

## Performance Improvement Through Communication Synergy and Teamwork

Yunita BR Hutauruk<sup>1\*</sup>, Muhammad Isa Indrawan<sup>2</sup>

Universitas Pembangunan Panca Budi, Indonesia

\*Correspondence Email: [yunitahutauruk@gmail.com](mailto:yunitahutauruk@gmail.com)

### Abstract

In this research, the researcher aims to see the results of the influence of communication and teamwork on employee performance by synergy as an intervening variable at the BPJS Padang Sidempuan Raya and Pematang Siantar Raya branch offices. The phenomenon that occurred at the Padang Sidempuan Raya and Pematang Siantar Raya branch offices was the influence of communication and teamwork on employee performance with increased synergy as an intervening variable at the Padang Sidempuan Raya and Pematang Siantar Raya branch offices. Where communication is very important in employee performance to increase synergy and cooperation within the team. When communication and teamwork work poorly, employee performance in improving company synergy will be delayed. So a good relationship between communication and teamwork is needed to build synergistic performance. The results of this research are as follows: Teamwork has a positive and significant effect on employee performance with a value of 0.177 and a significant value of 0.005. Teamwork has a positive and significant effect on synergy with a value of 0.196 and a significant value of 0.023. Communication has a positive and significant effect on employee performance with a sample of 0.259 and a sig of 0.016. Communication has a positive and significant effect on Synergy with a value of 0.733 and a sig of 0.000. Synergy has a positive and significant effect on employee performance with a value of 0.533 and a significant value of 0.000. Teamwork has a positive and significant effect on employee performance indirectly through Synergy with a value of 0.104 and a significant value of 0.041. Communication has a positive and significant effect on employee performance indirectly through Synergy with a value of 0.391 and a significant value of 0.000.

**Keywords:** Teamwork, Communication, Synergy, Employee Performance

### INTRODUCTION

Human Resources (HR) are the priority and main need of every company. Every company will certainly try to get good, great and quality human resources so that they can support the effectiveness of a company's work in achieving its goals.

The delivery of meaning alone is not enough to qualify as communication it must also make sense. both are important components in communication Communication as a process in which a person, group, or organization (sender) sends information (message) to another person, group, or organization (receiver). The communication process generally follows several stages. The sender of the message sends information to the recipient of the information through one or more means of communication. (Rodhiyallah et al., 2017). The effectiveness of communication in an organization is very important as information in business from various roles, each with different levels of power and responsibility. Three important elements in the communication process are information, the source or delivery of the message and the message received by the recipient.

Synergy can be interpreted as a joint activity or action. Synergy is being built and ensured beneficial partnerships and partnerships that can establish relationships with stakeholders in order to produce quality work.

If the synergy or synergy is applied in the company to employees so that in any case the employee can do his synergy together with other employees, then synergy or synergy is the main factor in the company. Teamwork or teamwork is an activity that is managed and carried out by a group of people who are members of one organization. Teamwork is the extent to which team members identify each other's work, are closely tied and involved in each other's work and unite their opinions to achieve your work goals.

## **LITERATURE REVIEW**

### **Employee performance**

According to Afandi (2018), performance is the work results that can be achieved by a person or group of people in a company in accordance with their respective authorities and responsibilities in an effort to achieve organizational goals illegally, without violating the law and without conflicting with morals and ethics.

### **Employee Performance Indicators**

According to Afandi (2018) employee performance indicators are as follows:

1. Quantity

Namely the results of work. All kinds of units of measurement related to the amount of work results that can be expressed in numerical measurements or other numerical equivalents.

2. Quality

Namely the results of work. All kinds of units of measurement related to the quality or standard of work results that can be expressed in numerical measurements or other numerical equivalents.

3. Efficiency

That is, in carrying out tasks using various resources wisely and in a cost-effective manner.

4. Discipline

Namely work in compliance with applicable laws and regulations.

5. Initiative

It is the ability to decide and do the right thing without having to be told, being able to find what should be done about something that is around, trying to keep moving to do several things even though the situation feels increasingly difficult.

6. Accuracy

That is the level of conformity of the work measurement results, whether the work has achieved its objectives or not.

