Analysis of The Influence of Personal Factors and The Quality of Health Facilities Services and The Quality of Insurance Services on The Intention to Pay Health Insurance Contributions With Participant Satisfaction as an Intervening Variable

Sasongko Nugroho
Master of Management Study Program, Faculty of Economics and Business, Esa Unggul University, Indonesia
*email: nugiewoogie@gmail.com

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Willingness to Pay, Personal Factors, Quality of Health Facilities Services, Quality of Insurance Services, Customer Satisfaction

ABSTRACT
Willingness to pay BPJS Health contributions in a timely and continuous manner is very necessary to ensure the sustainability of the JKN program. Personal factors, quality of health facility services, quality of insurance services and customer satisfaction are important factors that influence JKN participants to pay BPJS Health contributions. The aim of this research is to analyze the influence of personal factors and the quality of health facility services as well as the quality of insurance services on the intention to pay health insurance contributions with participant satisfaction as an intervening variable. This research used a purposive sampling method for 286 BPJS Health participants. This research uses an SEM approach using the SmartPLS 3.0 program. The research results show that the quality of insurance services and the quality of health facilities services have a positive and significant effect on participant satisfaction. Apart from that, personal factors also have a positive and significant effect on participant satisfaction. In the context of intention to pay contributions, insurance service quality, service quality and personal factors have a positive and significant influence. The suggestion from this research is to expand the sampling population and types of health facilities to gain broader insight. The managerial implication is that BPJS Health must maintain and improve the quality of services provided to participants, both health facility services and BPJS insurance services themselves. Personal factors of BPJS participants need to be considered, so that they can influence satisfaction and intention to pay contributions consistently.

INTRODUCTION
Willingness to pay BPJS Health contributions in a timely and continuous manner is very necessary to ensure the sustainability of the National Health Insurance program which is managed by this social health insurance scheme. The intention to pay these contributions usually comes from BPJS Health participants who are in need of health service coverage. In a study in Ethiopia, people who had

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heard about a health insurance scheme were 2.5 times more willing to pay for it than those who had not heard about it (Nguyen and Hoang, 2017). In addition, increased intention to pay health insurance contributions is also associated with increased desire based on experience, education level, income, agreeableness, conscientiousness, extraversion, and neuroticism (Nosratnejad et al., 2016; Hajek et al., 2020; Wu et al., 2020; Batbold and Pu, 2021).

An important factor influencing the intention to pay contributions is the level of participant satisfaction, however only 40% of participants are satisfied with social health insurance. Low quality of service is a major source of dissatisfaction. Consumers who intend to purchase health insurance policies expect better service quality (Bala et al., 2011; Agyapong et al., 2017; Ameryoun, 2017; Pathak, 2018; Pinna et al., 2018; Batbold and Pu, 2021). The nature of service quality will ultimately influence customer satisfaction (Rajamani and Raj, 2021).

Many studies have been conducted regarding factors that influence the intention to pay insurance contributions, such as health services, with the object of research being health services in hospitals (Bala et al., 2011; Ahmad et al., 2012; Agyapong et al., 2017; Pathak, 2018; Pinna et al., 2018). Furthermore, there is also research related to health insurance services (Nosratnejad et al., 2016; Hajek et al., 2020; Wu et al., 2020; Batbold and Pu, 2021). However, research is still rare that analyzes personal status factors on the intention to pay contributions, more specifically on BPJS health insurance objects in Indonesia.

BPJS Health as the manager of Social Insurance has different fund management from Commercial Insurance, namely in the National Health Insurance program financing scheme, health service costs are financed using a tariff scheme according to INA-CBG’s without a ceiling scheme, while commercial insurance uses an annual fee ceiling scheme. These financing conditions will greatly influence BPJS Health as the manager of the Social Security Fund which originates from participant contributions. If the cost of health services is greater than the contributions collected, it will impact payments for health facilities, and this will make it vulnerable for participants to receive health services so that disappointed participants will think twice about paying the contributions again.

