Factors Affecting the Effectiveness of Accounting Information Systems at BPJS Kesehatan Banyuwangi

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Article Info	Abstract
	Along with the times, it provides all the conveniences that encourage progress in various fields. One of them is the development in the public sector, namely BPJS. Evidenced by the existence of an Accounting Information System (SIA) that facilitates the performance of data procurement. The Accounting Information System (SIA) can be said to be successful if it can produce output in the form of information in a timely and quality manner. This study aims to analyze the Effect of Competence, Work Motivation, Commitment, Job Training and Technology Sophistication on the Effectiveness of Accounting Information Systems. The type of research used is quantitative research. The data used are primary data with data collection techniques, namely questionnaires, observations and literature studies. The data analysis methods used are instrument data test, classical assumption test, multiple linear regression and hypothesis testing. The results showed that Competence, Work Motivation, Commitment and Job Training did not have a partial effect on the Effectiveness of the Accounting Information System. While Technological Sophistication has a partial effect on the Effectiveness of Accounting Information Systems and Competence, Work Motivation, Commitment, Job Training and Technology Sophistication simultaneously affect the Effectiveness of Accounting Information Systems.

INTRODUCTION

BPJS Kesehatan is a public legal entity formed to organize a health insurance program as referred to in Law Number 24 of 2011 concerning the Social Security Organizing Agency. The establishment of BPJS Kesehatan is intended to improve the health financing system and to provide convenience in ensuring health needs for the community. Therefore, it requires a system that is able to facilitate the performance of data procurement so that effective and efficient information and transaction results are obtained. The system that is able to overcome this phenomenon is by applying an accounting information system (SIA) which is a coordination of people, tools, and methods that interact harmoniously in a structured organizational container to produce financial accounting information and structured management accounting information as well. The use of SIA has many benefits for companies including, can add value to a company by producing accurate and timely information, can encourage organizational

efficiency, provide faster services, and reduce transaction costs (*Afrizon* and Pakpahan, 2020).

To be able to implement a good Accounting Information System (SIA), it is necessary to pay attention to various aspects related to its success. These aspects can be in the form of external and internal aspects of the Accounting Information System (SIA) itself, one of which is the behavioral aspect (of the user in operating the SIA) and the aspect of the SIA itself. The behavioral aspects that are considered quite close to the effectiveness of SIA are aspects of user competence, work motivation, and commitment. Aspects of SIA itself are training and technological sophistication. From this, it can be seen that competence, work motivation, commitment, job training greatly affect employee performance in a company, which will be the main topic of discussion in this research.

Similar research has been conducted by Sari & Indrasaraswati with the title "The Effect of Training and Education Programs, Individual Performance, and Personal Work Experience on the Effectiveness of Using Accounting Information Systems in Savings and Loan Cooperatives in Tabanan Marga District". This study aims to determine the effect of job training and education programs, individual performance, and personal work experience on the effectiveness of using accounting information systems in Savings and Loans Cooperatives in Tabanan Marga District. The difference with the research topic to be studied by the researcher is the object of research and one of the points of discussion. This time the researcher added work motivation in his topic of discussion which is part of one aspect of employee psychological behavior, Luthans (2019). This also supports the effectiveness of employee performance which will also affect the effectiveness of using SIA. So, the researchers concluded that there is a need for new research on the effectiveness of the use of SIA.

METHOD
In this study, researchers used a type of quantitative research. According to Sugiyono (2018: 13) the quantitative method is a research method based on positivistic (concrete data), namely research data in the form of numbers. Meanwhile, in collecting data, researchers use questionnaires, observations and literature studies. The questionnaire was distributed to employees who have duties and authorities related to SIA at the BPJS Kesehatan KC Banyuwangi office which then the data was processed using SPSS 25 software.

Population and Sample
The population used in this study is SIA (Accounting Information System) located at the BPJS Kesehatan KC Banyuwangi office. While the sampling technique in this study uses *Non-probability Sampling* with a *purposive sampling* method which in the sampling technique has considerations that have been determined to respondents related to certain goals or requirements. The sample in this study was 30 employees at the BPJS Kesehatan KC Banyuwangi office who had duties and authorities related to the operation of SIA (Accounting Information System).

