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Research Article

Boris Darmo Siregar[1]*, Mesra B[2]

The Effect of Using Information Systems on Employee Performance with Work Quality as an Intervening Variable at the BPJS Employment Office, Medan Raya Branch

*Corresponding Author: **Boris Darmo Siregar**: Universitas Pembangunan Panca Budi, Indonesia; borisdarmo@gmail.com
Mesra B: Universitas Pembangunan Panca Budi, Indonesia; mesrab@dosen.pancabudi.ac.id

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Abstract: *This research was conducted to determine the results of the influence of the use of information systems on employee performance with work quality as an intervening variable. With the type of quantitative research used, the location of this research was carried out at the BPJS Employment Medan Raya Branch Office. The research population used was 100 employees and the sample used was the entire population, namely 100 employees. The sample technique used was a saturated sample technique, the data source used was used is primary data. The results of this research are as follows: Work Quality has a positive and significant effect on Employee Performance with an original sample value of 0.409 and a P value of 0.000. Information Systems have a positive and significant effect on Employee Performance with an original sample value of 0.571 and a P value of 0.000. Information Systems have a positive and significant effect on Work Quality with an original sample value of 0.869 and a P value of 0.000.*

Keywords*: information systems, work quality, employee performance*

Introduction

The Company Data Reporting Channel is an online participant reporting website developed as a tool to help companies manage membership data, which includes company data, workforce data, wage data and contribution calculations quickly and accurately. This channel is an innovation from the offline version of the Company Data Reporting Channel which was introduced previously. The Company Data Reporting Channel is a solution for companies to avoid difficulties in managing the administration of BPJS Employment membership with information whose quality, validity and integrity are maintained. For users of the Desktop Company Data Reporting Channel, you are provided with the facility to upload output files via the available Upload facility.

Work quality is a result that can be measured by the effectiveness and efficiency of work carried out by human resources or other resources in achieving the company's goals or objectives well and efficiently. This is what causes one company to compete with another in terms of improving quality, whether it is improving the quality of human resources or product quality. Increasing human resources is an activity carried out together with employees and managers with the aim of seeking added value so that the company can face competitive challenges.

According to Flippo (2005) work quality is a result that can be measured by the effectiveness and efficiency of work carried out by human resources or other resources in achieving company goals or objectives well and efficiently. Because basically, to see the extent of the role of human resources in a company, it can be seen from the work results of an employee in the company.Information systems are one of the important things in an organization, including the Court Legal Institution. With an information system, an organization can guarantee the quality of the information provided and can make the right decisions based on this information. The need for access to information and technological development can

bring changes to various systems related to human life. In modern times followed by technological developments, human life cannot be separated from an all-digital system.

Performance is defined as what employees do or do not do. Employee performance is what influences how much they contribute to the organization. According to Afandi (2018) Performance is the work result that can be achieved by a person or group of people in a company in accordance with their respective authority and responsibilities in an effort to achieve organizational goals illegally, does not violate the law and does not conflict with morals and ethics. According to Mangkunegara (2009), the definition of performance (work achievement) is the quality and quantity of work results achieved by an employee in carrying out his duties in accordance with the responsibilities given to him.

The phenomenon that occurs at BPJS Employment Medan Raya branch is that the quality of work provided is not good enough for services to the community as well as the use of the Participant Reporting Information System which does not understand and is not able to work quickly to serve participants so that employee performance is not proficient enough in using the Information System properly in due to lack of training on Information Systems.

Literature Review

Information Systems

According to Gaol (2018), a management information system can generally be said to be an integrated human and machine system that provides information to support management operations functions and determine alternative actions within an organizational system. In Jogiyanto's opinion, (2005) a management information system is a system that performs the functions of providing all information that affects all organizational operations.

Information System Indicators

According to Jogianto (2015) there are 6 Management Information System indicators, namely:

1. Software,
2. Hardware,
3. Data Base,
4. Procedure,
5. Brainware and
6. Network.

Work quality

Hasibuan (2017) states: "Assessment is a management activity to evaluate employee behavior and work results and determine further policies." According to Warella (2004) quoted by Abdullah (2014), in the service sector, quality is more associated with service, and is defined as fulfilling the needs and expectations of customers or clients and then improving them on an ongoing basis.

