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**Efficiency Analysis Of National Zakat Management Organization With Data  
Envelopment Analysis**  
(Study on Rumah Zakat, Pos Keadilan Peduli Umat, and Baitul Maal Hidayatullah)**Asib Dwi Kuryanto**

Sekolah Tinggi Ilmu Ekonomi Widya Dharma Malang

\*Corresponding Author

Email : [asib\\_dk@yahoo.com](mailto:asib_dk@yahoo.com)

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**Abstract**

*This study discusses the efficiency level of National Zakat Management Organization in the period 2020 to 2021. This study aims to determine the level of efficiency of performance of 3 National Zakat Management Organizations namely Rumah Zakat, PKPU, and Baitul Maal Hidayatullah. Objects studied are the financial statements of the period 2020 to 2021. The method used is DEA using approach to production and intermediation approach. In the intermediation approach the input variables used are funds received, operational costs and personnel costs and output variables are funds disbursed, fixed assets and current assets. In the production approach input variables used are the costs required such as personnel costs, operational costs, other costs, and fixed assets. The output variables are channeled funds and funds received. The results of this study indicate that PKPU, Rumah Zakat, and Baitul Maal Hidayatullah show an efficient performance as an intermediation institution from year to year and as the only production institution just Rumah Zakat only show efficient performance.*

**Keyword: Efficiency . Zakat, Envelopment Analysis**

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**INTRODUCTION**

Indonesia is a developing country that has a population of 261.1 million people which has a gross domestic income (GDP) per capita of \$3,366.11 (Worldbank,2016). As a developing country, Indonesia has a problem in terms of poverty which is still the main focus of the government's solution, until September 2016 the poor reached 27.76 people or 10.7% of the total population. Although there was a decrease of 0.89% when compared to the March 2016 period, this was not followed by a good income distribution. The Gini index figures show the inequality of expenditure of the Indonesian population up to 0.397 (BPS, 2016). The Gini index is a tool used to measure the degree of inequality in the distribution of the population used by the government.

The government has been trying to alleviate poverty by pouring funds for poverty reduction programs amounting to Rp 723.2 trillion with a target of reducing the poverty rate of about 9% to 10%. However, from the existing target, the government was only able to reduce the poverty rate by 0.89% from the March 2016 period.

Seeing this problem, it is appropriate for the government to pay attention to the solution offered by Islam, namely the obligation to tithes. Zakat is the third pillar of Islam that has a vertical and horizontal relationship. The vertical dimension of Zakat is the relationship of worship to Allah. Zakat also has a horizontal dimension, namely the relationship of worship to fellow humans (Rusydia & Al-farisi, 2016). The main purpose of zakat is to develop balanced socio-economic growth as well as to purify one's soul and wealth so that their wealth is blessed by Allah SWT (Shahnaz, 2016).

Indonesia is one of the countries with the most Muslims in the world. Of the 257.6 million people, as many as 85% are Muslims, so Indonesia has a very high potential for zakat. The potential of zakat in Indonesia reaches Rp 286 trillion but collected nationally through the official amil agency is only about Rp 3.7 trillion or 1.3% of the existing potential (Sudiby, 2016).

Zakat is the only worship that requires a special officer to manage it. The amil zakat agency in Indonesia is called the Zakat Management Organization (OPZ) which is currently starting to emerge. However, the Zakat Management Organization recognized by the Directorate General (DG) of taxes as a deduction for taxable income based on the official regulation of the Director General of taxes Number PER-11/PJ/2017 is only 19 OPZ (Director General of taxes, 2021). Three of the 19 existing OPZ namely Rumah Zakat, PKPU and Baitul Maal Hidayatullah are included in the category of institutions that have been operating for a long time so that they are large and professional institutions in managing zakat in Indonesia. OPZ as the manager of zakat funds must work in a professional, trustworthy, transparent and accountable manner. Therefore, optimization is needed in managing the potential of zakat funds, one of which is efficiency.

Efficiency is the accuracy of the way (effort, work) in running something (by not wasting time, energy and costs) (Mone, 2008). In economics, efficiency is one of the instruments in measuring the performance of a company or institution that has financial statements. Efficiency can be defined as the ability of an organization to minimize certain inputs to get a certain output or get the maximum output by using certain inputs (Rai, 2008).

