Service Quality and Work Environment on Nurse Job Satisfaction: Work Engagement as Mediation

Alfiqul Rahmatia Idaman*, Anoesyirwan Moeins, Jhon Very

*Faculty of Economics and Business, Universitas Putra Indonesia “YPTK” Padang
Email: alfiqulrahmatiai@gmail.com

Abstract
This study aims to determine the influence quality service and environment work to satisfaction nurse work with employment association variable intervening to the nurses at the hospital of dr. Reksodiwiryo Padang. The method used is Structural Equation Modeling (SEM) analysis using the partial least squares (PLS) program. By circulating the questionnaire as many as 60 respondents. The research results showed a positive and significant effect of service quality and work environment on nurse job satisfaction with work engagement as an intervening variable for nurses. Based on the analysis of the data, the results of the t test found that the t-value of 2.518 P-Value value of 0.012 thus, there is a significant influence of service quality on job satisfaction through work engagement. t-value 3.611 P-Value 0.00 thus, there is a significant effect of the work environment on job satisfaction through work engagement. This shows there exists influence positive between quality service and environment work on satisfaction Work nurse with attachment Work as intervening variables in nurses at hospital dr. Reksodiwiryo Padang.

Keywords: service quality, work environment, job satisfaction, attachment work, nurses

1. Introduction
Humans as living beings always play an active role and even dominate all activities that occur on earth compared to other living things. This is because humans as God's most perfect creatures are endowed with reason and thought. Therefore the role of human resources individually and in groups has an essential role for the company. The human resources owned by the company determine the success or failure of a company in achieving its goals (Arifin et al., 2022). Even though it has good facilities and infrastructure, without the support of reliable human resources, all company activities will not be carried out (Ichsan et al., 2020).

The community service industry is also inseparable from competition between actors, namely hospitals. Hospitals have a very strategic role in efforts to accelerate the improvement of public health status. Nurses also have a role as educators or educators who provide education to patients, families and communities. Nursing personnel are one of the health workers who play an important role in improving health status and are also at the forefront of service facilities because their number is more than other health workers (Spanakis et al., 2020).

The Law of the Republic of Indonesia Number 38 of 2014 states that nursing services carried out by nurses provide care to individuals, families, groups or communities, both in sickness and health. The role of the nurse is as a provider of nursing care, communicator, educator, patient advocate, consultant, reformer, leader and manager (Bastable, 2021).

Based on the results of an initial survey regarding the job satisfaction of dr. Reksodiwiryo Padang is not as expected. Out of 10 hospital nurses dr. Reksodiwiryo Padang, who filled out the questionnaire, tended to give no answers. It can be seen, based on these data the hospital nurse dr. Reksodiwiryo Padang feels that the salary they get does not guarantee job satisfaction. Then according to the nurse the assignment that the head of the room had arranged did not give the nurse job satisfaction and the room conditions were uncomfortable while working and the head of the room who provided guidance was still not good. The data illustrates the job satisfaction of dr. Reksodiwiryo Padang is not as expected. From the information above it can be concluded that the level of job satisfaction of nurses is not optimal, caused by the quality of service, work environment and indirectly influenced by work engagement.
The data illustrates the job satisfaction of dr. Reksodiwiryo Padang is not as expected. From the information above it can be concluded that the level of job satisfaction of nurses is not optimal, caused by the quality of service, work environment and indirectly influenced by work engagement.

Job satisfaction is the work attachment employees feel like or dislike when completing their work (Dorta-Afonso et al., 2021). Job satisfaction involves an individual’s general view of his work, individuals with good job satisfaction will show this attitude with positive things at work (Judge et al., 2017).

Work engagement is a situation where employees think positively, make sense, and keep thinking about something related to their task and is characterized by vigor, dedication and absorption (Adiarani, 2019). Work engagement is an emotional motivation that refers to positive, fun, and happiness related to work (Goswami et al., 2016).

Service quality is the level of how good the service can be provided to interpret customer expectations (Zibarzani et al., 2022). Service quality is the expected level of excellence and control over the level of excellence to meet consumer desires (Radiman et al., 2019). The work environment is the tools and materials encountered, the surrounding environment in which he works, his work methods, and his work arrangements, either as a group or individually (Al-Omari & Okasheh, 2017). The conceptual framework is in Figure 1 below:

![Conceptual Framework](image)

**Figure 1**

**Conceptual Framework**

2. Method

A research variable is an attribute or trait or value of a person or object that varies from one to another in the group, so the variables in this study are: (1) Independent Variable X1 = Service Quality, X2 = Work Environment (2) Dependent Variable Y = Nurse Job Satisfaction, (3) Intervening Variable Z = Work Engagement.