Work Quality Indicators

According to Hasibuan (2017) indicators of employee work quality are:

a. Personal Potential, is the ability, strength, both unrealized and realized, that a person has, but has not yet fully seen or used optimally.

b. Optimal Work Results are results that an employee must have, employees must be able to provide the best work results, which can be seen from organizational productivity, quality and quantity of work.
c. Work Process, is the most important stage where employees carry out their duties and roles in an organization, through this work process.
d. "Enthusiasm is an attitude where an employee cares about his work. This can be seen from his attendance, implementation of tasks, work motivation, work commitment."

Employee Performance

According to Sedarmayanti (2015) performance is the result of the work of a worker, a management process or an organization as a whole, the results of which work must be shown in concrete and measurable evidence (compared to predetermined standards). Employee performance is work achievement, namely the comparison between work results that can be seen in real terms and the work standards that have been set by the organization. Mathis and Jackson (2006) state that performance is basically what employees do or do not do.

Employee Performance Indicators

According to Sedarmayanti (2014) there are several performance indicator requirements, namely as follows:

1. Specifications and clear, so it can be understood and there is no possibility of misinterpretation.
2. Can be measured objectively, both quantitatively and qualitatively, namely: two or more measuring performance indicators come to the same conclusion.
3. Relevant, must go through relevant objective aspects.
4. Achievable, important and must be useful to demonstrate the success of inputs, outputs, results, benefits, and impacts and processes.
5. Must be flexible and sensitive to changes/adjustments, implementation and results of activity implementation.
6. Effectively, data/information relating to the performance indicators in question can be collected, processed and analyzed at the available costs.

Methods

This type of research can be classified as casual associative quantitative research. According to Sugiyono (2017) quantitative research is used to examine populations or samples, sampling techniques are generally carried out randomly, data collection uses research instruments, quantitative or statistical data analysis with the aim of testing predetermined hypotheses.

The location of the research was carried out at the BPJS Employment Office, Medan Raya Branch. The research was carried out from March to July 2023.

According to Sugiyono (2017), population is a generalized area consisting of objects or subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions drawn. "The employee population is 100. By making all employees into samples, the method used is sampling. fed up. The data analysis technique used is Structural Equation Modeling (SEM) based on Partial Least Square (PLS) using SmartPLS 3.3.3 software which is carried out using a computer or laptop. According to (Gozali, 2014) Partial Least Square (PLS) is a fairly strong analysis method because it is not based on many assumptions.

Measurement Model (Outer Model)

The outer model is a requirement where researchers must look for validity and reliability values to fulfill research requirements.

1. Validity Test

The validity test is used to measure questionnaires made with statements and see whether the indicator instrument has valid values or not. Validity testing was carried out on all statement items in the questionnaire for each variable. There are testing stages that are carried out, namely through convergent validity and discriminant validity tests.

a. Convergent Validity

At this stage, we will see how big the correlation is between the indicator and its latent construct. So that it produces a loading factor value. The loading factor value is said to be high if the component or indicator correlates more than 0.70 with the construct to be measured. However, for research in the early stages of development, a loading factor of 0.5 to 0.6 is considered sufficient (Ghozali, 2014). Apart from that, at this stage we see how much value each variable has. So it produces an AVE (Average Variance Extracted) value. The AVE value is said to be high if it has a value of more than 0.5. If there is an AVE value of less than 0.5, then there is still an invalid indicator. (Ghozali, 2014).

b. Discriminant Validity

This validity test explains whether two variables are different enough from each other. The discriminant validity test can be fulfilled if the correlation value of the variable to the variable itself is greater than the correlation value of all other variables. This value is called Fornell Lacker. Apart from that, another way to fulfill the discriminant validity test can be seen in the cross loading value (how big the correlation value is between the indicators that measure the variable). The cross loading value is acceptable if the cross loading value of each variable statement item to the variable itself is greater than the correlation value of the statement item to other variables (Ghozali, 2014).

