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The Influence of Implementation of Management Information Systems on the Quality of Human Resources with Competence as an Intervening Variable Regional Finance, Revenue and Asset Management Agency (BPKPAD) Binjai City

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Abstract

This study aims to analyze the effect of implementing management information systems on the quality of human resources with competence as an intervening variable. This research was conducted at the Office of the Regional Financial, Revenue and Asset Management Agency (BPKPAD) in Binjai City. The population of this study was 173 employees. Sampling was carried out using the Slovin formula so that a sample of 121 employees was obtained. The type of research used is associative quantitative. This research model uses path analysis, and the measurement tool uses Smart PLS version 3.3.3. The results of this study are. Competence has a positive and significant impact on HR quality. Management Information Systems have a positive and significant impact on competence. The Management Information System has a positive and significant effect on HR Quality. The Management Information System has a positive and significant effect on HR Quality through Competence.

Keywords *Management Information System, HR Quality, Competence*

INTRODUCTION

The management information system (MIS) is one of the five main subsystems of CBIS. The goal is to meet the general information needs of all managers within the company or within the company's organizational subunits. Subunits can be based on a functional area or management level. SIM provides information to the user in the form of reports and output from various mathematical model simulations. Reports and model output can be provided in tabular or graphical form. Behavioral influences have always been important for information system performance but are especially important for organizational information systems such as MIS. Managers and information specialists can create programs designed to turn the negative effects of behavioral influences into positive outcomes. MIS reflects an attitude of executives who want computers to be available to all company problem solvers. When SIMs are in place and functioning as intended, they can help managers and other users inside and outside the company identify and understand problems.

Factors that affect the quality of human resources (HR), include health factors and nutritional factors, these two factors are important because a person is not able to develop his capacity to the fullest if the person concerned does not have optimal health and nutritional status. To obtain quality human resources (HR), a strategic vision plan has been developed that is achieved by the health department, namely a healthy, independent and just society, including creating a state of physical, mental, spiritual and social health, which enables each individual to live proactively, social and economic through independent and fair operationalization can soon be realized (Ministry of Health Republic of Indonesia, 2010). Competence or competency is the ability to carry out a task/job based on knowledge, skills

and attitudes in accordance with the required performance. Competence for some professions is an important requirement in carrying out organizational frameworks and goals. Competency issues are important, because competence offers an organizational framework that is effective and efficient in utilizing limited resources. In every job or profession, especially in the field of education within the scope of the school, education personnel, especially teachers, must have competence in accordance with their fields and responsibilities. A teacher who has competence in his profession will be able to carry out his duties properly and efficiently, effectively, on time, and on target.

LITERATURE REVIEW

Management Information

Information systems can be understood as tools for users to complete their work accurately, efficiently and effectively. According to (Sholeh & Wahyudin, 2021) a management information system is a communication process in which information is entered, recorded, stored, and retrieved for planning, operational, and monitoring decisions. Meanwhile, according to (Sinaga et al., 2020) a management information system is a system consisting of a set of structured parts that work together to produce information for use in business management. According to (Hakim, 2019), a Management Information System (MIS) is a machine or human system that provides information to support management activities and decision-making functions within a company.

Management Information System Indicators

According to (Sholeh & Wahyudin, 2021) indicators for a management information system are:

1. accuracy, the information must be true.
2. Information must be timely, when needed.
3. appropriate, where appropriate, the information provided must match that requested.
4. Complete, meaning that the information provided must be complete, meaning that users can receive information that presents a complete picture of a particular problem.

Quality of Human Resources

According to Rahardjo (2013) explains the notion of Quality of Human Resources, namely: "The quality of human resources is only determined by aspects of skills or physical strength, but also determined by education or levels of knowledge, experience or maturity and attitudes and values they have". The quality of human resources consists of two syllables including the word quality which in general is the level of good or bad or the level or degree of something. The definition of quality according to Sedarmayanti (2017), suggests that "Quality is a measure that states how far various requirements, specifications, and expectations have been fulfilled".

