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New Finding on Zakat Efficiency Measurement in Indonesia 2016-2022

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This research aims to measure the efficiency of zakat amil institutions in Indonesia using the Data Envelopment Analysis (DEA) method for the 2016-2022 research period. The research objects used were 21 zakat institutions in Indonesia. The data from this research comes from the annual financial reports of each institution for the 2016-2022 period. The input variables in this research are employee costs, operational costs and total assets. And the output variable is the collection and distribution of zakat. The results of this research explain that during the 2016-2022 period, the level of efficiency of zakat institutions in Indonesia has a fluctuating trend from year to year and tends to increase. Based on the average efficiency score, it can be concluded that no zakat institution in Indonesia has reached the maximum level of efficiency. Furthermore, the Covid-19 pandemic has an impact on the efficiency level of Zakat Institutions. Then, the potential improvement analysis shows that the collection and distribution of zakat is the variable that causes the biggest inefficiency in zakat institutions. The results of the benchmarking analysis concluded that BMM and DD zakat institutions were the institutions with the most referrals.

Keywords: Efficiency; Zakat institution; Indonesia; DEA

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INTRODUCTION

The Amil Zakat Institution is an organization that manages and distributes zakat, which is an Islamic obligation to give part of one's wealth to the poor and needy. The role of the Amil Zakat institution is very important in ensuring that zakat is collected and distributed effectively and efficiently. In research conducted by Djaghballou et al (2018), it was emphasized that Zakat institutions play a key role in promoting economic activity and ensuring a minimum level of decent living for the Muslim community. To achieve this goal, zakat fund managers must carry out their duties professionally and be trustworthy in managing zakat resources. Maulana & Fanani (2020) stated that zakat management must be carried out with full dedication and integrity to achieve better social and economic prosperity. In addition, Widiastuti et al., (2021) confirmed that zakat institutions have an important role in empowering society and reducing poverty levels. Sustainably managed zakat funds can be allocated to individuals who have strong economic potential, with the hope of helping them escape the grip of poverty.

This also relates to the purpose of zakat in the context of Islamic economics, namely to achieve socio-economic prosperity by alleviating poverty, encouraging equal distribution of income and wealth, and preventing the concentration of wealth in the hands of a few people. In the macroeconomic aspect, zakat has the potential as an Islamic economic instrument that can influence aggregate consumption, savings and investment, aggregate supply of labor and capital, and increase economic growth which in the end can be an alternative solution to reduce poverty (Wahab & Rahman, 2012; Djaghballou et al., 2018; Wahab & Rahman, 2011). Amil Zakat institutions that utilize zakat funds for productive purposes in the form of qard al hasan (wisdom loans) can also help create jobs and encourage economic growth (Alim, 2015).

Even though zakat has great potential in terms of its implications, efforts to optimize its use are still faced with a number of significant challenges. One of these challenges is the resistance experienced by muzakki (individuals who are obliged to pay zakat) in carrying out their zakat obligations. Furthermore, the issue of transparency and accountability is still an important issue, and there are problems in the orientation of zakat management which focuses more on the process of collecting funds rather than on the purpose of its use. In Indonesia, there are still problems in zakat regulations which do not yet have an effective mechanism to ensure muzakki's compliance in paying zakat, and there is also minimal participation from stakeholders in zakat management. Besides that, the distribution of zakat is not optimal and the amount of zakat funds collected is still low are also problems that require improvement (Fadli, 2016; Ahmad & Ma'in, 2014). Apart from that, Mahmood et al (2021) explained that one of the main challenges faced by zakat amil institutions is the limited resources available. This limitation can cause inefficiency in zakat management carried out by zakat institutions. Ardani & Pujiyono (2021) also stated that the quality of governance and human resources is a priority issue in collecting zakat.