Therefore, the author wishes to examine in more depth the variables: personal factors, intention to pay contributions, participant satisfaction and the quality of health facility services as well as the quality of insurance services. The aim is to analyze the influence of participants’ personal factors on participant satisfaction and intention to pay BPJS Health contributions (WTP), the influence of health facility service quality factors on participant satisfaction and intention to pay BPJS Health contributions, the influence of insurance services on participant satisfaction and intention to pay contributions as well as the influence of participant satisfaction on intention to pay BPJS Health contributions.

**METHODS**

The approach used in this research is quantitative. Quantitative research is a research method that uses a numeric database or numbers and carries out statistical analysis in testing (Sugiyono, 2016). The independent variables from this research are personal factors, health service quality and employee service quality with customer satisfaction as the intervening variable and the dependent variable is the intention to pay contributions.

In this study, personal factor variables were measured with 5 statements adapted from (Hajek et al., 2020). For the health facility service quality variable, 7 statements were adapted from (Ratnawati and Kholis, 2020) and (Agyapong et al., 2017). For the Insurance Service Quality variable, 35 statements were adapted from (Parasuraman et al., 1985; Ratnawati and Kholis, 2020). For the customer satisfaction variable, 6 statement indicators were adapted from (Agyapong et al., 2017; Ahmed et al., 2017) For the variable intention to pay contributions, there are 3 statement indicators adapted from (Casidy and Wymer, 2016; Jin et al., 2020).

Data collection in this research was through a survey, namely an online questionnaire using Google Form. The population is all research subjects related to the problem to be studied (Nursalam, 2003; Arikunto, 2009). The population of this study were BPJS Health participants in the Central Java region. This sample was selected using the purposive sampling method for BPJS Health participants who meet the following criteria: BPJS Health participants and direct payers of BPJS Health contributions. Respondents have accessed health services using a BPJS Health card. The initial data collection technique was also carried out, namely by distributing an initial questionnaire (pre test).
This research uses the Likert scale method in its measurement. On this Likert scale, the alternative answers consist of five alternatives, Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree. Using the Structural Equation Model (SEM) approach by conducting validity and reliability tests with factor analysis using the Smart PLS 3.0 program to measure the intensity of each variable and a structural model analyzing the data and research hypotheses. The validity test is carried out with the conditions usually used to assess validity, namely the loading factor value must be more than 0.70. Then, discriminant validity is related to the principle that measurements of different construct variables should not be highly correlated. The way to test discriminant validity is with reflexive indicators, which is shown by the cross loading value for each variable must be >0.70 and the value is higher than the other variables (Ghozali and Latan, 2015). Reliability testing uses a way to calculate composite reliability values. The condition usually used to assess construct reliability is that composite reliability must be >0.7 for confirmatory research and a value of 0.6 – 0.7 is still acceptable for exploratory research (Ghozali and Latan, 2015).

From the results of the pre-test questionnaire to 35 respondents, the personal factor variables measured by 5 statements were all valid and reliable. For the health facility service quality variable, all 7 statements are valid and reliable. For the Insurance Service Quality variable, all 5 dimensions of service quality are valid and reliable. For the customer satisfaction variable, all 6 statements are valid and reliable. For the variable intention to pay contributions, the 3 statement indicators are all valid and reliable. Further details can be seen in attachment 4.

RESULTS

Respondents in this study were BPJS Health participants and direct payers of BPJS Health contributions. Respondents had accessed health services using BPJS Health cards and. Of the 289 respondents, 89.27% were men and 10.73% women, with 8.30% aged 26-35 years, 23.53% aged 36-45 years, 36.33% aged 46-55 years and 31.83% are over 55 years old. Respondent profiles can be seen in Appendix 5.

Construct Validity and Reliability Tests on the reflective measurement model were carried out based on recommendations from Hair, Hult, Ringle, & Sarstedt (2017) where the loading factor value required in SmartPLS 3.0 is ≥0.70. The results of the Convergent Validity test in this study are acceptable and can be declared valid, because all indicators for each variable have a loading factor value above 0.70 as shown as follows:

![Figure 1. Loading Factor Test Results](image)
The calculation results for Outer Loading are that all variables and indicators are >0.7. Further details in Appendix 7 Table 1 the Cross Loading test show that the correlation of construct variables is also higher when compared with other construct variables as in Appendix 7 Table 2.