7. Leadership

This is the process of influencing or giving examples by leaders to their followers in an effort to achieve organizational goals.

## 8. Honesty

This is one of the human traits that is quite difficult to apply.

## 9. Creativity

It is a mental process that involves the emergence of ideas or that involves the emergence of ideas.

## Communication

According to Rodhiyallah et al. (2017), communication refers to the exchange of messages both in formal and informal groups within an organization.

According to Wibowo (2017), communication is the process of conveying information from one party, whether an individual, group or organization as a sender to another party, the receiver, to understand and provide an opportunity to provide a response back to the sender.

According to Anggia (2015) said that the most extraordinary and amazing thing is communication. According to him, speech and communication allow humanity not only to survive opinions, but also to develop further. Humans can interact with each other and relate to others through communication.

## Communication Indicators

According to Wibowo (2017), communication indicators are as follows:

1. Communicator/Sender Is the person who conveys the contents of the statement to the communicant. The communicator is responsible for sending news clearly, choosing the appropriate media to convey the message, and asking for clarity on whether the message has been received well.
2. Communicant/Receiver Is the recipient of the message or news delivered by the communicator. In the communication process, the recipient of the message is responsible for being able to understand the contents of the message delivered properly and correctly.
3. Channel/Media Is a channel or path through which the contents of the communicator's statement are conveyed to the communication and vice versa. Messages can be in the form of words or writing, imitations, images or other intermediaries that can be used to send through various different channels such as telephones.

## Teamwork

According to Devina (2018) teamwork is a group of individuals who depend on each other on a task and are jointly responsible for the results obtained.

According to Kaswan (2017) teamwork is the ability to work together to achieve a shared vision. The ability to direct individual achievement towards organizational goals. Teamwork is the fuel that allows ordinary people to achieve extraordinary results.

## Teamwork Indicators

According to Kaswan (2017), the indicators of teamwork as measuring tools are as follows:

- a. Responsibility means completing work together, namely by giving responsibility good cooperation can be created.
- b. Contributing to each other, namely by contributing both energy and thoughts, will create cooperation.
- c. Maximizing your abilities is done by mobilizing.

### **Synergy**

Synergy can be built through communication and coordination. So all components of the people and office institutions are needed to synergize in achieving prosperity.

According to Komang (2015), Synergy means respecting different ideas and opinions and being willing to share with each other. Synergy is not selfish, but supports each other. Synergy aims to combine different parts into one common goal.

### **Synergy Indicator**

According to Komang (2015) indicators of synergy include effective communication, fast feedback, trust and creativity.

#### **a. Effective Communication**

Effective communication can shape a person's behavioral changes that are seen during the delivery process. The purpose of effective communication is actually to facilitate information from complete delivery between the information giver and the information recipient with clear language so that it is easy to understand.

#### **b. Fast Feedback**

Quick feedback is the answer to the question submitted from the questioner to the narrator. The results obtained are in the form of answers to the information received. Of course, in business communication there must be a response from the recipient of information related to the elements in the delivery from the listener to what the sender conveys with clear delivery.

#### **c. Trust**

Trust can be interpreted as behavior that is done to convince someone of something. One of them is to form trust in a company means stages to convince of positive things, build from each step, and commitment. If trust is misinterpreted, it will not produce trust from someone.

#### **d. Creativity**

Creativity is a person's instinct that continues to be developed so that it will give rise to new ideas and find new innovations that will continue to be explored.