Seeing the large potential for zakat in Indonesia, zakat institutions must deal with various problems that exist in zakat management. One way to overcome this problem is to implement an optimal governance system. As an institution responsible for managing zakat, zakat institutions must ensure that zakat funds are managed well (Fatha & Pahlevi, 2023). Therefore, it is important for zakat institutions to measure and maintain their own level of efficiency (Wahab & Rahman, 2012). Measuring the level of efficiency for zakat institutions has implications for assessing the effectiveness of zakat institutions in fulfilling their mission of collecting and distributing zakat to those in need, as well as identifying areas of inefficiency and developing strategies to improve performance (Wahab & Rahman, 2012; Noor et al., 2015). Apart from that, measuring efficiency will also have implications for building public trust by demonstrating transparency and accountability in the management of zakat funds, and also evaluating the impact of the zakat distribution program, and making necessary adjustments to increase its effectiveness (Hasanah et al., 2021; Sufriandio & Murniati, 2022).

Among the research that is relevant to this research topic is research conducted by Greece et al (2020) measuring the efficiency of Sharia Bank zakat (OPZ) managers in Indonesia. Maulana & Fanani (2020) explained the efficiency of national zakat institutions from 2015-2016. Ryandono et al (2021) analyzed the level of efficiency of zakat institutions in Indonesia. Retnowati (2018) measured the performance and efficiency of zakat institutions in Jambi. Al Ayubi et al (2018) measured the efficiency of zakat management of zakat institutions in Indonesia. Wahab & Rahman (2012) analyzed the level of efficiency of zakat institutions in Malaysia. Ahmad & Ma'in (2014) analyzed the efficiency of zakat collection and distribution. Noor et al (2015) analyzed the performance efficiency of zakat institutions in Malaysia. Departing from the background of this

research, this study tries to examine further the efficiency of zakat amil institutions in Indonesia during the period 2016 to 2022.

LITERATURE REVIEW

Law No. 23 of 2011 in Indonesia has determined the management of zakat, infaq and alms as planning, implementing and coordinating activities in the collection, distribution and utilization of zakat, infaq and alms. The aim of managing ZISWAF funds is to increase the efficiency and effectiveness of services and benefits as an effort to realize community welfare and overcome poverty. This explains that the ZISWAF concept has scientific value and is effective in overcoming various social and economic problems in society. The concept of Islamic philanthropy is also implemented through zakat, infaq, alms and waqf (ZISWAF). Iskandar et al (2020) explained that ZISWAF has a goal that is more than just increasing faith, but also to eliminate materialistic, stingy and greedy traits as well as improve the human spirit, clean up wealth, and overcome various social and economic problems.

In Muslim countries, zakat institutions are trusted institutions that manage ZISWAF (Wahab & Rahman, 2012). Zakat institutions play a central role in the Islamic economic structure with the main aim of ensuring a fair distribution of wealth and establishing a social security system for individuals who need it. The Qur'an firmly emphasizes the importance of zakat as a core element in the context of social and economic justice. In Indonesia, there are two variants of zakat, infaq and alms management institutions, which can be formed either by the government or by the community itself. Zakat institutions empowered by the government include entities such as the National Amil Zakat Agency (BAZNAS), while the Amil Zakat Institution (LAZ) is founded and run by communities. The essential function of a zakat institution is to act as an intermediary between the party providing zakat and the individual who is entitled to receive it. The responsibilities of zakat institutions include careful collection of zakat funds from the community, management with efficient principles, and distribution of zakat to eligible recipients with an optimal level of transparency and accountability. Not only that, zakat institutions also involve themselves in the task of educating and socializing the public about the significance of zakat, along with providing assistance and support to zakat recipients in an effort to improve their quality of life.

Considering the function and role of zakat institutions, it is important for zakat institutions to measure their level of efficiency. The achievements of an institution are often measured through efficiency or productivity related to the objectives of the financial institution. Efficiency measurements can be made by comparing inputs in the form of fixed assets, labor and customer funds with outputs in the form of financing and operations. To calculate efficiency, the ratio of output and input can be used, while to calculate productivity, the relationship between output and input is used (Mongid & Tahir, 2010). Belanes et al (2015) explain that efficiency is a financial concept that evaluates the extent to which invested input produces output. Efficiency measurement was developed by Farrell (1957), who revealed that efficiency measurement consists of technical efficiency (TE) and allocation efficiency. The output-to-input ratio is referred to as TE. In contrast, allocative efficiency refers to a business's ability to maximize inputs according to its pricing system and production technology. An efficient business is enabled to produce more output per unit of input than competing businesses.