The test results in the Fornell-Larcker Criterion table show that they are valid because the variable correlation value is higher than the other variable values as in the following table:

### Table 1

<table>
<thead>
<tr>
<th>Faktor Personal</th>
<th>Kepuasan Peserta</th>
<th>Kualitas Layanan Asuransi</th>
<th>Kualitas Layanan Faskes</th>
<th>Nilai Membayar Iuran</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.826</td>
<td>0.809</td>
<td>0.866</td>
<td>0.684</td>
<td>0.772</td>
</tr>
<tr>
<td>0.848</td>
<td>0.806</td>
<td>0.874</td>
<td>0.816</td>
<td>0.843</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.809</td>
<td>0.816</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.881</td>
</tr>
</tbody>
</table>

Reliability testing through Cronbach Alpha, Composite Reliability, and Average Variance Extracted (AVE) testing has been carried out to evaluate the quality of construct measurements in a research or survey. The results of this test show that the measurement of this construct meets the established criteria for reliability and internal validity. Cronbach Alpha testing is used to measure the internal reliability of a scale or measurement instrument. Composite Reliability testing also aims to measure internal reliability. The Average Variance Extracted (AVE) test is used to measure construct validity or the extent to which a construct can be explained by the items in the measurement instrument. The results of reliability testing can be seen in the following table:

### Table 2

<table>
<thead>
<tr>
<th>Faktor Personal</th>
<th>Cronbach’s Alpha</th>
<th>Composite Reliability</th>
<th>Average Variance Extracted (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.883</td>
<td>0.872</td>
<td>0.915</td>
<td>0.683</td>
</tr>
<tr>
<td>0.922</td>
<td>0.924</td>
<td>0.939</td>
<td>0.720</td>
</tr>
<tr>
<td>0.923</td>
<td>0.924</td>
<td>0.942</td>
<td>0.764</td>
</tr>
<tr>
<td>0.931</td>
<td>0.933</td>
<td>0.945</td>
<td>0.710</td>
</tr>
<tr>
<td>0.855</td>
<td>0.861</td>
<td>0.912</td>
<td>0.776</td>
</tr>
</tbody>
</table>

The results show that Cronbach Alpha reaches or exceeds the specified threshold value (≥0.7). This shows that the scale or measurement instrument has a good level of consistency between the items, so it can be considered a reliable tool in measuring the construct. The test results show that Composite Reliability reaches or exceeds the specified threshold value (≥0.7). The test results show that the constructs measured by the instrument have a high level of reliability in producing consistent data.

The results also show that AVE reaches or exceeds the specified threshold value (≥0.5). Testing indicates that the construct being measured has high internal validity, meaning that the items in the measurement instrument adequately represent the construct.

Coefficient of Determination Test Analysis is carried out to determine the $R^2$ value in each equation. The $R^2$ value shows how much the independent variable can explain the dependent variable.

### Table 3

<table>
<thead>
<tr>
<th>Faktor Personal</th>
<th>R Square</th>
<th>R Square Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kepuasan Peserta</td>
<td>0.796</td>
<td>0.794</td>
</tr>
<tr>
<td>Nilai Membayar Iuran</td>
<td>0.816</td>
<td>0.813</td>
</tr>
</tbody>
</table>

The results obtained were that the Participant Satisfaction variable was jointly influenced by the variables Personal Factors, Quality of Insurance Services, and Quality of Health Facilities Services with an $R^2$ value of 0.796. Thus, it can be interpreted that 79.6% of the variance in Participant Satisfaction
can be explained by Personal Factors, Quality of Insurance Services, and Quality of Health Facilities Services, while 20.4% can be explained by other variables not included in this study. The results of the next analysis are that the variable Intention to Pay Contributions is jointly influenced by the variables Personal Factors, Quality of Insurance Services, Quality of Health Facilities Services and Participant Satisfaction with an R² value of 0.816. Thus, it can be interpreted that 81.6% of the variance in Participant Satisfaction can be explained by Personal Factors, Quality of Insurance Services, and Quality of Health Facilities Services, while the remaining 18.4% can be explained by other variables not included in this study.