### Conceptual Framework

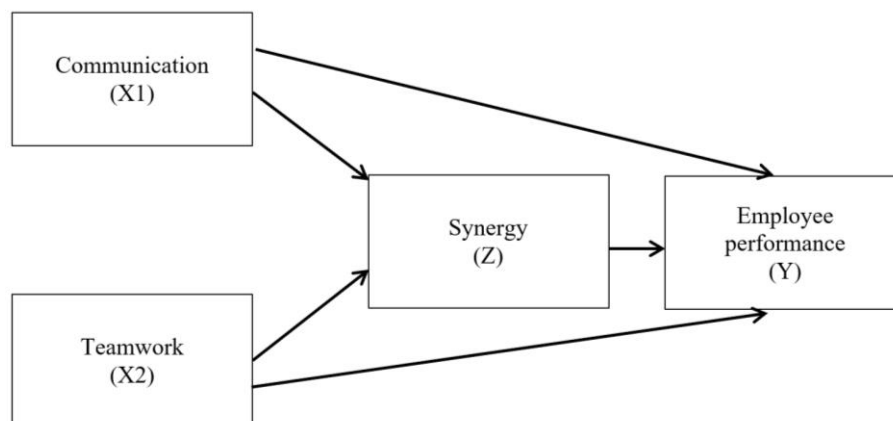


Figure 1. Conceptual Framework

### Hypothesis

1. Communication has a positive and significant influence on Synergy at the BPJS Padang Sidempuan Raya Branch Office and the Pematang Siantar Raya Branch.
2. Teamwork has a positive and significant impact on Synergy at the BPJS Padang Sidempuan Raya Branch Office and Pematang Siantar Raya Branch Office
3. Communication has a positive and significant influence on Employee Performance at the BPJS Padang Sidempuan Raya Branch Office and Pematang Siantar Raya Branch Office
4. Teamwork has a positive and significant effect on Employee Performance at the BPJS Padang Sidempuan Raya Branch Office and Pematang Siantar Raya Branch Office
5. Increasing Synergy has a positive and significant impact on Employee Performance at the BPJS Padang Sidempuan Raya Branch Office and the Pematang Siantar Raya Branch Office
6. Communication has a positive and significant influence on Employee Performance through Synergy at the BPJS Padang Sidempuan Raya Branch Office and Pematang Siantar Raya Branch Office
7. Teamwork has a positive and significant effect on Employee Performance through Synergy at the BPJS Padang Sidempuan Raya Branch Office and Pematang Siantar Raya Branch Office

### Types of research

The type of research used by researchers is quantitative. According to Sugiyono (2016) quantitative research is research by obtaining data in the form of numbers or qualitative data that is numbered.

### Research population

The population of this study was 76 BPJS Ketenagakerjaan employees of the Pematang Siantar Raya Branch Office, 38 employees while the Padang Sidempuan Raya

Branch Office had 38 employees, so the total was 76 employees. According to Sugiyono (2016), population is a generalization area consisting of objects/subjects.

### **Research Sample**

The sample of this study was taken from all the population in the Pematang Siantar and Padang Sidempuan branch offices, namely 76 employees and using the saturated sampling technique. According to Sugiyono (2016) a sample is part of the number and characteristics possessed by the population. According to Sugiyono (2016) Saturated Sampling is a sample selection technique when all members of the population are sampled.

### **Research Location and Research Time**

The location of this research is at the BPJS Employment Branch Office of Pematang Siantar Raya Jl. and this research was conducted for 3 months.

### **Data collection technique**

This study uses data collection techniques with questionnaires and distributes them to respondents and uses primary data in this research source. According to Sugiyono (2016) Primary sources are data sources that directly provide data to data collectors. This research method in data collection uses questionnaires.

### **Data Processing Methods**

Data processing in this study uses smartPLS SEM (Partial Least Square – Structural Equation Modeling) Software. PLS is capable of explaining the relationship between variables and is capable of performing analyzes in a single test. PLS is intended to help researchers verify hypotheses and explain whether or not there is a relationship between latent variables.

### **Statistical Analysis of Data**

In statistical analysis of data using the SEM PLS method. The following are the PLS method analysis techniques:

#### 1. Outer model analysis

According to Husein (2015) outer model analysis is conducted to ensure that the measurement used is suitable for measurement (valid and reliable). There are several calculations in this analysis:

- a. Convergent validity is the factor loading value on the latent variable with its indicators. The expected value is  $> 0.7$ .
- b. Discriminant validity is the crossloading value of factors that are useful for determining whether a construct has adequate discriminant. The method is to compare the value of the intended construct must be greater than the value of the other construct.
- c. Composite reliability is a measurement that if the reliability value is  $> 0.7$  then the construct value has a high reliability value.
- d. Average Variance Extracted (AVE) is the average of the variances which is at least 0.5.

e. Cronbach alpha is a calculation to prove the results of composite reliability where the minimum value is 0.6.