2. Reliability Test

In general, reliability is defined as a series of tests to assess the reliability of statement items. Reliability testing is used to measure the consistency of measuring instruments in measuring a concept or measure the consistency of respondents in answering statement items in questionnaires or research instruments. To measure the level of reliability of research variables in PLS, you can use the alpha coefficient value or Cronbach's alpha and composite reliability). Cronbach's alpha value is recommended to be greater than 0.7 and composite reliability is also recommended to be greater than 0.7. (Sekaran, 2014)

Structural Model (Inner Model)

This test was carried out to determine the relationship between exogenous and endogenous constructs which have been hypothesized in this research (Hair et al., 2017). To produce inner model test values, the steps in SmartPLS are carried out using the bootstrapping method. The structural model was evaluated using R-square for the dependent variable, Stone-Geisser Q-square test for predictive elevation and t test as well as the significance of the structural path parameter coefficients with the following explanation:

1. Coefficient of Determination / R Square (R2)

In assessing the model with PLS, start by looking at the R-square for each dependent latent variable. The interpretation is the same as the interpretation of regression. Changes in the R-square value can be used

to assess the influence of certain independent latent variables on the dependent latent variable whether they have a substantive influence (Ghozali, 2012). The R2 value is generally between 0 and 1.

2. Predictive Relevance (Q2)

This test is used to measure how well the observation values are produced by the model and also the estimated parameters. If the Q2 value is greater than 0, it indicates the model has predictive relevance, which means it has good observation value, whereas if the value is less than 0, it indicates the model does not have predictive relevance (Ghozali, 2014).

3. t-Statistics

At this stage it is used for hypothesis testing, namely to determine the significance of the relationship between variables in the research using the bootstrapping method. In the full model, Structural Equation Modeling, apart from confirming the theory, also explains whether or not there is a relationship between latent variables (Ghozali, 2012). The hypothesis is said to be accepted if the statistical t value is greater than the t table. According to (Latan and Ghozali, 2012) the t table value criteria is 1.96 with a significance level of 5%.

4. Path Coefficient

This test is used to determine the direction of the relationship between variables (positive/negative). If the value is 0 to 1, then the direction of the relationship between variables is declared positive. Meanwhile, if the value is 0 to -1, then the direction of the relationship between the variables is declared negative.

5. Fit Model

This test is used to determine the level of suitability (fit) of the research model with the ideal model for this research, by looking at the NFI value in the program. If the value is closer to 1, the better (good fit).

Results and Discussion

Outer Model Analysis

Measurement model testing (outer model) is used to determine the specifications of the relationship between latent variables and manifest variables. This test includes convergent validity, discriminant validity and reliability.

1. Convergent Validity

Convergent validity of the measurement model with reflexive indicators can be seen from the correlation between the item/indicator scores and the construct scores. Individual indicators are considered reliable if they have a correlation value above 0.70. However, at the research scale development stage, loadings of 0.50 to 0.60 are still acceptable. Based on the results for outer loading, it shows that the indicator has a loading below 0.60 and is not significant. The structural model in this research is shown in the following figure:

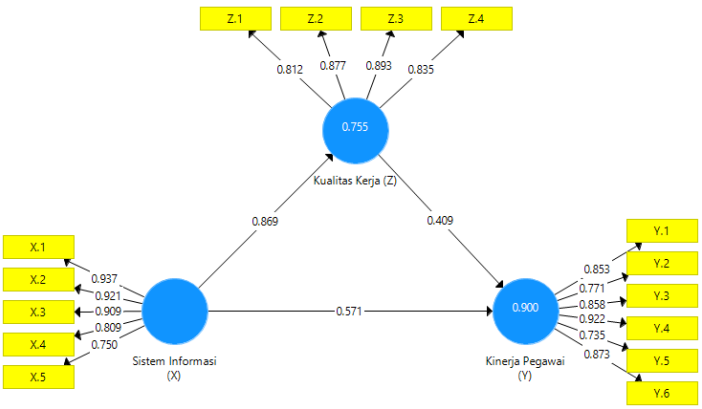

Figure 1. Outer Model
Source: Smart PLS 3.3.3

The Smart PLS output for loading factors gives the results in the following table: Outer Loadings as follows:

Table 2. Outer Loadings

	Employee Performance (Y)	Work Quality (Z)_	Information Systems (X)
X.1			0.937
X.2			0.921
X.3			0.909
X.4			0.809
X.5			0.750
Y.1	0.853		
Y.2	0.771		
Y.3	0.858		
Y.4	0.922		
Y.5	0.735		
Y.6	0.873		
Z.1		0.812	
Z.2		0.877	
Z.3		0.893	
Z.4		0.835	

Source: Smart PLS 3.3.3

The results from the table above are that there is a loading factor value greater than 0.07, meaning that each indicator in the variable has a valid value and further research can be carried out.

2. Discriminate Validity

In this section, the results of the discriminant validity test will be described. The discriminant validity test uses cross loading values. An indicator is declared to meet discriminant validity if the cross loading value of the indicator on the variable is the largest compared to other variables. The following are the cross loading values for each indicator:

Table 3. Discriminant Validity

	Employee Performance (Y)	Work Quality (Z)_	Information Systems (X)
X.1	0.931	0.884	**0.937**
X.2	0.925	0.812	0.921
X.3	0.764	0.720	0.909
X.4	0.725	0.667	0.809
X.5	0.626	0.657	0.750
Y.1	0.853	0.730	0.829
Y.2	0.771	0.699	0.720
Y.3	0.858	0.815	0.777
Y.4	**0.922**	0.800	0.887
Y.5	0.735	0.639	0.666
Y.6	0.873	0.852	0.761
Z.1	0.673	0.812	0.689
Z.2	0.798	0.877	0.813
Z.3	0.800	**0.893**	0.746
Z.4	0.815	0.835	0.717

Source: Smart PLS 3.3.3

In table 3 above there is a loading factor value for each variable and for each loading factor there is a value that is greater than the loading factor of other variables, in other words, the loading factor of the employee performance variable is greater than the loading factor of other latent variables, for the Job Quality variable loading The factor is bigger than other latent variables, while the loading factor of the information system variable is bigger than other latent variables. This means that the value above is a discriminantly valid value.

3. Composite reliability

In this research, reliability testing was carried out using two methods, namely Cronbach's alpha and Composite reliability. Cronbach's alpha measures the lower limit of the reliability value of a construct, while Composite reliability measures the actual value of the reliability of a construct. Based on this opinion, this research uses Composite reliability to test reliability. The rule of thumb is that the alpha or Composite reliability value must be greater than 0.7, although a value of 0.6 is still acceptable. The table below shows the values of Cronbach's alpha and Composite reliability.

Table 4. Construct Reliability and Validity

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Employee Performance (Y)	**0.914**	**0.934**	**0.702**
Work Quality (Z)_	**0.877**	**0.915**	**0.731**

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Information Systems (X)	**0.916**	**0.938**	**0.754**

Source: Smart PLS 3.3.3

The value above shows that the value of all variables in reliability testing using either Cronbach's Alpha or Composite reliability is > 0.70, and validity testing using AVE (Average Variance Extracted) is > 0.50. Therefore, it can be concluded that the variables tested are valid and reliable, so that it can be continued to test the structural model.

Inner Model Analysis

Evaluation of the structural model (inner model) is carried out to ensure that the structural model built is robust and accurate. The analysis stages carried out in the structural model evaluation are seen from several indicators, namely:

1. Coefficient of Determination (R2)

Based on data processing that has been carried out using the SmartPLS 3.0 program, the R Square value is obtained as follows:

Table 5. R Square Results

	R Square	Adjusted R Square
Employee Performance (Y)	0.900	0.897
Work Quality (Z)_	0.755	0.753

Source: Smart PLS 3.3.3

There is an R square value for Employee Performance of 0.900 and the percentage is 90.0%, meaning that the influence of the Information System and Work Quality variables influences Employee Performance by 90.0%, the remaining 90.0% is on other variables. There is an R square value of 0.755 and the percentage is 75.5%, meaning that the influence of the Information System has an effect on Work Quality by 75.5% and the rest is in other variables.