This study does not only measure the level of efficiency using a single approach. However, this study uses the intermediation and production approach at the same time so that this study gets more comprehensive results, so that it can be known how efficient the Zakat Management Organization is in allocating various inputs to produce various outputs and what accounts can be improved efficiency. So the researchers were interested in choosing the title "analysis of the efficiency of the National Zakat Management Organization with Data Envelopment Analysis (study on Rumah Zakat, Pos Keadilan Peduli Umat and Baitul Maal Hidayatullah)". Research using DEA on OPZ has been conducted by several groups, including: Akbar (2009) in a study entitled analysis of the efficiency of the National Zakat Management Organization with data Envelopment Analysis approach examined nine OPZ namely BAZNAS, Dompot Dhuafa Replubika, Laziz Muhammadiyah, PKPU, Yayasan Dana Sosial Al-Falah, YBM BRI, Bamuis BNI, Rumah Zakat and Baitul Maal Muamalat. The method used is data Envelopment Analysis with the assumption of Constant Return to Scale (CRS) and Variable Return to Scale (VRS). The approach used is a production approach with input variables include: personnel costs, socialization costs and other operational costs. While the output variable is collected and distributed funds. The results of this study is the efficiency level of 94.52% in 2005, in 2006 the efficiency level of 76.28% while in 2007 the efficiency level of 83.27.

Iskandar (2009) examined the efficiency of financial performance at PKPU Yogyakarta. The method used is data Envelopment Analysis with the assumption of Constant Return to Scale (CRS) and Variable Return to Scale (VRS). This approach uses a production approach with input variables in the form of overhead costs, operational costs, and the number of employees. The output variable is in the form of funds obtained, funds distributed, and the

number of mustahiq (zakat recipients). The results of this study is that the average efficiency of PKPU is 94.6% so that PKPU is less able to manipulate its resources by 5.4%.

Kadri (2014) conducted Laz efficiency research on Rumah Zakat, LAZIZ Swadaya Ummah, Dompot Dhuafa and YBUI BNI. The method used is data Envelopment Analysis with the assumption of Constant Return to Scale (CRS) and Variable Return to Scale (VRS). The approach used is a production approach. The results of this study are that in 2010 the ybui BNI experienced perfect efficiency, in 2011 only Rumah Zakat occupied perfect efficiency and in 2012 LAZIS Swadaya Ummah achieved 100% perfect efficiency.

Rahmawati (2014) examined the management efficiency of amil zakat institutions, namely PKPU, Rumah Zakat, and BAMUIS BNI. The method used is data Envelopment Analysis with intermediation approach. Input variables used are zakat receipts, employee salaries, and operational funds. While the output variable studied is the distribution of zakat fixed assets and current assets. The result of this study is that the efficiency level of PKPU and BAMUIS BNI reaches 100%, which means it is maximally efficient every year. At Rumah Zakat there is a fluctuating level of efficiency every year.

Wahyuni (2021) examined the efficiency of OPZ in BAZNAS, Dompot Dhuafa, and Laziz NU. The method used is Data Envelopment Analysis (DEA) with the assumption of Constant Return to Scale (CRS) and Variable Return to Scale (VRS) and using production approach and intermediation approach. The results of this study are that the intermediation approach shows efficient performance in the samples studied. While the measurements that use the production approach efficient score shown by BAZNAS and LAZIS NU while for Dompot Dhuafa must optimize the inputs used to achieve efficient performance.

Lestari (2021) analyzed the efficiency of BAZDA using the Data Envelopment Analysis method with an intermediation approach. Input variables are analyzed funds raised, fixed assets and employee salaries. Output variables analyzed are the amount of funds disbursed and operating costs. The results of this study is the level of efficiency in East Lombok district BAZDA is 100% or efficient.

Researchers have two things that distinguish this study compared to previous studies, namely the objects studied are different and the selection of input and output variables are also different. The purpose of this study is to determine the level of efficiency of the performance of 3 National Zakat management organizations, namely Rumah Zakat, PKPU, and Baitul Maal Hidayatullah using data Envelopment Analysis in the period 2020 to 2021.