From the Path Coefficient results, all are positive, meaning that all independent variables have a positive effect on the dependent variable. *Path coefficient* shows the strength and direction of the relationship between two variables in the conceptual model under study.

<table>
<thead>
<tr>
<th>Table 4</th>
<th>Path Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>KEPUASAN PESETRA</td>
</tr>
<tr>
<td>FAKTOR PERSONAL</td>
<td>0.436</td>
</tr>
<tr>
<td>KEPUASAN PESETRA</td>
<td>0.245</td>
</tr>
<tr>
<td>KUALITAS LAYANAN ASURANSI</td>
<td>0.344</td>
</tr>
<tr>
<td>KUALITAS LAYANAN FASKES</td>
<td>0.210</td>
</tr>
</tbody>
</table>

Positive results from the path coefficient indicate that there is a tendency for an increase in the dependent variable when the independent variable increases. This means that the greater the value of the independent variable, the greater the value of the related dependent variable.

Based on direct influence testing, this research shows that the hypothesis is supported. H1 test results the quality of health facility services has a positive and significant effect on BPJS participant satisfaction (T Statistics = 3.380, sig 0.001). H2 test results: Quality of Insurance Services has a positive and significant effect on BPJS participant satisfaction (T Statistics = 5.999, sig 0.000). Test results H 3 Personal factors have a positive and significant effect on BPJS participant satisfaction (T Statistics = 9.534, sig 0.000). H 4 test results: Participant satisfaction has a positive and significant effect on intention to pay BPJS contributions (T Statistics = 2.909, sig 0.004. H 5 test results The quality of health facility services has a positive and significant effect on the intention to pay BPJS contributions ( T Statistics = 3.084, sig 0.004). H 6 test results Personal factors have a positive and significant effect on the intention to pay BPJS contributions (T Statistics = 3.206, sig 0.001). H 7 Test Results The quality of insurance services has a positive and significant effect on the intention to pay BPJS contributions ( T Statistics = 4.742, sig 0.000). From the Path Coefficient results, all are positive, meaning that all independent variables have a positive effect on the dependent variable.

From the Hypothesis Test, the T-Value results are as follows:

<table>
<thead>
<tr>
<th>Table 5</th>
<th>Research Model Hypothesis Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hypothesis</strong></td>
<td><strong>Hypothesis Statement</strong></td>
</tr>
<tr>
<td>H1</td>
<td>The quality of health facility services has a positive effect on participant satisfaction</td>
</tr>
<tr>
<td>H2</td>
<td>The quality of insurance services has a positive effect on participant satisfaction</td>
</tr>
<tr>
<td>H3</td>
<td>Personal Factors Have a Positive Influence on Participant Satisfaction</td>
</tr>
</tbody>
</table>
DISCUSSION

This research examines the influence of Personal Factors, Quality of Insurance Services, and Quality of Health Facilities Services on Intention to Pay Contributions with the addition of Participant Satisfaction as an intervening variable using 5 variables with 56 statement indicators.

The results found that health facility service quality had a positive effect on participant satisfaction. If detailed further, the most influential indicators on the quality of health facility services are medical/hospital staff and employees in providing services without distinguishing the social status of BPJS patients, followed by indicators of hospital building comfort, then indicators of extensive knowledge and experience of the hospital team. So, if we conclude, these results strengthen previous research which states that the quality of health services plays an important role in patient satisfaction (Jandavath and Anand, 2016; Agyapong et al., 2017; Batbaatar et al., 2017; Taqdees et al., 2017; Pathak, 2018; Pinna et al., 2018; Swain and Singh, 2021).

Next, the Health Facilities Service Quality variable also found a positive influence on the Intention to Pay Contributions. Good service quality will create the view that the benefits obtained from using BPJS Health Facilities are commensurate with the cost of contributions paid. Patients who feel they get high value from health facility services will be more likely to have a strong intention to pay BPJS contributions regularly. This is in accordance with the results of previous research which stated that the quality of health facility services, in this case the health service benefit package, greatly influences the intention to pay (Gidey et al., 2019).

