accumulation of queues at the Bogor City MPP.

The satisfaction variable has a significant effect on visitor loyalty. Visitors who are satisfied with the Bogor City MPP service tend to come back again. This is in line with various similar studies, one of which is the research result of Zhang et al. (2019), on public transportation services in China which states that the customer satisfaction variable has a significant effect on loyalty.

The innovation variable has no significant effect on loyalty. This is different from the findings of YuSheng and Ibrahim (2018), in their research on the banking sector in Ghana which shows that service innovation has a significant effect on customer loyalty. The innovative form of Bogor City MPP in the form of integrated services, websites, and applications has not had enough effect on loyalty. Apart from the diversity of services in one place, website and application services are not only available at MPP Kota Bogor. Several main institutions outside the Bogor City MPP have also used website and application services to make it easier for the community, for example, the population services at the Population and Civil Registry Office already have the Kancil application, West Java Samsat has the Sambara application, and BPJS has the JKN mobile application.

The service quality variable has a significant effect on visitor loyalty, which means that improving service quality at MPP Bogor City can increase

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Table 6. Path Coefficient T-Test Results

<table>
<thead>
<tr>
<th>Path</th>
<th>Coefficient</th>
<th>T-value</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality → Satisfaction</td>
<td>0.729201</td>
<td>11.019731</td>
<td>Significant</td>
</tr>
<tr>
<td>Quality → Loyalty</td>
<td>0.251007</td>
<td>2.560813</td>
<td>Significant</td>
</tr>
<tr>
<td>Innovation → Satisfaction</td>
<td>0.153363</td>
<td>1.973685</td>
<td>Significant</td>
</tr>
<tr>
<td>Innovation → Loyalty</td>
<td>0.082463</td>
<td>0.869234</td>
<td>Non-Significant</td>
</tr>
<tr>
<td>Satisfaction → Loyalty</td>
<td>0.554493</td>
<td>4.821996</td>
<td>Significant</td>
</tr>
</tbody>
</table>
visitor loyalty. This is in line with the research findings of Kasiri et al. (2017) and Adil et al. (2016), which state that service quality has a significant effect on service user loyalty.

Service quality has an indirect effect on loyalty, greater than the direct effect of service quality on loyalty. From this value, it can be concluded that the total effect of service quality on loyalty, the sum of the direct and indirect effects of service quality on loyalty. The indirect effect of innovation on loyalty is greater than the direct effect of innovation on loyalty.

Based on the results of the bootstrapping path coefficient output, it can be seen that the variable service quality is the dominant factor affecting visitor satisfaction. The coefficient value is greater than the coefficient of the influence of the innovation variable on satisfaction. On the other hand, the satisfaction variable is the dominant factor affecting the loyalty variable. The coefficient value is greater than the coefficient of influence of the service quality variable on loyalty and the coefficient of influence of the innovation variable on loyalty.

Based on the results of the inner model evaluation, the conclusions on the hypothesis test results proposed at the beginning of the study are presented in Table 7. Hypotheses 1, 2, 3, and 5 are accepted, while hypothesis 4 is not relevant to the research model.

As an institution that is not yet 1 year old, the Bogor City MPP needs to continue to improve its services. The results of this study can be used as recommendations for making policies related to service quality, innovation, satisfaction, and visitor loyalty. The variables that have a significant effect on satisfaction and loyalty should be considered and followed up with managerial policies. The most dominant factor affecting satisfaction and loyalty is service quality. Policies that will be implemented regarding service quality can be emphasized on strengthening the physical aspects (tangible), reliability (reliability), responsiveness (responsiveness), assurance (assurance), and empathy (empathy).

Bogor City MPP needs to make more intensive efforts to develop innovation in its services. As a third-generation form of public service, the quality of innovation in the form of mobile applications and services via the website is not sufficient to provide superiority when compared to services available in several institutions outside the Bogor City MPP.

**CONCLUSIONS**

Based on the analysis that has been described, it can be concluded that service quality has a significant effect on visitor satisfaction at MPP Bogor City, innovation has a significant effect on visitor satisfaction at MPP Bogor City, visitor satisfaction has a significant effect on visitor loyalty at MPP Bogor City, service quality has a significant effect on visitor loyalty at MPP Bogor City, and innovation has no significant effect on visitor loyalty at MPP Bogor City.

**RECOMMENDATIONS**

Suggestions that can be recommended in this study include: first, to increase visitor satisfaction to MPP, it can be done by improving and strengthening service quality through policies and programs that strengthen the dimensions of tangibles, reliability, responsiveness, assurance, and empathy. Second, increasing visitor loyalty, it can be done by improving service quality and increasing visitor satisfaction to the Bogor City MPP. Third, MPP Bogor City needs to make more intensive efforts to develop innovations in its services. Fourth, further research is needed with a broader model to explain the diversity of satisfaction and loyalty variables. Fifth, It is also necessary to conduct a study comparing the services in the Bogor City MPP with the services in the original institution in terms of the level of satisfaction and loyalty of the community.

**REFERENCES**


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