## RESEARCH METHODS

The object of this study is the Zakat Management Organization (OPZ) which has been authorized by the government as an official organization in Indonesia, namely: Rumah Zakat located in Bandung, researchers access data through the Official web, namely [www.rumahzakat.org](http://www.rumahzakat.org). Pos Keadilan Peduli Umat (PKPU) located in East Jakarta, researchers get data through the Official web [www.pkpu.org](http://www.pkpu.org). Baitul Maal Hidayatullah located in South Jakarta, researchers access data through the site [www.bmh.or.id](http://www.bmh.or.id).

The source of data in this study came from three OPZ as organizations that manage zakat funds that publish their financial statements as a form of transparency in managing zakat funds.. This study uses a type of secondary data in the form of financial statements published

Zakat Management Organizations and literature related to the efficiency of zakat Fund Management.

OPZ in defining the relationship of input output using the method of intermediation approach and production approach. The intermediation approach views OPZ as an intermediary institution that distributes funds from fund owners to those in need. Variables used as inputs are funds received, operating costs and personnel costs. The output variables are channeled funds, fixed assets and current assets.

OPZ production approach considers as an institution that manages the funds that produce output from the funds owned. Input variables are the costs needed such as personnel costs, operating costs and other costs and fixed assets. The output variable is the funds disbursed and the funds received.

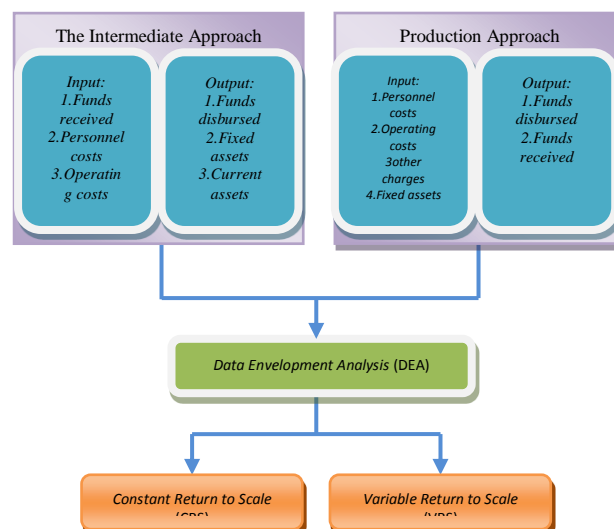
Table 1. Research variables.

Approach	Variabel <i>Input</i>	Variabel <i>Output</i>
Intermediation	Funds received Operating costs Personnel costs	1. Funds disbursed 2. Fixed assets 3. Current assets
Production	Personnel costs Operating costs Miscellaneous expenses Fixed assets	Funds disbursed Funds received

Source: processed Data (2017)

This study uses intermediation approach and production approach in classifying input and output variables. This study to calculate the efficiency of OPZ using the DEA method which is divided into two methods CRS and VRS to determine how efficient OPZ in managing zakat funds and to determine what accounts can be improved efficiency so that zakat funds are managed more optimally.

Figure 1. Research Design



Source: processed Data (2017)

This study uses quantitative analysis to calculate the level of efficiency that is Data Envelopment Analysis (DEA). DEA is an efficiency measurement method that uses

mathematical programming techniques. DEA is a nonparametric approach that can overcome the limitations of ratio and regression methods that cannot use many inputs and outputs (Abidin & Endri, 2009). Calculations used in this study are as follows (Sutawijaya & Lestari, 2009):

$$Es = \frac{\sum_{k=1}^m U_i Y_{is}}{\sum_{j=1}^n V_j X_{js}}$$

Description:

$E_s$  = efisiensi OPZ s

$m$  = output OPZ s the study

$n$  = input OPZ s the study

$Y_{is}$  = total output to i produced

$X_{js}$  = total input to j that used

$U_i$  = total weight output i produced OPZ s

$V_j$  = total weight input j produced OPZ s, and i calculated from 1 to m as well as j calculated from 1 to n

DEA assumption that no one has more efficient than 100% or 1, then the formulation:

$$Es = \frac{\sum_{i=1}^m U_i Y_{is}}{\sum_{j=1}^n V_j X_{js}} \leq 1, s = 1, \dots, n$$

$$U_i \text{ dan } V_j \geq 0$$

"n" indicates the number of OPZ samples examined. The first inequality indicates the presence of a ratio efficiency for DMUs of no more than 1, as well as the second inequality of positive weight. Ratio numbers vary from 0 to 1. OPZ is said to be efficient if it has a ratio of close to 1 to 100%, otherwise if the bank's efficiency is close to 0 indicates that the bank's efficiency is lower (Sutawijaya & Lestari, 2009).