## 2. Inner model analysis

In this model analysis is to test the relationship between latent constructs. There are several calculations in this analysis: R Square is the coefficient of determination on the endogenous construct. According to Sarwono (2015) explains "the criteria for the limits of the R square value in three classifications, namely 0.67 as substantial; 0.33 as moderate and 0.19 as weak".

## 3. Hypothesis testing

In his book Husein (2015) hypothesis testing can be seen from the t-statistic value and probability value. For hypothesis testing, namely by using statistical values, then for alpha 5% the t-statistic value used is 1.96. So the criteria for accepting or rejecting the hypothesis are  $H_a$  is accepted and  $H_0$  is rejected when the t-statistic  $> 1.96$ . To reject or accept the hypothesis using probability,  $H_a$  is accepted if the p value  $< 0.05$ .

# RESULTS AND DISCUSSION

## Outer Model Analysis

The details of the relationship between latent variables and manifest variables can be ascertained by using the measurement model test (outer model), also known as the outer model test. This test has reliability, discriminant validity, and convergent validity.

### 1. Convergent Validity

The correlation between item/indicator scores and construct scores indicates the convergent validity of the measurement model with reflective indicators. While still in the research development stage, indicators whose individual correlation values are greater than 0.7 are considered valid. Indicator levels of 0.5 and 0.6 are still considered acceptable. The indication has a loading below 0.60 and is not significant according to external loading data. The structural model of the study is depicted in the following figure.

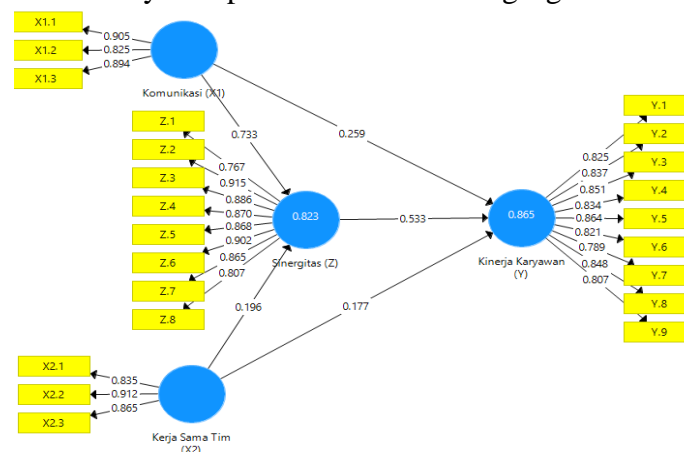


Figure 2. Outer Model  
Source: Smart PLS 3.3.3

In the results of the outer model, there are equations in the research. These equations are divided into 2 substructures, including the following:

Substructure 1

$$Z = b1X1 + b2X2 + e$$

$$Z = 0.733X1 + 0.196 X2 + 0.823$$

Substructure 2

$$Y = b3X1 + b4X2 + b5Z + e$$

$$Y = 0.259X1 + 0.177X2 + 0.533Z + 0.865$$

**Table 1. Outer Loadings**

	Teamwork (X2)	Employee Performance (Y)	Communication (X1)	Synergy (Z)
X1.1			0.905	
X1.2			0.825	
X1.3			0.894	
X2.1	0.835			
X2.2	0.912			
X2.3	0.865			
Y.1		0.825		
Y.2		0.837		
Y.3		0.851		
Y.4		0.834		
Y.5		0.864		
Y.6		0.821		
Y.7		0.789		
Y.8		0.848		
Y.9		0.807		
Z.1				0.767
Z.2				0.915
Z.3				0.886
Z.4				0.870
Z.5				0.868
Z.6				0.902
Z.7				0.865
Z.8				0.807

Source : Smart PLS 3.3.3

Table 1 shows that when the indicator value is more than 0.7 then a loading factor is valid. With this justification, it is clear that each indicator is higher than 0.7, indicating the validity of each construct indicator and the possibility of conducting further research.