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Human Resource Quality Indicators

According to Rahardjo (2013) said that indicators of the quality of human resources are as follows:

1. Intellectual Qualities (Knowledge and Skills) Include:
   a) Have knowledge and skills in the field of science and technology in accordance with the demands of industrialization.
   b) Have knowledge of languages, including national languages, regional languages and at least one foreign language.
2. Education
   a) Have educational ability at a higher level.
   b) Having the level of variety and quality of education and relevant skills by taking into account the dynamics of employment both at the local, national and international levels.

Competence

The definition of competence according to Hutapea and Thoha (2014), namely: "Competence is defined as the capacity that exists in a person who can make that person able to fulfill what is required by work in an organization so that the organization is able to achieve the expected results." According to Wirawan (2009) defines, namely: "Human resource competence is to describe the characteristics of knowledge, skills, behavior and experience possessed by humans to carry out a particular job or role effectively".

Competency Indicator

According to Hutapea (2014) mentions competency indicators, among others.

a. Work-related knowledge which includes:
   1) Know and understand knowledge in their respective fields which relate to duties and responsibilities at work.
   2) Knowing the main function of the agency organization
   3) Knowing how to use appropriate and correct information, equipment and techniques.
b. Individual skills, including:
   1) The ability to complete tasks properly.
   2) Ability to solve problems.
   3) The ability to determine priority issues.
   4) Ability to provide service information.
c. Work attitude, including:
   1) Have creativity in work.
   2) There is high morale.
   3) Have the ability in planning / organizing.

METHOD

The type of research that will be used is quantitative associative, namely research that aims to determine the relationship between two or more variables (Sugiyono, 2013). In this

study, the exogenous variable is the Management Information System (X), while the endogenous variable is HR Quality (Y) and the Intervening Variable, namely Competence (Z). This research was conducted at the Office of the Regional Finance, Revenue and Asset Management Agency (BPKPAD) Binjai City. According to Sugiyono (2013), population is a generalized area consisting of objects/subjects that have certain qualities and characteristics determined by researchers to be studied and then drawn. in conclusion. The population used was 173 employees consisting of 75 ASN employees and 98 Honorary Employees

The sample to be carried out with the Slovin formula is as follows:

n = N / (1 + (N x e^2)).
= 173 / (1 + (173 x 0.0025))
= 173 / (1 + 0.432)
= 173 / 1.432
= 120.81
= 121 people.

Data analysis technique

The data analysis technique used in this study is a quantitative data analysis method. Data analysis in this study used Partial Least Square (PLS) based Structural Equation Modeling (SEM) using SmartPLS 3.3.3 software

Measurement Model (Outer Model)

The procedure for testing the measurement model consists of a validity test and a reliability test.

1. Validity Test
   The validity test is used to assess whether or not a questionnaire is valid. A questionnaire is said to be valid if the questionnaire questions are able to reveal something that is measured by the questionnaire. Validity testing is applied to all question items in each variable.
2. Reliability Test
   In general, reliability is defined as a series of tests to assess the reliability of statement items. The reliability test is used to measure the consistency of measuring instruments in measuring a concept or measuring 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 value of the alpha coefficient or Cronbach's alpha and composite reliability). Cronbach's alpha value is suggested to be greater than 0.7 and composite reliability is also suggested to be greater than 0.7. (Now, 2014)

Structural Model (Inner Model)

This test was conducted to determine the relationship between exogenous and endogenous constructs which has become a hypothesis in this study (Hair et al., 2017). To produce inner model test values, steps in SmartPLS are carried out using the bootstrapping