DEA has two models that are often used, namely the VRS and CRS assumptions. This study uses the assumption of CRS (Constant Return to Scale), which is when there is an addition of input n times will be followed by an addition of output n times. Linear calculations using CRS assumptions are as follows (Coelli T., 1996; Sutawijaya & Lestari, 2009):

$$\text{Max } Es = \sum_{i=1}^m U_i Y_{is}$$

Constraints

$$\sum_{i=1}^m U_i Y_{is} - \sum_{j=1}^n V_j X_{js} \leq 0, s=1, \dots, n$$

$$\sum_{j=1}^n V_j X_{js} = 1 \text{ and } U_i \text{ and } V_j \geq 0$$

The efficiency of each OPZ is calculated using a linear program by maximizing the number of outputs weighted on the OPZ s. Constraints the number of weighted inputs must be equal to one for bank s, while the constraints for all banks the number of weighted outputs minus the number of weighted inputs must be less or equal to zero (Sutawijaya & Lestari, 2009).

In addition to using the CRS assumption, the researchers also used the vRS (Variable Return to Scale) assumption, that is, all units measured will produce changes at various output levels.

Linear programming using VRS assumptions are as follows (Muharam & Pusvitasari, 2007; Sutawijaya & Lestari, 2009):

$$\begin{aligned} \text{Max } E_s &= \sum_{i=1}^m U_i Y_{is} + U_0 \\ \text{Constraints} \\ \sum_{k=1}^m U_k Y_{ks} - \sum_{j=1}^n V_j X_{js} &\leq 0, r = 1, \dots, n \\ \sum_{j=1}^n V_j X_{js} &= 1 \text{ and } U_i \text{ and } V_j \geq 0 \end{aligned}$$

“ $U_0$ ” is a term that has a positive or negative value. As explained earlier, the researchers processed the data using special DEA calculation software, namely MaxDEA to determine the efficiency level of each OPZ studied from 2020 to 2021, so that researchers do not need to do calculations manually

### Research Location

This study was conducted on unit heads and employees of Bank BRI Syariah, Bank Mandiri Syariah, Bank BNI Syariah and Bank Muamalat in Malang regency. The object of this study was chosen because the four banks are the same as applying sharia principles.

### Population and sample

The population in this study are all unit heads and employees of Bank BRI Syariah, Bank Mandiri Syariah, Bank BNI Syariah and Bank Muamalat. The sample taken was determined by 5 respondents from each Bank. So that the total number of respondents who made the sample was 20 respondents with the census method in sampling .

### Data Analysis Techniques

Data analysis techniques used are descriptive qualitative data analysis is a technique used to analyze data by describing or describing the data that has been collected sober this approach will be able to deliver in-depth understanding of the processes of application of complex sharia principles.

focus of this study, among others, on the application of sharia principles that are described based on the dimensions of capital, fundraising, products and services. Data collection techniques were conducted through several ways including in-depth interviews (indepth interview) consisting of unit heads and employees, direct observation (passive participation), and documents consisting of bank profiles. Furthermore, data analysis using interactive models (Miles and Huberman: 1992), namely: data collection, data reduction, data presentation, and conclusion.

## RESULTS AND DISCUSSION

Zakat management organizations are said to be efficient when using existing inputs to produce maximum output. This efficiency analysis calculates variables using Data Envelopment Analysis (DEA) method which is processed with MaxDea Basic 6.18 software using constant Return to Scale and Variable Return to Scale assumption with production approach and intermediation approach.

Calculation of efficiency using DEA, there is the term DMU. DMU is the subject of research. In this study DMU consists of Rumah Zakat, PKPU and Baitul Maal Hidayatullah. A DMU is considered efficient if it has a score of 1. A score that is less than 1 means that the DMU is said to be inefficient.