Other results found that Insurance Service Quality had a positive effect on Participant Satisfaction. Participants who feel served by competent and experienced health workers tend to be more satisfied with health facility services. Health workers’ expertise in providing care, providing accurate information, and interacting with empathy and understanding can influence participant satisfaction. This is in line with research results which state that insurance quality has a positive effect on participant satisfaction. (Swain and Singh, 2021).

Other results also found that Insurance Service Quality was further divided into 5 dimensions of Service Quality (SERVQUAL), the result being that the most dominant sub-variable was Responsiveness, followed by Reliability, Empathy, Assurance and the lowest was Tangible. These results validate previous research which stated that Responsiveness has the greatest influence (Pathak, 2018) and the biggest gap is in the tangibles dimension (Ameryoun, 2017).

Subsequent results also found that the quality of insurance services also had a positive effect on the intention to pay contributions. Participants who believe that BPJS provides reliable, adequate services and provide adequate protection guarantees have a stronger intention to continue paying contributions regularly. Participant satisfaction is realized from the staff's willingness to help and provide emotional support which has a positive influence on the intention to pay contributions. This shows that assurance and empathy factors influence participants' intention to pay contributions consistently. The match between the expected insurance service and the costs incurred by the participant will influence the participant's intention to become an indicator that influences the loyalty (intention to pay contributions) of the participant (Ratnawati and Kholis, 2020).
Other results found a positive influence between personal factors and participant satisfaction. Personal factors related to psychological aspects and individual views on social security and health insurance influence BPJS participant satisfaction. A positive attitude towards health protection and the view that BPJS provides important benefits increases participant satisfaction. Individual expectations of BPJS and level of self-satisfaction influence participant satisfaction. Participants who have realistic expectations and are satisfied with the service they receive tend to be more satisfied overall. Unrealistic expectations or disappointment with the services received have a negative impact on participant satisfaction. Individual personality factors, such as levels of neuroticism, extroversion, orderliness, openness, and politeness, influence insurance participant satisfaction (Cherry and Asebedo, 2022). Individuals with personalities who tend to be stable, extroverted, organized, open to new experiences, and polite in interpersonal relationships are better able to adapt to the challenges that arise in using BPJS. This contributed to participant satisfaction with the program. The results of this study are in line with previous results stating that personal factors greatly influence emotional responses and can influence the cognitive component of patient satisfaction (Pinna et al., 2018).

Other results also found that personal factors positively influence the intention to pay contributions. The level of individual involvement in utilizing health services provided by BPJS influences the intention to pay contributions. Participants who actively use the health services offered by BPJS, such as by regularly having health checks or participating in prevention programs, tend to have a higher intention to pay off participant contributions to continue receiving these benefits. Individuals with a high level of agreeableness tend to be cooperative, friendly, and care about the interests of others. In the context of intention to pay BPJS contributions, individuals with a high level of agreeableness are more likely to have a strong intention to pay contributions regularly, because participants pay attention to collective benefits and shared interests in maintaining a sustainable health insurance system. Individuals with a high level of conscientiousness tend to have an orderly, disciplined and responsible nature.

In terms of paying BPJS contributions, individuals with a high level of conscientiousness are more likely to have a strong intention to fulfill their obligation to pay contributions on time, because participants have a natural tendency to carry out their duties and responsibilities well. Extroversion describes the level of social activity, energy, and tendency to socialize. Although the direct relationship between extraversion and intention to pay BPJS contributions is not as clear as other factors, extroverted individuals are more likely to receive information about the importance of paying contributions from social interactions, and this influences participants’ intention to do so. Individuals with high levels of neuroticism tend to be more susceptible to negative emotions, stress, and anxiety. The relationship between neuroticism and intention to pay BPJS contributions is complex. On the one hand, individuals with high levels of neuroticism are more likely to feel disturbed by health uncertainty and encourage the intention to pay contributions. However, on the other hand, high levels of stress or emotional problems associated with neuroticism affect participants’ ability to pay dues consistently. Individuals with a high level of openness to experience tend to be more open to new ideas, experiences and different views. The relationship between openness to experience and intention to pay BPJS contributions is related to broader knowledge and understanding of the benefits of social security and awareness of the importance of paying contributions to obtain adequate health protection. This is in accordance with research results on psychological factors showing that personal emotions and subjective norms are related to payment intentions (Ma et al., 2021).