Population is a generalization area consisting of objects or subjects with certain qualities and characteristics applied by researchers to be studied and then drawn conclusions. The population in this study were 143 respondents. The formula used to determine the number of samples to be taken is to use the Slovin formula, a large population of 60. So the sample in this study were 60 nurses from dr. Reksodiwiryo Padang. Data analysis using SEM-PLS (Structural Equation Modeling-Partial Least Square).

3. Result and Discussion

**Result**

Researchers distributed 60 questionnaires on service quality, job satisfaction, work engagement and work environment by giving a questionnaire to dr. Reksodiwiryo Padang. Before filling out the questionnaire, the researcher first gave instructions for filling in briefly and clearly.

**Table 2**

<table>
<thead>
<tr>
<th>Age</th>
<th>Total</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 30</td>
<td>30</td>
<td>50.0</td>
</tr>
<tr>
<td>30–45</td>
<td>23</td>
<td>38.3</td>
</tr>
<tr>
<td>&gt;45</td>
<td>7</td>
<td>11.7</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

*Source: Data processed by authors, 2023*

In Table 2 shows that of the 60 respondents aged <30 years, that is, 30 respondents (50.0%) are nurses at Dr. Reksodiwiryo Padang, who are 30-45 years old, namely 23 respondents (38.3%) are nurses at Dr. Reksodiwiryo Padang and those who are >45 years old, namely 7 respondents (11.7%) are nurses at Dr. Reksodiwiryo Padang. These results indicate that the majority of nurses are <30 years old.

**Table 3**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Total</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>17</td>
<td>28.3</td>
</tr>
<tr>
<td>Female</td>
<td>43</td>
<td>71.7</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

*Source: Data processed by authors, 2023*

Table 3 shows that of the 60 respondents who were male, 17 respondents (28.3%) were nurses at Dr. Reksodiwiryo Padang, which has a female gender, namely 43 respondents (71.7%) are nurses at the Dr. Reksodiwiryo Padang. This result indicates that the majority of nurses are female.

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Table 4
Frequency Distribution of Respondents Based on Last Education

<table>
<thead>
<tr>
<th>Education</th>
<th>Total</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma</td>
<td>24</td>
<td>40.0</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>36</td>
<td>60.0</td>
</tr>
<tr>
<td>Master</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>60</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Data observed by authors, 2023

Table 4 shows that of the 60 respondents who had Diploma Education, 24 respondents (40.0%) were nurses at Dr. Reksodiwiryo Padang, who has a bachelor’s degree education, namely 36 respondents (60.0%) are nurses at the Dr. Reksodiwiryo Padang and those with Masters degree education, namely 0 respondents (00.0%) were nurses at the Dr. Reksodiwiryo padang. This result indicates that the majority of nurses have undergraduate education.

Table 5
Frequency Distribution of Respondents Based on Working Period

<table>
<thead>
<tr>
<th>Period</th>
<th>Total</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5 years</td>
<td>25</td>
<td>41.0</td>
</tr>
<tr>
<td>5 – 10 years</td>
<td>30</td>
<td>50.0</td>
</tr>
<tr>
<td>&gt;10 years</td>
<td>5</td>
<td>8.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>60</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Data observed by authors, 2023

Table 5 shows that of the 60 respondents whose working period was <5 years, 25 respondents (41.7%) were nurses at Dr. Reksodiwiryo Padang, which has a working period of 5 -10 years, namely 30 respondents (50.0%) are nurses at Dr. Reksodiwiryo Padang and those who have worked > 10 years, namely 5 respondents (8.3%) are nurses at Dr. Reksodiwiryo Padang. These results indicate that most nurses have a 5 -10 years working period.

Outer model testing result is in Figure 2 below:

In the development stage, a correlation of 0.50 to 0.6 is considered adequate or still acceptable. Based on the picture above, it can be seen that each variable indicator has an outer model loading value greater than 0.50 so that, in the research, the convergent validity value is above 0.6.