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method. The structural model is evaluated using the R-square
for the dependent variable, the Stone-Geisser Q-square test for predictive elevation and the t test and 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 begins by looking at the R-square for each dependent latent variable. The interpretation is the same as the interpretation in regression. Changes in the R-square value can be used to assess the effect of certain independent latent variables on the dependent latent variable whether it has a substantive effect (Ghozali, 2012). The value of R2 is generally between 0 and 1.
2. Predictive Relevance (Q2)
   This test is used to measure how well the observed values are generated by the model and also the parameter estimates. If the Q2 value is greater than 0, it indicates that the model has predictive relevance, which means it has a good observation value, whereas if the value is less than 0, it indicates that 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 research using the bootstrapping method. In the full Structural Equation Modeling model besides confirming the theory, it also explains whether or not there is a relationship between latent variables (Ghozali, 2012). The hypothesis is said to be accepted if the t statistic value is greater than the t table. According to (Latan and Ghozali, 2012) the criteria for a t table value of 1.96 with a significance level of 5%
4. Path Coefficient (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 positive. Meanwhile, if the value is 0 to -1, then the direction of the relationship between variables is declared negative.
5. Model Fit
   This test is used to determine the level of suitability (fit) of the research model with the ideal model for this study, 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

Testing the measurement model (outer model) is used to determine the specification of the relationship between latent variables and their manifest variables, this test includes convergent validity, discriminant validity and reliability.

1. Convergent Validity

Convergent validity is used to determine the validity of each indicator on its latent variables, in the SmartPLS software to see the results of the validity, it can be seen in the

outer loading table. In the outer loading table there are numbers or values that indicate indicators that show similarities with the construct variables. The value for the indicator is said to be valid, if the indicator explains the construct variable with a value of > 0.7. The structural model in this study is shown in the following figure:

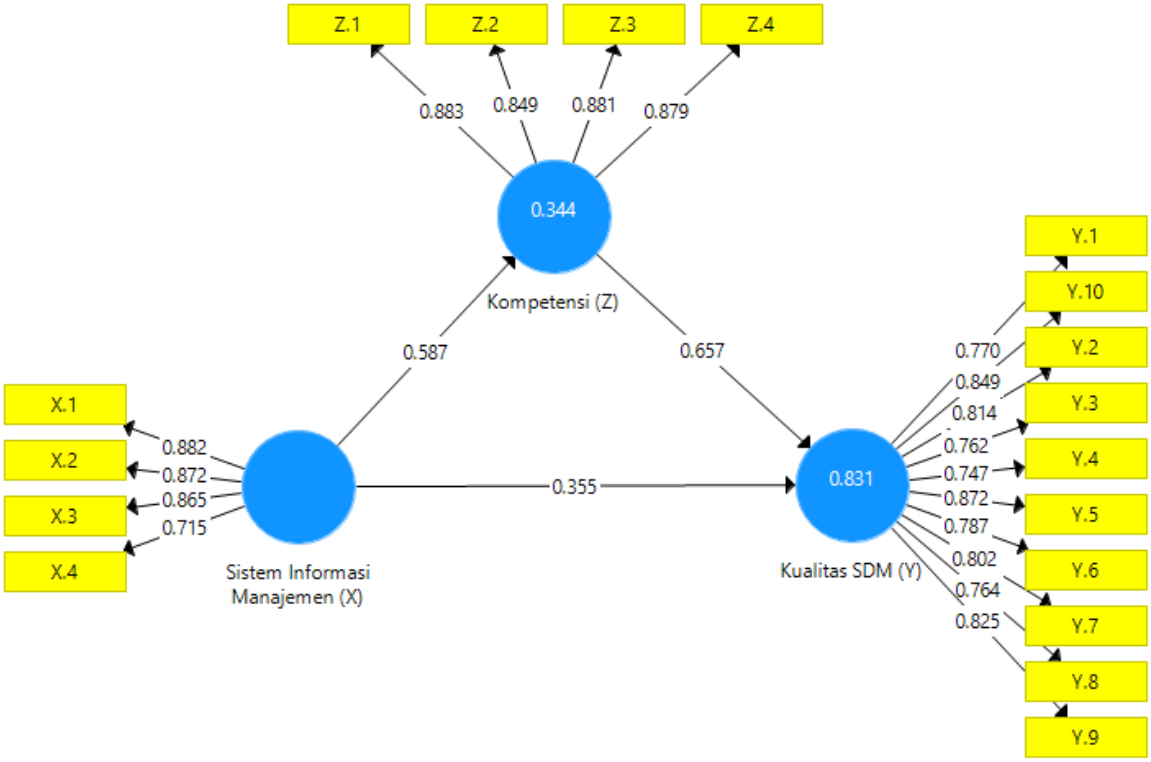

Figure 1. Outer Model
Source: Smart PLS 3.3.3

The Smart PLS output for the loading factor gives the results in the following table: Outer Loadings. In this study there are equations and the equation consists of two substructures for substructure 1.