Many previous studies have discussed the efficiency of zakat institutions in Indonesia, including Rustyani & Rosyidi (2018) measuring the efficiency and productivity of zakat institutions in Indonesia using DEA and MPI. The results of his research found two LAZs that experienced inefficiencies in 2014 and 2015, namely LAZ YDSF and ACT. Meanwhile, in 2016, all LAZs achieved optimal efficiency levels. The results of the MPI analysis show that in the first year there were two LAZs that experienced a decline in productivity, namely LAZ Al-Azhar and PKPU. Four other LAZs saw an increase in productivity, namely LAZ YDSF, ACT, Rumah Yatim, and Rumah Zakat. In the second year, three LAZs experienced an increase in productivity, namely LAZ Al-Azhar, PKPU, and Rumah Zakat, while three other LAZs experienced a decrease in productivity, namely LAZ YDSF, ACT, and Rumah Yatim.

Djaghballou et al (2018) analyzed the efficiency and productivity of zakat fund performance in Algeria. The results of his research concluded that total factor productivity had increased sharply for all zakat funds, mainly due to technical changes rather than efficiency changes. Further decomposition of efficiency changes into pure technical and scale efficiency components shows that pure efficiency is a more important source of efficiency changes than the scale efficiency component, meaning that zakat funds rely on technical aspects to gain efficiency.

Syaifuddin (2019) analyzed the level of efficiency in managing zakat funds at the National Zakat Amil Agency (BAZNAS). The research results show that BAZNAS achieved efficiency levels in 2012-2014 and 2017 with a score of 100%. Inefficiency occurred in 2015 at 79.16% and in 2016 at 98.72%. In 2015-2016, all input variables experienced inefficiency, while the only output variable that was inefficient was the distribution of zakat funds. To overcome inefficiencies, adjustments can be made between the target and actual amounts determined in the DEA calculation. Ardiani (2019) analyzed the efficiency of national zakat institutions in collecting and distributing zakat funds. The results of this research show that in 2011, 2014, and 2015 Dompet Dhuafa was efficient in collecting and distributing zakat and non-zakat funds. The inefficiencies that occurred in 2012 and 2013 were caused by the non-optimal distribution of funds from Dompet Dhuafa.

Greece et al (2020) measured the efficiency of Sharia Bank zakat (OPZ) managers in Indonesia. Maulana & Fanani (2020) explained the efficiency of national zakat institutions from 2015-2016. Ryandono et al (2021) analyzed the level of efficiency of zakat institutions in Indonesia. Retnowati (2018) measured the performance and efficiency of zakat institutions in Jambi. Al Ayubi et al (2018) measured the efficiency of zakat management of zakat institutions in Indonesia. Wahab & Rahman (2012) analyzed the level of efficiency of zakat institutions in Malaysia. Ahmad & Ma'in (2014) analyzed the efficiency of zakat collection and distribution. Noor et al (2015) analyzed the performance efficiency of zakat institutions in Malaysia.

METHODOLOGY

This research is quantitative research with a non-parametric approach. The method used in this research is Data Envelopment Analysis (DEA) to calculate the efficiency of amil zakat (LAZ) institutions in Indonesia. This research uses secondary data originating from books, scientific journal articles, publications and so on. Then the data source for this research comes from the official website of each zakat institution. The number of DMUs sampled in this research was 21 zakat institutions that published annual reports during the 2016-2022 period.