## 2. Discriminant Validity

The discriminant validity test was conducted next. Based on the idea that an indicator has a strong correlation with the construct, the purpose of this test is to ensure whether the reflective indicator is a suitable measurement for the construct. The following table shows the cross loading findings of the discriminant validity test.

**Table 2. Discriminant Validity**

	Teamwork (X2)	Employee Performance (Y)	Communication (X1)	Synergy (Z)
X1.1	0.833	0.782	0.905	0.858
X1.2	0.610	0.803	0.825	0.746
X1.3	0.802	0.753	0.894	0.758
X2.1	0.835	0.694	0.814	0.716
X2.2	0.912	0.769	0.727	0.754
X2.3	0.865	0.726	0.701	0.684
Y.1	0.678	0.825	0.739	0.799
Y.2	0.760	0.837	0.717	0.710
Y.3	0.716	0.851	0.719	0.732
Y.4	0.703	0.834	0.713	0.748
Y.5	0.660	0.864	0.788	0.834
Y.6	0.709	0.821	0.773	0.757
Y.7	0.662	0.789	0.773	0.756
Y.8	0.697	0.848	0.707	0.759
Y.9	0.685	0.807	0.726	0.715
Z.1	0.630	0.734	0.670	0.767
Z.2	0.770	0.763	0.796	0.915
Z.3	0.735	0.765	0.776	0.886
Z.4	0.816	0.812	0.813	0.870
Z.5	0.755	0.805	0.812	0.868
Z.6	0.708	0.828	0.807	0.902
Z.7	0.662	0.849	0.814	0.865
Z.8	0.586	0.716	0.706	0.807

Source : Smart PLS 3.3.3

There is a cross loading value in table 2 in each variable and will be explained below with the cross loading value of the teamwork variable, there is a cross loading value that is greater than the cross loading on other latent variables. The cross loading value of the employee performance variable has a value that is greater than the cross loading value on other variables. There is a cross loading value of the communication variable with a cross loading value that is greater than the cross loading value on other latent variables. The cross

loading value on the synergy variable has a value greater than the cross loading value on other latent variables. It can be concluded that this test gets valid results in a discriminant manner.

### 3. Composite reliability

The indicator block that assesses the reliability of the composite construct is used in further testing to obtain the reliability value. If the composite reliability value is more than 0.60, the construct value is considered reliable. In addition to testing the composite reliability value, the variable construct value of the indicator block that measures the construct can also be used to determine the reliability value using Cronbach's alpha. If the Cronbach's alpha value of a construct is more than 0.7, it is considered reliable. The loading values of the research variable constructs obtained from the implementation of the Smart PLS program are presented in the following table:

**Table 3. Construct Reliability and Validity**

	<b>Cronbach's Alpha</b>	<b>Composite Reliability</b>	<b>Average Variance Extracted (AVE)</b>
<b>Teamwork (X2)</b>	<b>0.841</b>	<b>0.904</b>	<b>0.760</b>
<b>Employee Performance (Y)</b>	<b>0.944</b>	<b>0.953</b>	<b>0.690</b>
<b>Communication (X1)</b>	<b>0.847</b>	<b>0.908</b>	<b>0.766</b>
<b>Synergy (Z)</b>	<b>0.950</b>	<b>0.958</b>	<b>0.742</b>

Source : Smart PLS 3.3.3

Table 3 shows that the value of each variable construct is greater than 0.7, this indicates that the Cronbach's alpha calculation is considered credible. In the calculation of composite dependence, the construct value is more than 0.6. This is also considered reliable, indicating that the combined reliability of the column considers all variable constructs to be reliable. Checking the AVE value and the square root of AVE, if one concept has a higher correlation than the correlation of other constructs, is an additional way to assess discriminant validity. If the AVE value is more than 0.7, it is considered valid before the correlation test is carried out.