2. Goodness of Fit (GoF) Assessment

The goodness of fit model test can be seen from the NFI value ≥ 0.697 which is declared fit. Based on data processing that has been carried out using the SmartPLS 3.3 program, the Model Fit values are obtained as follows:

Table 6. Model Fit

	Saturated Model	Estimation Model
SRMR	0.073	0.073
d_ULS	0.639	0.639
d_G	1,137	1,137
Chi-Square	479,261	479,261
NFI	0.731	0.731

Source: Smart PLS 3.3.3

The goodness of fit test results of the PLS model in table 6 below show that the NFI value of 0.731 means FIT. Thus, from these results it can be concluded that the model in this study has a high goodness of fit and is suitable for use to test research hypotheses.

3. Hypothesis Testing

After assessing the inner model, the next thing is to evaluate the relationship between latent constructs as hypothesized in this research. Hypothesis testing in this research was carried out by looking at T-Statistics and P-Values. The hypothesis is declared accepted if the T-Statistics value is > 1.96 and P-Values < 0.05. The following are the direct influence Path Coefficients results:

Table 7. Path Coefficients (Direct Influence)

	Original Sample (O)	T Statistics (| O/STDEV |)	P Values
Work Quality (Z)_ -> Employee Performance (Y)	0.409	6,547	**0,000**
Information Systems (X) -> Employee Performance (Y)	0.571	9,197	**0,000**
Information Systems (X) -> Work Quality (Z)_	0.869	40,712	**0,000**

Source: Smart PLS 3.3.3

In the table above there is a direct influence and the explanation is as follows:

1. Work Quality has a positive and significant effect on Employee Performance with an original sample value of 0.409 and a P value of 0.000. This means that if the quality of work increases, employee performance will increase, if it decreases, employee performance will decrease.
2. Information Systems have a positive and significant effect on Employee Performance with an original sample value of 0.571 and a P value of 0.000. This means that if the information system improves, employee performance will increase, but if it decreases, employee performance will decrease.
3. Information Systems have a positive and significant effect on Work Quality with an original sample value of 0.869 and a P value of 0.000. This means that if the information system improves, the quality of work will also increase, whereas if it decreases, the quality of work will also decrease.

Table 8. Path Coefficients (Indirect Influence)

	Original Sample (O)	T Statistics (| O/STDEV |)	P Values
Information Systems (X) -> Work Quality (Z)_ -> Employee Performance (Y)	0.355	6,313	**0,000**

Source: Smart PLS 3.3.3

In the table above there are indirect values and explanations as follows: Information Systems have a positive and significant effect on Employee Performance indirectly through Work Quality with an original sample value of 0.355 and a P value of 0.000, meaning that Work Quality is an intervening variable because it can indirectly influence performance. employees and information systems. By having employees who

have quality work and have a good information system, employee performance will improve well and be directed.

Closing

Conclusion

1. Information Systems have a positive and significant effect on Employee Performance at the BPJS Employment Office, Medan Raya Branch
2. Work Quality has a positive and significant effect on Employee Performance at the BPJS Employment Office, Medan Raya Branch
3. Information Systems have a positive and significant effect on Work Quality at the BPJS Employment Office, Medan Raya Branch
4. Information Systems have a positive and significant effect on Performance through Work Quality at the BPJS Employment Office, Medan Ray Branch

Suggestion

In this research, good results have been obtained, but to improve better work results, the researcher provides the following suggestions:

1. Organizations must always be updated about new information systems and always follow new information systems and use them usefully to improve work results and the results the organization desires.
2. Organizations must select employees who have good work qualities and provide training for employees to improve the quality of employees' work.
3. Organizations must pay attention to the performance of their employees and pay attention to the results obtained by employees so that they will get employees with high quality work.

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