The results of the Average Variance Extracted (AVE) test are shown in Table 6 below:

Table 6
AVE Test Results

<table>
<thead>
<tr>
<th>Source</th>
<th>Data processed by authors, 2023</th>
</tr>
</thead>
</table>

Based on the table above, it can be concluded that all the constructs or variables above meet the criteria for good validity. This is indicated by the Average Variance Extracted (AVE) value above 0.50 as the recommended criteria.

Result of Reliability test is presented in table 7 below:

Table 7
Reliability Test Result

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>Reliabilitas Komposit</th>
<th>Rata-rata Varians Deksitral (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kepuasan Kerja Perawat (Y)</td>
<td>0.950</td>
<td>0.956</td>
</tr>
<tr>
<td>Keterikatan Kerja (Z)</td>
<td>0.909</td>
<td>0.916</td>
</tr>
<tr>
<td>Kualitas Pelayanan (X1)</td>
<td>0.930</td>
<td>0.936</td>
</tr>
<tr>
<td>Lingkungan Kerja (X2)</td>
<td>0.938</td>
<td>0.941</td>
</tr>
</tbody>
</table>

Source: Data processed by authors, 2023

Based on the SmartPLS output in Table 3.6 below, it has been found that the value of composite reliability and Cronbach Alpha for each construct or variable is 0.90

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greater than 0.6. It can be concluded that the level of data reliability is good or reliable.

Testing the Inner Model (Structural Model) is presented in the Figure 3 below:

![Figure 3](image)

**Figure 3**
**Inner Model Testing Result**

Based on Figure 3, the structural model above can be formed as follows: (a) Model Equation I, is an illustration of the magnitude of the influence of the constructs of service quality and work environment on work engagement with the existing coefficients plus the error rate which is an estimation error or which cannot be explained in research models. Z = 0.366X1 + 0.589X2 + e1 (b) Model Equation II, is an illustration of the magnitude of the influence of the constructs of service quality and work environment and work engagement on nurse job satisfaction with each coefficient that exists for each construct plus the error which is estimation error. Y = 0.264 X1 + 0.269X2 + 0.469 Z + e2

The results of the test for the coefficient of determination are in Table 8 below:

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Sample Size (N)</th>
<th>R Square</th>
<th>Adjusted R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>H6</td>
<td></td>
<td>0.902</td>
<td>0.897</td>
</tr>
<tr>
<td>H7</td>
<td></td>
<td>0.822</td>
<td>0.816</td>
</tr>
</tbody>
</table>

**Table 8**
**Coefficient Determination Test Result**

Table 8 shows the R-Square value of the nurse's job satisfaction construct of 0.902 or 90.2%, which illustrates the magnitude of the contribution received by the nurse's job satisfaction construct from the construct of service quality, work environment and work engagement. While the R-Square value for the work engagement construct is 0.822 or 82.2% indicating the magnitude of the contribution made by the service quality and work environment constructs in explaining or influencing work engagement. Hypothesis testing is in table 9 below:

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Sample Size (N)</th>
<th>Standard Deviation (SD)</th>
<th>T Statistic (T-Stat)</th>
<th>P Value</th>
<th>Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td></td>
<td>0.356</td>
<td>0.123</td>
<td>3.050</td>
<td>0.003</td>
</tr>
<tr>
<td>H2</td>
<td></td>
<td>0.062</td>
<td>0.095</td>
<td>6.298</td>
<td>0.000</td>
</tr>
<tr>
<td>H3</td>
<td></td>
<td>0.264</td>
<td>0.121</td>
<td>6.209</td>
<td>0.000</td>
</tr>
<tr>
<td>H4</td>
<td></td>
<td>0.271</td>
<td>0.122</td>
<td>6.209</td>
<td>0.000</td>
</tr>
<tr>
<td>H5</td>
<td></td>
<td>0.469</td>
<td>0.117</td>
<td>4.006</td>
<td>0.000</td>
</tr>
</tbody>
</table>

**Table 9**
**T-test Results**

Based on the results of the SmartPLS test in Table 9, it can be seen that the results of testing the research hypothesis starting from the first hypothesis to the fifth hypothesis are accepted because the original sample is positive, t-statistic/t-count > t-table 1.96 and P Values <0.05. Result of path analysis is presented in Table 10 below:

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Sample Size (N)</th>
<th>Standard Deviation (SD)</th>
<th>T Statistic (T-Stat)</th>
<th>P Value</th>
<th>Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>H6</td>
<td></td>
<td>0.172</td>
<td>0.068</td>
<td>2.518</td>
<td>0.012</td>
</tr>
<tr>
<td>H7</td>
<td></td>
<td>0.276</td>
<td>0.076</td>
<td>3.611</td>
<td>0.000</td>
</tr>
</tbody>
</table>

**Table 10**
**Result Path Analysis**

Source: Data processed by authors, 2023
Based on the path diagram, the t-statistic value is useful for assessing whether the hypothesis is accepted or rejected, by comparing the t-statistic value with t-table at 1.96 (on an error of rejecting the data of 5%). T-statistic value > t-table 1.96 or 2.518 > 1.96 P-Value 0.012 <0.05 thus the hypothesis can be accepted or H0 is rejected and H6 is accepted, in other words there is a significant effect of service quality on satisfaction work through work engagement.

T-statistic value > t-table 1.96 or 3.611 > 1.96 P-Value 0.000 <0.05 thus the hypothesis can be accepted or H0 is rejected and H6 is accepted, in other words there is a significant effect of the work environment on satisfaction work through work engagement.

Discussion
Influence of Service Quality on Work Engagement
The results of testing the data using the SmartPLS program tool found a service quality coefficient value of 3.560 which is the magnitude of the influence exerted by this construct on work engagement. Furthermore, to assess whether this hypothesis is accepted or rejected, the comparison between t-statistics or t-count with t-table is 1.96 at an alpha of 5%. Where the value of t-statistics > t-table 1.96 at alpha 5% or 3.560 > 1.96 P-Value 0.000 <0.00 therefore H0 is rejected and H1 is accepted, in other words there is a significant influence of service quality on work attachment.

These results align with previous research conducted by Wang & Tseng (2019) that stated there is a significant influence between service quality and work engagement. Based on the five service quality indicators and the three work engagement indicators used in the measurement model, all of these indicators can be used as indicators that represent research variables. The indicator that gets the highest loading factor value on the item given is relevant, this shows that every nurse who serves patients is always adjusted to the quality of service so that the quality of service to work engagement supports nurse workers at work.

Influence of the Work Environment on Work Engagement
The results of testing the data with the SmartPLS program found that the work environment coefficient value was 6.206, which is the magnitude of the influence exerted by this construct on work engagement. Furthermore, to assess whether this hypothesis is accepted or rejected, then the value of t-statistics or t-statistics or t-count is compared with t-table 1.96 at an alpha of 5%. Where if the t-statistic value > t-table 1.96 at alpha 5% or 6.206 > 1.96 the P-Value is 0.000 <0.05 then the hypothesis can be accepted or H0 is rejected and H2 is accepted, in other words there is a significant positive influence significant work environment on work engagement.

These results are in line with previous research conducted by Teo et al. (2020); (Wan et al., 2018) and (Robianto & Masdupi, 2020) which there is a significant influence of the work environment on work engagement.

Based on the three indicators of work environment variables and the three indicators of work engagement used in the measurement model, all of these indicators can be used as indicators that represent research variables. The indicator that gets the highest loading factor value on the items given is relevant, this shows that every nurse who has a good work environment can support the work of nurses in working so that the work environment towards work engagement can be accepted better.

Influence of Service Quality on Job Satisfaction
Based on the results of data testing using the SmartPLS program tool, it can be seen that the service quality coefficient value is 2.619 which is the magnitude of the influence given by the nurse’s job satisfaction construct. To find out whether this hypothesis is accepted or rejected, then the comparison between the value of t-statistics or t-count with t-table is 1.96 at an alpha of 5%. Where the value of t-statistics > t-table 1.96 at alpha 5% or 2.619 > 1.96 P-Value 0.009 <0.05 therefore H0 is rejected and H3 is accepted, in other words there is a significant influence of service quality on nurse job satisfaction.

These results are in line with previous research conducted by Amri et al. (2021); (Shen & Tang, 2018) and (Abdullah et al., 2021) where there is a significant influence of service quality on job satisfaction.

Based on the five indicators of service quality and five indicators of job satisfaction used in the measurement model, all of these indicators can be used as indicators that represent research variables. The indicator that gets the highest loading factor value on the items given is relevant, this shows that every nurse serving patients is always adjusted to the nurse’s job satisfaction so that the quality of service on nurse job satisfaction supports nurse workers at work.