**Efficiency analysis with intermediation approach**

Measurement of the level of efficiency with an intermediate approach showed that all OPZ studied had efficient performance. The DMU score in 2020 to 2021 shows a score of 1. This explains Rumah Zakat, PKPU and Baitul Maal Hidayatullah have efficient performance as intermediary institutions that distribute zakat funds to those who are entitled to receive it. This is shown in Table 2 below:

Table 2. OPZ efficiency with intermediation approach

year	Rumah Zakat		PKPU		BMH	
	CRS	VRS	CRS	VRS	CRS	VRS
2020	1	1	1	1	-	-
2014	1	1	1	1	1	1
2021	1	1	1	1	1	1

Source: processed Data (2017)

BMH in 2020 cannot be examined for its efficiency because in that year BMH did not publish its financial statements. Score 1 on PKPU, Rumah Zakat and Baitul Maal Hidayatullah explained that there was no need for additional output or input reduction because the three OPZS were efficient. Rumah Zakat, PKPU and BMH are efficient OPZ as intermediary institutions for muzakki (fund owners) and mustahiq (fund recipients).

**Efficiency analysis with production approach**

Efficiency measurement in OPZ is an efficiency measurement that considers OPZ as a nonprofit financial institution that manages funds in order to generate zakat funds and efficient distribution of zakat funds. In this case, OPZ is considered as an institution that produces services that require costs and fixed assets in managing zakat funds. Efficiency measurement with production approach shows inefficiency in OPZ performance. This is because the resulting value is less than 1. Measurement of efficiency with a measured production approach starting from 2020 to 2021 is shown in the table below:

Table 3. OPZ efficiency with production approach

year	Rumah Zakat		PKPU		BMH	
	CRS	VRS	CRS	VRS	CRS	VRS
2020	1	1	1	1	-	-
2014	1	1	1	1	0,63	1
2021	1	1	0,9	1	0,51	1

Source: processed Data (2017)

Table 3 describes efficiency measurements using CRS and VRS assumptions. Measurement of efficiency with the assumption of VRS showed a score of 1 in all OPZ studied. This shows that Rumah Zakat, PKPU and BMH have an efficient performance as OPZ that manages zakat funds which means that each additional input will produce a higher output.

Efficient measurement using the CRS assumption shows that only Rumah Zakat shows an efficiency score of 1 per year. PKPU and BMH showed scores less than 1. PKPU showed efficient performance in 2020 and 2014 while in 2021 it experienced inefficiency because the

score showed 0.9. BMH experienced less efficient performance because the score in 2014 showed 0.63 and in 2021 the efficient score decreased to 0.51. In addition to the above measurements, efficiency analysis on OPZ that experience inefficiency also needs to be done to determine what variables need to be improved efficiency.

Rumah Zakat shows a score of 1 every year. This proves that Rumah Zakat has an efficient performance as an institution that produces services for muzakki and mustahiq so that there is no need for an increase in output or a decrease in input.

Table 4. PKPU efficiency Target in 2021 with production approach

	Variable	Actual	Projection	Gain	Achieved
Output	Funds Received	Rp 44.955.955.051	Rp 50.045.883.164	10,2%	89,8%
	Funds Disbursed	Rp 44.526.945.637	Rp 46.943.801.980	5,1%	94,9%
Input	Personnel Costs	Rp 12.672.855.190	Rp 4.170.881.151	67,1%	32,9%
	Operating Costs	Rp 9.177.643.879	Rp 8.679.495.028	5,4%	94,6%
	Miscellaneous Expenses	Rp 751.177.959	Rp 225.989.273	69,9%	30,1%
	Fixed Assets	Rp 17.400.129.772	Rp 2.456.966.873	85,9%	14,1%

Source: processed Data (2017)

Table 4 proves that the explanation of PKPU's performance in 2021 is inefficient. The table above shows what variables cause inefficiencies. The increase in PKPU efficiency in 2021 can be increased by adding output variables such as setting a target for funds received of Rp 50,045,883,164 which is currently still 89.9% and reducing input costs used such as reducing personnel costs to Rp 4,170,881.15.