Variable Operational Definition
In this study there are two variables, namely as follows:
1.   Independent Variable
   1.   Employee Competence (X1), the indicators are Creative thinking, Giving good ideas, Able to work together, Having expertise, Discipline, and Independence;
   2.   Motivation (X2), the indicator is the desire to complete work, comply with company regulations, Serious at work, Work better than before, Able to develop skills, and Tenacious at work;

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3. Commitment (X3), the indicators are Have a willingness to strive for the interests of the company, Strong trust and acceptance of values or norms that exist in the company, and Remain a member of the organization;

4. Training (X4), the indicators are Adequate qualifications or competencies, Motivating participants, Enthusiasm to attend training, Desire to pay attention, Increasing abilities, Suitability of material with training objectives;

5. Sophistication of Information Technology (X5), the indicator is the information system in the company supported by the internet, the accounting information system in the company has a main accounting information system, the accounting software used by the company is equipped with complete features and fast response, the accounting software used is able to process transactions in large volumes and produce accurate information.

6. Dependent Variable

The dependent variable in this study is "Effectiveness of Accounting Information Systems (Y)"

Data Analysis Methods

Uji Instrument

1. **Validity Test**

   The validity test is carried out to measure whether the data that has been studied is valid or not, in this case what is tested is the statement in the questionnaire. The basis for decision making in this test is by comparing the r-count with the r-table where the number of respondents is set as many as 30 employees with a significance level of 5%. So obtained the r-table value of 0.3494. Based on this, if the r-count value > r-table, the statement can be declared valid.

2. **Reliability Test**

   Reliability tests are carried out after validity tests. Reliability tests are carried out to determine that the questionnaire used is reliable or reliable. This indicates that the answers given by respondents will be consistent over time. The basis for decision making in this test is that if *Cronbach's Alpha score* > 0.6, then the questionnaire is declared reliable.

Classical Assumption Test

1. **Uji Normalitas Kolmogorov Smirnov**

   The normality test according to Ghozali (2016) is used to test whether the regression model of independent and dependent variables or both have normal distribution.

2. **Multicolonearity Test**

   This test is designed to calculate and determine whether there is a high relationship between the independent variable and the dependent variable in multiple linear regression models. If there is a high relationship between independent variables, the relationship between the independent variable and the dependent variable is disrupted. The statistical tool used to test multicollinearity disorders is *the Variance Inflantion Factor (VIF), a* Pearson correlation between independent variables or with consideration of eigenvalues and condition indices

3. **Heterokedacity Test**

   The heterokedasticity test is performed to test whether the regression model has variance inequality from residuals from one observation to another. The heterokedasticity test in this study was carried out by looking at whether there was a pattern on the scatterplot graph between SPESID and ZPRED.

4. **Double Linear Regression Analysis**

   1. **F Test (Simultaneous)**

      Tests that aim to find the influence of independent variables simultaneously or together on the dependent variable with a signification level of 5% or 0.05, the F

test requirement itself is that if the value of F signification < 0.05 then it can be interpreted that the independent variables together affect the dependent variable and vice versa (Ghozali, 2016). The decision making of the F test itself can be seen through the ANOVA table with a signification level of 5% or 0.05.

2. **Uji t (Hypotesis)**
   The t test is used to determine how much influence each independent variable has on the dependent variable, according to Ghozali (2018). The significance rate used in this test is 5% or 0.05 (*two-tailed test)* with degrees of freedom df = n – k = 97, then a table value of 1.984 can be obtained (seen from t table).

RESULTS AND DISCUSSION

The respondents of this study are employees of BPJS Kesehatan KC Banyuwangi who have duties and authorities related to SIA at the BPJS Kesehatan KC Banyuwangi office. The process of distributing this research questionnaire was carried out by sharing the questionnaire link online using *Google Form Tools* to 30 employees of BPJS Kesehatan KC Banyuwangi. From the data obtained to measure whether the data that has been studied is valid or not, researchers use the data validity test presented in the following table:

Table 1 Validity Test Results

Variable	Pearson Correlation	Sig.(2-Tailed)	r-table 0,05	Information
Competency X1 Statements 1-6	0,705; 0,597; 0,871; 0,518; 0,822; 0,733	0,000	0,3494	Valid
Competency X2 Statements 1-6	0,719; 0,748; 0,762; 0,557; 0,696; 0,699	0,000	0,3494	Valid
Competency X3 Statements 1-4	0,871; 0,497; 0,818; 0,546	0,000	0,3494	Valid
Competency X4 Statements 1-6	0,673; 0,657; 0,850; 0,422; 0,78; 0,721	0,000	0,3494	Valid
Competency X5 Statements 1-6	0,757; 0,620; 0,848; 0,619; 0,847; 0,806	0,000	0,3494	Valid
Competency Y Statements 1-5	0,807; 0,782; 0,568; 0,764; 0,841	0,000	0,3494	Valid

Based on the table above, it shows that each statement in the questionnaire can be declared valid for use as evidenced by an r-count value greater than the r-table value.

The questionnaire used can be called reliable or reliable, if through reliability testing, which is displayed by the author in the following table:

Table 2 Reliability Test Results

Variable	Cronbach's Alpha	Standard Alpha	Information
Work Motivation (X2)	0,804	0,600	Reliable
Commitment (X3)	0,654	0,600	Reliable
Job Training (X4)	0,751	0,600	Reliable

Technology Sophistication (X5)	0,836	0,600	Reliable
Effectiveness of Accounting Information Systems (Y)	0,802	0,600	Reliable

Based on the table above, it shows that *Cronbach's Alpha value* is greater than *Standard Alpha* (0.600) so that it can be concluded that the questionnaire can be declared reliable or reliable to use.

The normality test is used to test whether the regression model of the independent and dependent variables or both have normal distribution. Normality testing using *Kolmogorov – Smirnov* with criteria if the value of sig. > 0.05 then the data can be said to be normally distributed and if the value of sig. < 0.05 then the data can be said to be not normally distributed.

Table 3 Hasil uji normalitas kolmogorov Smirnov
One -Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		30
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	1.45524492
Most Extreme Differences	Absolute	.111
	Positive	.111
	Negative	-.111
Test Statistic		.111
Asymp. Sig. (2-tailed)		.200[c,d]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

Based on Table 3 it can be seen that residuals are normally distributed. This is indicated by the value of Asymp. Sig. (2-tailed) of 0.200 or 20% which means the value of sig. greater than 0.05

Table 4 Multicollinearity Test Results
Coefficient

	Collinearity Statistics	
Model	Tolerance	BRIGHT
1 (Constant)		
Employee Competence	.892	1.121
Work Motivation	.766	1.305
Commitment	.801	1.248
Job Training	.893	1.120
Technological sophistication	.931	1.075

From the table above, it can be seen that there is no independent variable that has a *tolerance value* of less than 0.10. Then for the results of the VIF calculation shows that none of the independent variables have a VIF value of more than 10. So it can be concluded that the equation of the regression model proposed is free from multicollinearity

The heterokedasticity test is performed to test whether the regression model has variance inequality from residuals from one observation to another. The heterokedasticity test in this study was carried out by looking at whether there was a pattern on the scatterplot graph between SPESID and ZPRED
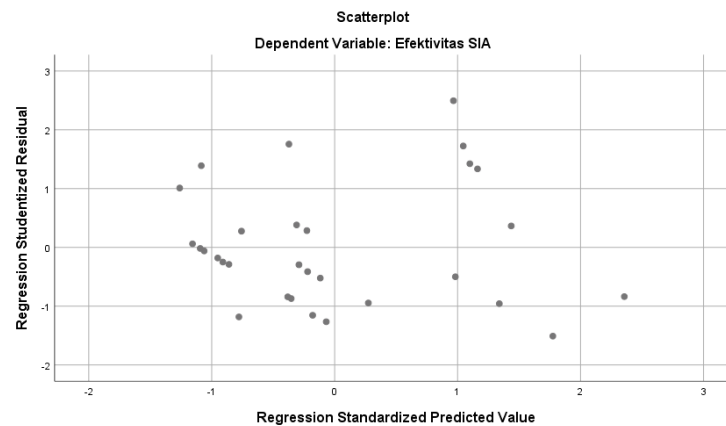

Figure 1 Heterokedastistas Test Results

In figure 1 above does not form a clear pattern and points from the calculation results of regression analysis that spread above and below zero on the Y axis. The glacier test is carried out by progressing all independent variables of the regression model with their absolute residual values. If there is no significant value of the variable, the regression model can be declared free from heterokedasticity. From the glacier test obtained as follows:

Table 5 Glesjer Method Heterokedasticity Test Results

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1	(Constant)	17.535	6.996		2.506	.019		
	Kompetensi	.051	.131	.053	.386	.703	.892	1.121
	Motivasi	-.153	.126	-.180	-1.221	.234	.766	1.305
	Komitmen	-.391	.192	-.294	-2.034	.053	.801	1.248
	Pelatihan Kerja	-.042	.143	-.040	-.294	.771	.893	1.120
	Kecanggihan Teknologi	.506	.111	.613	4.574	.000	.931	1.075

Table 5 shows the results or significant value for the employee competency variable of 0.703, the significant value for the work motivation variable is 0.234, the significant value for commitment is 0.053, the significant value for job training is 0.771, and the significant value of technological sophistication is 0.000. Based on the results above, it can be concluded that there is one independent variable that has a significance value of less than 0.05 so that the regression model has symptoms of heterokedasticity.

Multiple Linear Regression Analysis
Multiple linear regression analysis is used to test the positive or negative relationship between the independent variable and the dependent variable if the value of the variable increases or decreases.

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Table 6 Multiple Linear Regression Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	17.535	6.996		2.506	.019
	Kompetensi	.051	.131	.053	.386	.703
	Motivasi	-.153	.126	-.180	-1.221	.234
	Komitmen	-.391	.192	-.294	-2.034	.053
	Pelatihan Kerja	-.042	.143	-.040	-.294	.771
	Kecanggihan Teknologi	.506	.111	.613	4.574	.000

a. Dependent Variable: Efektivitas SIA

Based on Table 6, the equation obtained from this study with an error standard of 0.05 as follows:

$$Y = 17.535 + 0,051X_1 + (-0,153X_2) + (-0,391X_3) + (-0,042X_4) + 0,506X_5 + 0,05$$

To interpret the results of this multiple linear regression analysis, it can be explained as follows:

1. The constant value (a) indicates a value of 17.535 and a positive value which means that it shows a unidirectional influence between the independent variable and the dependent variable. It also shows that if the independent variable is 0 percent or does not change, it will make the value of the dependent variable is 17,535.
2. The value of the competency regression coefficient (X_1) is 0.051 and is positive which means that competence (X_1) has a unidirectional effect on the accounting information system (Y) and if the competency variable (X_1) increases by 1 unit, then the accounting information system variable (Y) will also increase by 0.051.
3. The value of the work motivation regression coefficient (X_2) is -0.153 and is negative which means that work motivation (X_2) has the opposite effect on the accounting information system (Y) and if the work motivation variable (X_2) increases by 1 unit, then the accounting information system variable (Y) will decrease by -0.153.
4. The value of the commitment regression coefficient (X_3) is -0.391 and is negative which means that commitment (X_3) has a counter-directional relationship to the accounting information system (Y) and if the commitment variable (X_3) increases by 1 unit, then the accounting information system variable (Y) will decrease by -0.391.
5. The value of the job training regression coefficient (X_4) is -0.042 and is negative which means that competence (X_1) has a counter-directional effect on the accounting information system (Y) and if the job training variable (X_4) increases by 1 unit, then the accounting information system variable (Y) will decrease by -0.042.
6. The value of the regression coefficient of technological sophistication (X_5) is 0.506 and is positive which means that competence (X_1) has a unidirectional effect on the accounting information system (Y) and if the variable of technological sophistication (X_5) is 1 unit, then the accounting information system variable (Y) will also increase by 0.506.

Test t (partial)
The t-test is used to show how far the independent variable has an individual influence on the dependent variable.