Table 1: Zakat Institutions as DMU

No	Institutions	2016	2017	2018	2019	2020	2021	2022
1	BAMUIS BNI	√	√	√	√	√	√	√
2	BAZNAS	√	√	√	√	√	√	-
3	BMM	√	√	√	√	√	√	√
4	LAZ AL-AZHAR	-	-	-	√	√	√	√
5	LAZ DD	-	-	-	-	√	√	√
6	LAZ DEWAN DA'WAH	√	√	√	√	√	-	-
7	LAZ IZI	√	√	√	√	√	√	-
8	LAZ LAGZIS Peduli	-	-	√	√	√	√	-
9	LAZ MIZAN AMANAH	√	√	√	√	√	√	-
10	LAZ Muhammadiyah	-	√	√	√	√	√	√
11	LAZ Panti Yatim Al Fajr	√	√	√	√	√	√	√
12	LAZ RY Ar-Rohman	√	√	√	√	√	√	-
13	LAZ RZ	√	√	√	√	√	√	√
14	LAZ Y Griya Yatim & Dhuafa	√	√	√	√	√	√	-
15	LAZ YDQ Nusantara (PPPA)	-	√	√	√	√	√	-
16	LAZIS NU	√	√	√	√	√	√	-
17	LAZNAS BSM	√	√	√	√	√	√	-
18	RUMAH YATIM	√	√	√	√	√	√	-
19	YATIM MANDIRI	√	√	√	√	√	√	-
20	YBM BRI	√	√	√	√	√	-	-
21	YBM PLN	√	√	√	√	√	√	√

Furthermore, this research uses an output-oriented approach in comparing the results of efficiency analysis of zakat amil institutions in Indonesia. The inputs used in the DEA method are employee costs, operational costs and total assets, while the output variables used are the collection and distribution of zakat. The DEA method is used in this research to evaluate the relative efficiency and managerial performance of production units or DMUs.

In literature studies regarding efficiency, DEA is widely used to measure technical efficiency, including the efficiency of financial institutions (Sharma et al., 2013). Apart from that, the DEA method can also provide information about Decision Making Units (DMU) that are inefficient in using input and what variables cause inefficiency. Finally, this method can produce information about how much input and output must be adjusted to achieve relatively maximum efficiency values.

There are two DEA models that are often used, namely the Charnes, Cooper, and Rhodes (CCR) model and the Banker, Charnes, and Cooper (BCC) model. The main difference between the two is the return to scale approach used. The CRS approach is used in the CCR model which means that when there is an addition of 1 input variable there will be an increase in output by 1. Meanwhile, the VRS approach is used in the BCC model which produces Pure Technical Efficiency (PTE). The VRS approach assumes that when there is additional input, the additional output produced will not have exactly the same ratio (Rusydiana & Sanrego, 2018; Ikhwan, 2022; Aufa et al., 2022; Firmansyah, 2022).

A business unit is said to be efficient if it can produce maximum output for a certain level of production (input), or if the unit can minimize costs for a certain level of output. Efficiency in DEA is measured on a scale of 0 to 1 or 100%. A value of 100% indicates that the efficiency achieved is actually maximum, whereas the smaller the efficiency value, the more inefficient the zakat institution is. The VRS approach to the BCC model is more suitable for use in competitive conditions and financial constraints which can cause inefficiencies in companies, so that it can provide more accurate results in measuring the efficiency of amil zakat (LAZ) institutions in Indonesia.

RESULTS AND DISCUSSION

Input and Output Variables

Table 2 provides an overview of the related variablesinput and variables output as well as descriptive statistics used in this research for the 2016-2022 period.

Table 2: Variabel of Input and Output

Variables	Mean	Min	Max	St.Dev
Input				
Amil Cost	Rp8.297.990.054	Rp18.750.000	Rp41.199.604.272	Rp8.940.540.844
Operational Cost	Rp25.379.824.674	Rp1	Rp524.549.051.961	Rp77.071.735.288
Total asset	Rp65.922.810.145	Rp78.080.630	Rp381.904.316.852	Rp79.600.031.823
Output				
Zakat collection	Rp69.815.498.559	Rp9.702.000	Rp448.110.950.330	Rp86.232.791.409
Zakat distribution	Rp67.651.761.490	Rp9.702.000	Rp425.613.391.858	Rp83.590.715.577

Panel Efficiency of Zakat Institutions

The efficiency of waqf funds has been checked annually and investigated using themcommon frontlier based on the DEA method. The table below (Table 3) shows the averageTechnical Efficiency (THE),Pure Technical Efficiency (PTE), andScale Efficiency (SE) zakat amil institutions from 2016 (Panel A), 2017 (Panel B), 2018 (Panel C), 2019 (Panel D), 2020 (Panel E), 2021 (Panel F), 2022 (Panel G), and the whole year (Panel H).