### Inner Model Analysis

To ensure that the structural model created is reliable and accurate, the structural model (inner model) is evaluated. The stages of structural model evaluation analysis are seen through several indicators, including:

#### 1. Coefficient of Determination (R<sup>2</sup>)

Based on data processing carried out using the SmartPLS 3.0 program, the R Square value was obtained as follows:

**Table 4. R Square Results**

	R Square
<b>Employee Performance (Y)</b>	0.865
<b>Synergy (Z)</b>	0.823

Source : Smart PLS 3.3.3

In table 4 above there is an R square value and will be explained, the R square value of employee performance has a result of 0.865 and if changed to a percentage value, the value is 86.5%, meaning the influence of communication, teamwork and synergy on employee performance is 86.5% and the rest is on other variables. For the R square value of the synergy variable, there is a result of 0.823 and if changed to a percentage, the value is 82.3%, meaning the relationship between communication and teamwork on synergy is 82.3% and the rest is on other variables.

## 2. Goodness of Fit (GoF) Assessment

The goodness of fit model can be seen from the NFI fit number  $\geq 0.697$ . Based on data cleaning completed using the SmartPLS 3 application, the Model Fit values were found as follows:

**Table 5. Fit Model**

	Saturated Model	Estimation Model
<b>SRMR</b>	0.063	0.063
<b>d_ ULS</b>	1,105	1,105
<b>d_ G</b>	1,916	1,916
<b>Chi-Square</b>	648,357	648,357
<b>NFI</b>	0.710	0.710

Source : Smart PLS 3.3.3

The results of the PLS goodness of fit model analysis in Table 6 show that the NFI value of 0.710 indicates FIT. Based on these results, it can be concluded that the model used in this study has a high goodness of fit and can be used effectively to test the research hypothesis.

## 3. Hypothesis Testing

The next step is to analyze the hypothetical relationship between latent constructs in this study after evaluating the inner model. T-Statistics and P-Values are tested in the process of testing the hypothesis of this study. If the P-Value is less than 0.05 and the T-Statistics value is more than 1.96 then the hypothesis is considered accepted. The results of the direct influence path coefficient are as follows:

**Table 6. Path Coefficients (Direct Effect)**

	Original Sample (O)	T Statistics ( O/STDEV )	P Values	Results
<b>Teamwork (X2) -&gt; Employee Performance (Y)</b>	0.177	2,565	<b>0.005</b>	<b>Accepted</b>
<b>Teamwork (X2) -&gt; Synergy (Z)</b>	0.196	2,005	<b>0.023</b>	<b>Accepted</b>
<b>Communication (X1) -&gt; Employee Performance (Y)</b>	0.259	2,144	<b>0.016</b>	<b>Accepted</b>
<b>Communication (X1) -&gt; Synergy (Z)</b>	0.733	8,004	<b>0,000</b>	<b>Accepted</b>
<b>Synergy (Z) -&gt; Employee Performance (Y)</b>	0.533	4,906	<b>0,000</b>	<b>Accepted</b>

Source : Smart PLS 3.3.3

In table 6 there are direct hypothesis values, so the explanation of this research is as follows:

1. Teamwork has a positive and significant effect on Employee Performance with a value of 0.177 and a significance of 0.005. In this case, it can be explained that if teamwork increases well, employee performance will also increase and vice versa if teamwork decreases, employee performance will decrease.
2. Teamwork has a positive and significant effect on synergy with a value of 0.196 and a significance of 0.023. In this case, it can be explained that if teamwork increases well, synergy will increase well and if teamwork decreases, synergy will also decrease.
3. Communication has a positive and significant effect on Employee Performance with a sample of 0.259 and sig 0.016. In this case it can be explained that if good communication increases then employee performance will increase, conversely if good communication decreases then employee performance will decrease.
4. Communication has a positive and significant effect on Synergy with a value of 0.733 and sig 0.000. In this case, it can be explained that if good communication increases, synergy also increases and if communication decreases, synergy also decreases.
5. Synergy has a positive and significant effect on Employee Performance with a value of 0.533 and a significance of 0.000. In this case, it can be explained that if synergy increases well, employee performance will increase and if synergy decreases, employee performance will decrease.