Table 7 Test Results T (partial)

	T	say
1 (Constant)	2.506	.019
Competence	.386	.703
Motivation	-1.221	.234
Commitment	-2.034	.053
Job Training	-.294	.771
Technological sophistication	4.574	.000

Based on Table 7 obtained test results that show the following:
1. The significant value of the competency variable (X1) is 0.703 which means that the significance value of the competency variable (X1) > 0.05 so that it shows that the competency variable (X1) has no effect on the accounting information system (Y), then H1 is rejected.
2. The significant value of the work motivation variable (X2) is 0.234 which means that the significance value of the work motivation variable (X2) > 0.05 so that it shows that the work motivation variable (X2) has no effect on the accounting information system (Y), then H2 is rejected.
3. The significant value of the commitment variable (X3) is 0.053 which means that the significance value of the commitment variable (X3) > 0.05 so that it shows that the commitment variable (X3) has no effect on the accounting information system (Y), then H3 is rejected.
4. The significant value of the job training variable (X4) is 0.771 which means that the significance value of the job training variable (X4) > 0.05 so that it shows that the job training variable (X4) has no effect on the accounting information system (Y), then H4 is rejected.
5. The significant value of the technological sophistication variable (X5) is 0.000 which means that the significance value of the technological sophistication variable (X5) < 0.05 so that it shows that the technological sophistication variable (X5) affects the accounting information system (Y), then H5 is accepted.

F test (simultaneous)
The F test is used to determine whether there is a simultaneous influence between the independent variable and the dependent variable in a study.

Table 8 F Test Results (simultaneous)

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	91.552	5	18.310	7.156	.000[b]
Residual	61.414	24	2.559		
Total	152.967	29			

Based on Table 8 obtained test results from the F test (simultaneous) which shows that the significant value (sig.) of the *output coefficient* is 0.000, which means that the significance value of the F test in this study < 0.05 then it can be interpreted that the independent variables together affect the dependent variable (Accounting Information System), then H6 is accepted.

Interpretasi

The Effect of Competency on the Effectiveness of Accounting Information Systems

From the results of this study shows that the competency variable (X1) has a positive relationship and has a unidirectional effect on the effectiveness of the accounting information system (Y). The hypothesis that individual competence affects the dependent variable is rejected. This shows that just having good competence is not enough to achieve the effectiveness of accounting information systems, which means that the effectiveness of information systems does not only depend on the compatibility of employees. However, there are other factors that can affect the effectiveness of accounting information systems, such as user engagement, training, management support, user capabilities, and technology used.

The Effect of Work Motivation on the Effectiveness of Accounting Information Systems

The results of this study show that the variable work motivation (X2) has a negative relationship and has a counter-directional effect on the effectiveness of the accounting information system (Y). The hypothesis that states that individual work motivation affects the dependent variable is rejected. This shows that work motiavation alone is not enough to achieve the effectiveness of accounting information systems, which means that the effectiveness of information systems does not only depend on the work motivation of employees. However, there are other factors that can affect the effectiveness of accounting information systems, such as user engagement, training, management support, user capabilities, and the technology used

The Effect of Commitment to the Effectiveness of Accounting Information Systems

The results of this study show that the commitment variable (X3) has a negative relationship and has a counter-directional effect on the effectiveness of the accounting information system (Y). The hypothesis that individual commitment has an effect on the dependent variable is rejected. This shows that having a good commitment alone is not enough to achieve the effectiveness of accounting information systems, which means that the effectiveness of information systems does not only depend on strong and good commitment by employees. However, there are other factors that can affect the effectiveness of accounting information systems, such as user engagement, training, management support, user capabilities, and technology used.

The Effect of Job Training on the Effectiveness of Accounting Information Systems

The results of this study show that the job training variable (X4) has a negative relationship and has a counter-directional effect on the effectiveness of the accounting information system (Y). The hypothesis that individual job training has an effect on the dependent variable is rejected. This shows that attending job training alone is not enough to achieve the effectiveness of accounting information systems, which means that the effectiveness of information systems does not only depend on job training owned by employees. However, there are other factors that can affect the effectiveness of accounting information systems, such as user engagement, training, management support, user capabilities, and technology used.

The Effect of Technological Sophistication on the Effectiveness of Accounting Information Systems

From the results of this study shows that the variable of technological sophistication (X5) has a positive relationship and has a unidirectional effect on the effectiveness of accounting information systems (Y). In addition, the hypothesis that states that technological sophistication individually affects the dependent variable is acceptable. This shows that technological sophistication has a positive influence individually even in the absence of other supporting factors, which means that the

effectiveness of information systems can be achieved by the sophistication of supporting technology.