Table 3: Statistic of Efficiency Score (TE, PTE and SE) per Year

Years/Type of Efficiency	Mean	Min	Max	St.Dev
Panel A (2016)				
TE	0,304	0,024	1,000	0,265
PTE	0,386	0,050	1,000	0,295
SE	0,770	0,343	1,000	0,194
Panel B (2017)				
TE	0,240	0,021	1,000	0,248
PTE	0,330	0,026	1,000	0,311
SE	0,753	0,335	1,000	0,213
Panel C (2018)				
TE	0,222	0,020	0,739	0,190
PTE	0,353	0,047	0,971	0,291
SE	0,708	0,235	1,000	0,235
Panel D (2019)				
TE	0,334	0,022	1,000	0,322
PTE	0,450	0,067	1,000	0,359
SE	0,751	0,195	1,000	0,249
Panel E (2020)				
TE	0,335	0,024	1,000	0,319
PTE	0,467	0,056	1,000	0,361
SE	0,738	0,171	1,000	0,267
Panel F (2021)				
TE	0,246	0,026	1,000	0,221
PTE	0,399	0,043	1,000	0,338
SE	0,700	0,236	1,000	0,247
Panel G (2022)				
TE	0,417	0,027	1,000	0,349
PTE	0,677	0,087	1,000	0,380
SE	0,650	0,027	1,000	0,319
Panel H (All Years)				
TE	0,289	0,020	1,000	0,278
PTE	0,416	0,026	1,000	0,341
SE	0,731	0,027	1,000	0,245

Based on this table, it can be seen that the average score Technical Efficiency (TE) thenPure Technical Efficiency The highest (PTE) for zakat amil institutions in Indonesia will be in 2022 (0.417) and PTE (0.677), respectively. Then the lowest average TE score was in 2018 (0.222) and the lowest PTE was in 2017 (0.330). Next, average the scores Scale Efficiency The highest and lowest (SE) respectively were in 2016 (0.770) and 2022 (0.650). Based on this, it can be concluded that the level of efficiency of zakat amil institutions tends to fluctuate from year to year.

Efficiency of Zakat Institutions with CRS and VRS model

Table 4: Efficiency score with CRS assumption

DMU	CRS							
	2016	2017	2018	2019	2020	2021	2022	Mean
BAMUIS BNI	0,764	1,000	0,739	0,744	1,000	0,311	0,300	**0,694**
BAZNAS	0,186	0,150	0,154	0,162	0,161	0,246	-	**0,177**
BMM	0,113	0,115	0,191	1,000	1,000	0,350	0,075	**0,406**
LAZ AL-AZHAR	0,179	0,143	0,136	0,136	0,172	0,248	1,000	**0,288**
LAZ DD	0,136	0,119	0,115	0,140	0,123	0,306	0,887	**0,261**
LAZ DEWAN DA'WAH	0,195	0,229	0,131	0,144	0,092	-	-	**0,158**
LAZ IZI	0,214	0,175	0,218	0,291	0,492	0,171	-	**0,260**
LAZ LAGZIS Peduli	-	-	0,298	0,236	0,194	0,115	-	**0,211**
LAZ MIZAN AMANAH	0,086	0,056	0,059	0,077	0,087	0,100	-	**0,078**
LAZ Muhammadiyah	-	0,099	0,211	1,000	0,880	1,000	0,027	**0,536**
LAZ Panti Yatim Al Fajr	0,121	0,098	0,122	0,089	0,104	0,074	0,073	**0,097**
LAZ RY Ar-Rohman	0,259	0,161	0,117	0,141	0,177	0,155	-	**0,168**
LAZ RZ	0,469	0,543	0,472	0,265	0,335	0,500	0,486	**0,439**
LAZ Y Griya Yatim & Dhuafa	0,147	0,105	0,098	0,093	0,097	0,100	-	**0,107**
LAZ YDQ Nusantara (PPPA)	-	0,024	0,044	0,080	0,050	0,053	-	**0,050**
LAZIS NU	1,000	0,222	0,175	0,828	0,440	0,357	-	**0,504**
LAZNAS BSM	0,131	0,149	0,133	0,127	0,174	0,026	-	**0,123**
RUMAH YATIM	0,237	0,161	0,111	0,119	0,129	0,155	-	**0,152**
YATIM MANDIRI	0,024	0,021	0,020	0,022	0,024	0,030	-	**0,023**
YBM BRI	0,474	0,548	0,553	0,786	0,876	-	-	**0,647**
YBM PLN	0,728	0,690	0,572	0,526	0,420	0,385	0,492	**0,545**