Other results found a positive influence of participant satisfaction with their intention to pay contributions. Participants who are satisfied with BPJS services and benefits tend to have higher awareness and motivation to pay off their contribution payment obligations. BPJS participant satisfaction is related to their views on ease of access to health services, speed of service, and quality of services provided.

Participants who are satisfied with BPJS services tend to have a higher intention to pay contributions regularly. This is in accordance with the results of previous research, namely when customers are satisfied with the entity’s services, they tend to express their intentions in positive ways such as recommendations and positive words of mouth, choose the entity over rivals, increase their purchasing volume or pay a higher premium (Marcos and Coelho, 2022) and To make customers feel satisfied with the quality of service provided, the entity must formulate a strategy to improve service quality so as to create customer satisfaction, and satisfied customers will come back to buy the products or services offered (Mirza and Ali, 2017).
CONCLUSION

The results of this research found that health facility service quality, insurance service quality and personal factors had a positive effect on participant satisfaction. Participant satisfaction has a positive effect on the intention to pay BPJS Health contributions. Furthermore, the intention to pay the contribution is directly influenced by the health facility service quality, insurance quality and personal factors. In the Central Java region itself, it was found that personal factors had a positive and significant influence on participant satisfaction and intention to pay BPJS Health contributions (WTP).

The factors that most influence the intention to pay BPJS Health contributions (WTP) in sequence are the Insurance Quality factor, Personal Factors followed by the Health Facilities Service Quality factor, and the Participant Satisfaction Factor. The factor that influences this variable is Insurance Quality is Responsiveness, the most influential Personal Factor is Conscientiousness (prudence), the most influential Factor of Health Facilities Service Quality is the factor that employees of BPJS partner health facilities in serving do not differentiate (equally) with non-BPJS patients, Factors The most influential participant satisfaction is satisfaction with the facilities owned by BPJS partner health facilities where participants seek treatment.

This study still has several limitations or limitations that need to be corrected. First, the sample is small compared to the total coverage of BPJS Health participants which has reached more than 240 million people, so it is possible that the results still contain bias which could be a potential problem. Second, the research carried out on the quality of health facility services does not necessarily describe the specific category of health facilities in question, namely First Level Health Facilities (FKTP) or Advanced Level Referral Health Facilities (FKRTL) with types D to Type A.

Suggestions for further research are First, a similar research can be developed with a sampling population so that this research can better describe the results of the relationship between the Quality of Health Facilities Services, Quality of Insurance Services, Personal Factors, Participant Satisfaction and Intention to Pay Contributions in a more real way. Second, future health facility specifications can still be developed on specific types of health facilities to gain broader insight into the influence of health facility quality services on participant satisfaction and intention to pay contributions.

The managerial implication of this research is that BPJS Health must always think about the sustainability of this program, BPJS Health must focus on increasing the Intention to Pay Contributions (WTP) of its participants. The way to increase the intention to pay contributions (WTP) is to improve the quality of insurance services, through increasing outreach and education to participants. Furthermore, BPJS Health must always improve the quality of its services through innovations that can increase participant satisfaction and participants' intention to pay (WTP). BPJS participants need to be given a good understanding of the contribution payment mechanism, including the payment schedule, available payment methods, and the consequences of being in arrears. This information can be conveyed through brochures, leaflets, or clear payment guides, both printed and easily accessible digital platforms, so that it can increase the Intention to Pay Contributions (WTP). BPJS Health must ensure that services to its participants are implemented as they should without any doubts and feelings of discrimination that can influence personal factors. BPJS Health participants consider social insurance with noble aims to be unsatisfactory so that BPJS Health participants have no intention of paying contributions regularly.

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