PKPU in 2020 and 2014 experienced efficient performance so that there was no need for additional output or input reduction. PKPU's efficiency performance decreased in 2021 to 90%. BMH's efficiency in 2020 cannot be calculated because BMH's financial statements in 2020 were not published. BMH experienced inefficiency in 2014 of 0.63% and in 2021 it became 0.51%. This is due to several variables that need to be improved efficiency. Therefore, it is necessary to analyze the efficiency of each variable as below:

Table 5. BMH efficiency Target in 2014 with production approach

	Variable	Actual	Projection	Gain	Achieved
Output	Funds Received	Rp22.048.338.606	Rp 26.971.867.774	18,3%	81,7%
	Funds Disbursed	Rp20.457.236.501	Rp 25.025.462.816	18,3%	81,7%
Input	Personnel Costs	Rp 9.967.928.235	Rp 4.437.325.406	55,5%	44,5%
	Operating Costs	Rp 9.511.336.661	Rp 7.387.396.880	22,3%	77,7%
	Miscellaneous Expenses	Rp 696.679.372	Rp 426.036.337	38,8%	61,2%
	Fixed Assets	Rp 9.825.657.804	Rp 6.702.949.261	31,8%	68,2%

Source: processed Data (2017)

Efficiency performance only reached a score of 0.63 in 2014 due to many variables that did not achieve 100%. The current actual condition of output must be increased in value and input must be reduced in order for BMH performance to be efficient in 2014.

Table 6. BMH efficiency Target in 2021 with production approach

	Variable	Actual	Projection	Gain	Achieved
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<i>Output</i>	Funds Received	Rp25.418.329.582	Rp 33.690.842.954	24,6%	75,4%
	Funds Disbursed	Rp23.580.558.835	Rp 31.602.524.727	25,4%	74,6%
<i>Input</i>	Personnel Costs	Rp10.345.236.564	Rp 4.437.325.406	57,1%	42,9%
	Operating Costs	Rp 8.662.172.354	Rp 5.843.028.146	32,5%	67,5%
	Miscellaneous Expenses	Rp 1.418.811.990	Rp 152.135.773	89,3%	10,7%
	Fixed Assets	Rp12.817.776.270	Rp 1.654.027.861	87,1%	12,9%

Source: processed Data (2017)

Table 6 proves that BMH efficiency performance in 2021 is inefficient so that input reduction and output addition are needed to achieve efficiency. The output variable that needs to be improved must be worth projecting and the input must also be worth projecting in order to achieve 100% for BMH performance to be efficient.

BMH as a production institution that produces services for zakat funds from muzakki to mustahiq experienced inefficient performance in 2014 and 2021. Input variables must be reduced and output variables must be increased in order to be efficient as an institution of production.

In 2014 BMH experienced inefficiency of 63% and in 2021 decreased to 51%. This is because many variables that need to be improved in order to achieve the target and achieved 100%. So it can be concluded that the performance of BMH as an OPZ that manages zakat funds between donors and recipients of funds is inefficient and the efficiency value of the input and output variables must be increased again.

## CONCLUSION

Based on the results of research on the level of OPZ efficiency using DEA, it can be concluded as follows: 1) in 2020 the OPZ under study showed efficient performance both as an intermediary institution for zakat funds between fund owners and fund recipients and production institutions that provide services to receive zakat and distribute it. 2) in 2014 Rumah Zakat and PKPU had efficient performance as intermediation institutions and production institutions. Baitul Maal Hidayatullah also has an efficient performance as an intermediary institution. However, Baitul Maal Hidayatullah does not have an efficient performance as an institution that produces services for the muzakki and mustahiq. Baitul Maal Hidayatullah experienced inefficiency of 63% so Baitul Maal Hidayatullah had to improve 37% more performance to be efficient. 3) OPZ in 2021 showed efficient performance as an intermediary institution. But as a production institution, only Rumah Zakat has an efficient performance. PKPU has an efficient performance of only 90%. PKPU must add another 10% for its performance to be efficient. Baitul Maal Hidayatullah experienced inefficiency of 51% so Baitul Maal Hidayatullah had to add another 49% for its performance to be efficient.

Based on the conclusion above, the suggestions that the researcher convey to several parties are: 1) OPZ that has had an efficient performance is expected to maintain its performance and for OPZ whose performance has not been efficient is expected to improve its efficiency. 2) for the next researcher: a) the next researcher is expected to use other methods such as Stochastic Frontier Approach (SFA) because this study only uses DEA for efficiency measurement. B) it is expected to examine the level of efficiency using a wider sample and longer period in order to determine the extent to which the level of OPZ efficiency in

Indonesia. c) further research is needed on the effect of OPZ performance efficiency on the welfare of the mustahiq to determine whether the maximum level of OPZ efficiency can have a positive impact on zakat recipients or not.

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