Z = b1X1 + e1
Z = 0.587 + e1
For substructure 2
Y = b2X1 + b3Z + e2
Y = 0.355 + 0.657 + e2

Table 1. Outer Loadings

	Competency (Z)	HR Quality (Y)	Management Information System (X)
X.1			**0.882**
X.2			**0.872**
X.3			**0.865**

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X.4			0.715
Y. 1		0.770	
Y.10		0.849	
Y.2		0.814	
Y.3		0.762	
Y.4		0.747	
Y.5		0.872	
Y.6		0.787	
Y.7		0.802	
Y. 8		0.764	
Y.9		0.825	
Z. 1	0.883		
Z. 2	0.849		
Z. 3	0.881		
Z. 4	0.879		

Source: Smart PLS 3.3.3

It can be seen from the table above that there is an outer loading value for each variable and the indicator has a value greater than 0.7 so it can be concluded that when the outer loading value is greater than 0.7, the data is considered valid, meaning that the outer loading value in this study is all indicators. considered valid.

2. Discriminant Validity

Discriminant Validity can be tested by looking at the cross-loading table, this output is used to test discriminant validity at the indicator level with the condition that the correlation between indicators and their late variables is > compared to the correlation between indicators and other latent variables (outside the block). For more details can be seen in the table below:

Table 2. Discriminant Validity

	Competency (Z)	HR Quality (Y)	Management Information System (X)
X.1	0.419	0.540	**0.882**
X.2	0.453	0.598	0.872
X.3	0.474	0.590	0.865
X.4	0.571	0.696	0.715
Y. 1	0.699	0.770	0.530
Y.10	0.699	0.849	0.702
Y.2	0.711	0.814	0.551
Y.3	0.590	0.762	0.753
Y.4	0.630	0.747	0.518
Y.5	0.765	**0.872**	0.644

Y.6	0.705	0.787	0.456
Y.7	0.713	0.802	0.672
Y. 8	0.665	0.764	0.568
Y.9	0.736	0.825	0.504
Z. 1	**0.883**	0.757	0.582
Z. 2	0.849	0.711	0.450
Z. 3	0.881	0.776	0.518
Z. 4	0.879	0.774	0.492

Source: Smart PLS 3.3.3

To see that research is valid discriminately the data must be greater than the cross loading value of other latent variables. We can see the latent cross loading of the Competency variable. It can be seen that the value is greater than the cross loading of other latent variables. For the cross loading of the HR Quality variable, there is a value greater than the cross loading of other latent variables, for cross loading of the Management Information System variable there is a value greater than the cross loading of other latent variables. This means that the data is declared valid in a discriminatory manner.

3. Composite reliability

Subsequent tests determine the reliable value with the composite reliability of each construct, the construct value that is considered reliability is where the composite reliability value is above 0.6 or greater than 0.6. If the value of Coranbasch alpa is also greater than 0.7 then the value of each construct in the block is considered reliable in each construct variable and if the AVE value is also above 0.7 then each construct variable is considered valid. The following is a table of loading values for the research variable construct resulting from running the Smart PLS program in the next table:

Table 3. Construct Reliability and Validity

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Competency (Z)	**0.896**	**0.928**	**0.762**
HR Quality (Y)	**0.937**	**0.947**	**0.640**
Management Information System (X)	**0.854**	**0.902**	**0.699**

Source: Smart PLS 3.3.3

Based on the table above, there is a Cronbach alpha block where the value of each variable is greater than 0.7 so that it can be interpreted as Cronbach alpha reliability data. Based on the composite reliability block, the value of each variable is greater than 0.6 so that it can be explained that the value is considered composite reliability. Based on the AVE block, there is a value for each variable greater than 0.7, it can be explained that an AVE

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value greater than 0.7 means that the values are validly distributed so that it can be explained that all the blocks listed above have a value greater than the basically so that it is considered reliable and valid.