**Table 7. Path Coefficients (Indirect Effects)**

	Original Sample (O)	T Statistics (  O/STDEV  )	P Values	Results
<b>Teamwork (X2) -&gt; Synergy (Z) -&gt; Employee Performance (Y)</b>	0.104	1,739	<b>0.041</b>	<b>Accepted</b>
<b>Communication (X1) -&gt; Synergy (Z) -&gt; Employee Performance (Y)</b>	0.391	4,340	<b>0,000</b>	<b>Accepted</b>

Source : Smart PLS 3.3.3

In table 7 there are the results of the indirect influence hypothesis, the explanation is as follows:

1. Teamwork has a positive and significant effect on Employee Performance indirectly through Synergy with a value of 0.104 and a significance of 0.041. In this case, it can be explained that synergy is an intervening variable because it is able to influence teamwork and employee performance indirectly.
2. Communication has a positive and significant effect on Employee Performance indirectly through Synergy with a value of 0.391 and a significance of 0.000. In this case, it can be explained that synergy is an intervening variable because it can affect communication and employee performance indirectly.

## CLOSING

### Conclusion

1. Teamwork has a positive and significant effect on Employee Performance with a value of 0.177 and a significance of 0.005.
2. Teamwork has a positive and significant effect on synergy with a value of 0.196 and a significance of 0.023.
3. Communication has a positive and significant effect on Employee Performance with a sample of 0.259 and sig 0.016.
4. Communication has a positive and significant effect on Synergy with a value of 0.733 and sig 0.000.
5. Synergy has a positive and significant effect on Employee Performance with a value of 0.533 and a significance of 0.000.
6. Teamwork has a positive and significant effect on Employee Performance indirectly through Synergy with a value of 0.104 and a significance of 0.041.
7. Communication has a positive and significant effect on Employee Performance indirectly through Synergy with a value of 0.391 and a significance of 0.000.

### **Suggestion**

1. For organizations, this research is expected to be input for creating work communication and increasing synergy in work, thereby improving employee performance.
2. For employees, this research can be used as motivation in written form that good performance begins with good communication, thus creating synergy in work and forming good teamwork indirectly.
3. For further researchers, it can be used as reference material to form new research with the same title or a title that approaches this research with a different model and method.

### **REFERENCES**

- Komang, dkk. (2015). "Manajemen Sumber Daya Manusia". Jakarta : Graha Ilmu.
- Afandi, P. (2018). "Manajemen Sumber Daya Manusia (Teori, Konsep, dan Indikator)". Pekanbaru:Zanafa Publishing.
- Devina, Gebi. (2018). Pengaruh Teamwork Terhadap Kepuasan Kerja Karyawan Pada Pt. Federal International Finance Cabang Surabaya 2. Jurnal Ilmiah Magister Manajemen. Vol 6 Nomor 1
- Kaswan. (2017). Psikologi Industri dan Organisasi. Cetakan 1, Bandung: Alfabeta.
- Wibowo. (2017). "Manajemen Kinerja". Jakarta: Rajawali Pers.
- Rodhiyallah, M., Amiartuti, & Tjahjono, H. (2017). Pengaruh Kepemimpinan dan Komunikasi Terhadap Motivasi dan Kinerja Pegawai pada Satuan Polisi Pamong Praja Kota Surabaya. Business and Finance Journal, 2(1).
- Anggia, Tulandi Riry., dkk. (2015). Analisis Pengaruh Strategi Promosi, Harga, Dan Kepuasan Terhadap Loyalitas Konsumen Surat Kabar Manado Post. Web: <https://928318463-1-SM.pdf>. Di akses pada 22 Januari 2024 Pukul 20:11 WIB.
- Ghozali. (2016). Structural Equation Modeling Metode Alternatif dengan Partial Least Square (PLS). Semarang: Universitas Diponegoro.
- Hussein, A.S. (2015). Penelitian Bisnis dan Manajemen Menggunakan Partial Least Square (PLS) dengan smartPLS 3.0. Fakultas Ekonomi dan Bisnis Universitas Brawijaya.
- Sarwono, Jonathan. 2015. Membuat Skripsi, Tesis, dan Disertasi dengan Partial Least Square SEM (PLS-SEM). Yogyakarta: ANDI. 226 hal.
- Sugiyono. (2016). Metode Penelitian Kuantitatif, Kualitatif dan R&D. Bandung: PT Alfabet.