Influence of Work Environment on Job Satisfaction
Based on the results of data testing using the SmartPLS program tool, it can be seen that the career development coefficient value is 2.204 which is the magnitude of the influence given by this construct on the formation of nurse job satisfaction. To find out whether this hypothesis is accepted or rejected, then the comparison between the value of t-statistics or t-count with t-table is 1.96 at an alpha of 5%. Where the value of t-statistics > t-table 1.96 at alpha 5% or 2.204 > 1.96 P-Value 0.028 <0.05 therefore H0 is rejected and H1 is accepted, in other words there is a significant influence of the work environment on nurse job satisfaction.

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These results are in line with previous research conducted by Taáheri et al. (2020) which there is a significant effect of work environment on job satisfaction. Based on the three indicators of work environment variables and the five indicators of nurse job satisfaction used in the measurement model, all of these indicators can be used as indicators that represent research variables. The indicator that gets the highest loading factor value on the items given is relevant, this shows that every nurse who has a good work environment can support the work of nurses at work so that the work environment on nurse job satisfaction can be accepted better.

### Influence of Job Engagement on Job Satisfaction

Based on the results of data processing with the SmartPLS program, a competency coefficient value of 4.006 was obtained, which is the magnitude of the influence given by this construct on nurse job satisfaction. Furthermore, to assess the value of t-statistics or t-count, it is useful to assess whether the hypothesis is accepted or rejected, by comparing the t-statistic or t-count value with t-table 1.96 at an alpha of 5%. T-statistic value > t-table 1.96 or 4.006 > 1.96. P-Value 0.000 <0.05 thus the hypothesis can be accepted or H0 is rejected and H5 is accepted, in other words there is a significant effect of work engagement on satisfaction nurse work.

These results are in line with previous research conducted by Wen et al. (2019). Based on the three indicators of work engagement variables and five indicators of nurse job satisfaction used in the measurement model, all of these indicators can be used as indicators that represent research variables. The indicator that gets the highest loading factor value on the items given is relevant, this shows that every nurse who has good work engagement can support the nurse’s work at work so that work engagement on nurse job satisfaction can be better received.

### The Influence of Service Quality on Nurse Job Satisfaction through Work Engagement

In the PLS structural equation modeling (SEM) analysis, the t-statistic value > t-table 1.96 or 2.518 > 1.96 has a P-value of 0.012 <0.05, thus the hypothesis can be accepted or H0 is rejected and H6 is accepted, with In other words, there is a significant effect of service quality on nurse job satisfaction through work engagement. So nurse job satisfaction will increase through work engagement, nurse job satisfaction will increase if it is not directly influenced by service quality.

### The Effect of the Work Environment on Nurse Job Satisfaction through Work Engagement

In the PLS structural equation modeling (SEM) analysis, the t-statistic value > t-table 1.96 or 3.611 > 1.96, the P-Value is 0.000 <0.05, thus the hypothesis can be accepted or H0 is rejected and H7 is accepted, with In other words, there is a significant effect of the work environment on nurse job satisfaction through work engagement. So nurse job satisfaction will increase through work engagement, nurse job satisfaction will increase if it is not directly influenced by the work environment.

### 4. Conclusion

From the discussion in the previous chapters, the following conclusions can be drawn: (1) There is a significant influence of service quality on work engagement. (2) There is a significant effect of the work environment on work engagement. (3) There is a significant influence of service quality on nurse job satisfaction. (4) There is a significant effect of the work environment on nurse job satisfaction. (5) There is a significant effect of work engagement on nurse job satisfaction. (6) There is a significant influence of service quality on nurse job satisfaction through work engagement. (7) There is a significant effect of the work environment on nurse job satisfaction through work engagement.

Based on the conclusions that have been made, the authors put forward a number of suggestions as follows: (1) For research objects, for research objects in order to maintain the quality of service so that it continues to create good nurse job satisfaction. With good service quality, it will be able to increase nurse job satisfaction. For that the hospital must really create a good quality of service. It should also pay more attention to the work environment to continue supporting nurse job satisfaction. In addition, the hospital pays more attention to work engagement issues so that nurse job satisfaction continues to increase. (2) For future researchers, future researchers are expected to develop the results of this study by involving independent variables related to job satisfaction such as performance, work motivation and organizational culture or adding moderating variables. With the hope that the sample and research object will be even more significant.

### References


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