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 stages of analysis carried out in the evaluation of the structural model are seen from several indicators, namely:

1. Coefficient of Determination (R2)

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

Table.4. R Square results

	R Square	Adjusted R Square
Competency (Z)	0.344	0.339
HR Quality (Y)	0.831	0.828

Source: Smart PLS 3.3.3

Based on the table above, there is an R square value for the Competency variable of 0.344 with a percentage of 34.4%, meaning that the influence of the Management Information System variable on Competence with a value of 34.4%, the remaining 65.6% is in other variables. For the R square value of the HR Quality variable, it is 0.831 if it is percentaged at 83.1%, meaning that the influence of the Management Information Systems and Competence variables on HR Quality is 81.3% and the side of 16.9% is in other variables.

2. Assessment of Goodness of Fit (GoF)

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

Table 5. Model Fit

	Saturated Model	Estimation Models
SRMR	0.092	0.092
d_ULS	1,434	1,434
d_G	0.944	0.944
Chi-Square	545,580	545,580
NFIs	0.734	0.734

Source: Smart PLS 3.3.3

Based on the table above, there is an NFI value of 0.722 if the research is considered fit if the NFI value is greater than 0.697, because the NFI value in this study is greater than 0.697, the research is considered fit according to the GoF test and can carry out further research and is feasible so that it can carry out Hypothesis test.

3. Hypothesis Testing

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

Table 6. Path Coefficients (Direct Effects)

	Original Sample (O)	T Statistics (| O/STDEV |)	P Values	Results
Competence (Z) -> HR Quality (Y)	0.657	13,792	**0.000**	**Accepted**
Management Information System (X) -> Competency (Z)	0.587	11.157	**0.000**	**Accepted**
Management Information System (X) -> HR Quality (Y)	0.355	7,389	**0.000**	**Accepted**

Source: Smart PLS 3.3.3

Based on the table above, the value of the hypothesis can be explained as follows:

1. Competence has a positive and significant impact on HR quality with an original sample value of 0.657 and P values 0.000 <0.05 meaning that if competence increases, HR quality will increase; if competence decreases, HR quality also decreases.
2. Management information systems have a positive and significant effect on competence with an original sample value of 0.587 and P values 0.000 <0.05 If the information system increases, competence will also increase; if the information system decreases, competence decreases.
3. The Management Information System has a positive and significant effect on HR quality with an original sample value of 0.355 and P values 0.000 <0.05 If the information system increases, the HR quality will increase and if the information system decreases, the HR quality will decrease.

Table 7. Path Coefficients (Indirect Effects)

	Original Sample (O)	T Statistics (| O/STDEV |)	P Values	Results
Management Information System (X) -> Competency (Z) -> HR Quality (Y)	0.385	10.187	**0.000**	**Accepted**

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Based on the table above, there is an indirect effect that can be explained as follows:

The Management Information System influences HR Quality through Competence positively and significantly with an original sample value of 0.385 and P values 0.000 <0.05. It can be explained that competence is an intervening variable because it can affect Management Information Systems and HR Quality indirectly, in this case the system Information is very important in work and is used by employees who have good and competent human resources so that the performance is very good.

CLOSING

Conclusion

1. Competence has a positive and significant impact on HR quality.
2. Management Information Systems have a positive and significant impact on competence.
3. The Management Information System has a positive and significant effect on HR Quality.
4. The Management Information System has a positive and significant effect on the quality of human resources through competence.

Suggestion

1. The organization must have a management information system to facilitate work and speed up the execution of work.
2. The organization must select employees who have good and high competence for the progress of the organization
3. Organizations must recruit members by looking at the quality of human resources so that they can perform well and think about the progress of the organization.

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