The Influence of Competence, Work Motivation, Commitment, Job Training, and Technology Sophistication

Competence, Work Motivation, Commitment, Job Training, and Technology Sophistication interact and contribute to the effectiveness of accounting information systems. The combination of these factors in an organizational context will form a comprehensive framework for understanding and improving the effectiveness of accounting information systems.

From the results of this study shows that Competence, Work Motivation, Commitment, Job Training, and Technology Sophistication have an effect simultaneously. Simultaneously, all independent variables together (competence, work motivation, commitment, job training, and technological sophistication) affect the dependent variable (Accounting Information System). This is because these factors are interrelated and interact in the use and development of information systems. Taken together, these factors form an environment that supports the achievement of optimal effectiveness of information systems.

CONCLUSION

From the results of the research that has been described earlier, conclusions can be obtained in this study, which are as follows:

1. Competency has no effect on the Effectiveness of Accounting Information Systems because a significant value is obtained from these variables > 0.05. This shows that the effectiveness of information systems does not only depend on the compatibility of employees.
2. Work Motivation does not affect the Effectiveness of Accounting Information Systems because a significant value is obtained from these variables > 0.05. This shows that the effectiveness of information systems is not enough to depend only on the work motivation possessed by employees.
3. Commitment has no effect on the Effectiveness of Accounting Information Systems because a significant value is obtained from these variables > 0.05. This shows that having a good commitment alone is not enough to achieve the effectiveness of accounting information systems, which means that the effectiveness of information systems does not only depend on strong and good commitment by employees.
4. Job Training has no effect on the Effectiveness of Accounting Information Systems because a significant value is obtained from these variables > 0.05. This shows that attending job training alone is not enough to achieve the effectiveness of accounting information systems, which means that the effectiveness of information systems does not only depend on job training owned by employees.
5. Technological sophistication affects the effectiveness of accounting information systems because a significant value of 0.000 is obtained which is smaller than 0.05. This shows that technological sophistication has a positive influence individually even in the absence of other supporting factors, which means that the effectiveness of information systems can be achieved by the sophistication of supporting technology.
6. Together (simultaneously) the variables of Competence, Work Motivation, Commitment, Job Training and Technology Sophistication affect the Effectiveness of Accounting Information Systems. This is because these factors are interrelated and interact in the use and development of information systems. Taken together, these factors form an environment that supports the achievement of optimal effectiveness of information systems. Competence, work motivation, commitment,

job training, and technological sophistication do not stand alone, but are interrelated. Good competence might trigger higher work motivation, which in turn can affect commitment to tasks and the organization. Job training can improve competence, while the use of appropriate technological sophistication can motivate and support individual performance.

REFERENCES

Afrianto, E., Wiranto, F., & Sholihin, M. R. (2023, July). Forecasting of Motorcycle Product Sales in Indonesia Using the ARIMA Method. In Proceeding International Conference On Economics, Business And Information Technology (ICEBIT) (Vol. 4, pp. 755-762).

Firdausiyah, R., Sholihin, M. R., & Sochib, S. (2023). Analisis Sistem Informasi Akuntansi Dalam Pengelolaan Dana Bantuan Operasional Sekolah (BOS) Dengan Penerapan E-RKAM (Studi Kasus Pada MI. Islamiyah Yosowilangun Kidul). Counting: Journal of Accounting, 5(3), 181-190.

Ghozali, Imam. (2016). *Aplikasi Analisis Multivariete Dengan Program IBM SPSS 23 (Edisi 8). Catatan ke VIII.* Semarang: Badan Penerbit Universitas Diponegoro.

Pakpahan, D. S., & Afrizon, A. (2020). Efektivitas Sistem Informasi Akuntansi Pada Perusahaan Jasa Keuangan Di Jakarta. *Jurnal Kajian Akuntansi Dan Bisnis Terkini, 1*(1), 116-130

Sari, E. N., & Indraswarawati, S. A. P. A. (2020). Pengaruh Program Pelatihan Dan Pendidikan, Kinerja Individu Dan Pengalaman Kerja Personal Terhadap Efektivitas Penggunaan Sistem Informasi Akuntansi Pada Koperasi Simpan Pinjam Di Kecamatan Marga Tabanan. *Hita Akuntansi Dan Keuangan*, *1*(1), 299-323.

Sugiyono. (2009). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D.* Bandung: Alfabet.

Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D.* Bandung: Alfabet.