Table 5: Efficiency score with VRS assumption

DMU	VRS							
	2016	2017	2018	2019	2020	2021	2022	Mean
BAMUIS BNI	0,768	1,000	0,739	0,745	1,000	0,313	0,305	**0,696**
BAZNAS	0,384	0,434	0,654	0,831	0,943	1,000	-	**0,708**
BMM	0,190	0,233	0,331	1,000	1,000	0,497	0,198	**0,493**
LAZ AL-AZHAR	0,198	0,163	0,157	0,157	0,177	0,263	1,000	**0,302**
LAZ DD	0,397	0,357	0,378	0,515	0,488	0,896	1,000	**0,576**
LAZ DEWAN DA'WAH	0,199	0,233	0,139	0,148	0,094	-	-	**0,163**
LAZ IZI	0,248	0,216	0,274	0,311	0,513	0,274	-	**0,306**
LAZ LAGZIS Peduli	-	-	0,313	0,242	0,196	0,116	-	**0,217**
LAZ MIZAN AMANAH	0,104	0,067	0,071	0,095	0,093	0,108	-	**0,090**
LAZ Muhammadiyah	-	0,144	0,875	1,000	1,000	1,000	1,000	**0,836**
LAZ Panti Yatim Al Fajr	0,129	0,105	0,147	0,108	0,124	0,087	0,087	**0,112**
LAZ RY Ar-Rohman	0,328	0,192	0,168	0,222	0,302	0,262	-	**0,246**
LAZ RZ	0,551	0,617	0,561	0,678	0,761	0,859	0,827	**0,693**
LAZ Y Griya Yatim & Dhuafa	0,149	0,105	0,099	0,102	0,114	0,119	-	**0,115**
LAZ YDQ Nusantara (PPPA)	-	0,026	0,047	0,091	0,056	0,057	-	**0,056**

LAZIS NU	1,000	0,239	0,207	0,908	0,490	0,416	-	**0,543**
LAZNAS BSM	0,196	0,227	0,207	0,161	0,251	0,043	-	**0,181**
RUMAH YATIM	0,292	0,187	0,158	0,171	0,242	0,262	-	**0,219**
YATIM MANDIRI	0,050	0,049	0,048	0,067	0,085	0,127	-	**0,071**
YBM BRI	0,765	1,000	0,861	1,000	1,000	-	-	**0,925**
YBM PLN	1,000	1,000	0,971	0,902	0,877	0,886	1,000	**0,948**

Tables 4 and 5 show the efficiency scores of each zakat amil institution in Indonesia based on CRS and VRS assumptions. Based on table 3, it is known that there is no zamil zakat institution in Indonesia that has reached the maximum level of efficiency. However, if you look at the highest score, on average BAMUIS BNI has the highest efficiency score, namely 0.694. Meanwhile, the zakat amil institution with the lowest score was Yatim Mandiri with a value of 0.023. Furthermore, based on table 4 it is also known that based on the VRS assumption there is no zakat amil institution that has reached the maximum level of efficiency. On average, the zakat institution with the highest efficiency score based on VRS assumptions is YBM PLN with a value of 0.948. Meanwhile, the institution with the lowest score is LAZ YDQ Nusantara (PPPA) with a score of 0.056.

Efficiency Trend of Zakat Institutions

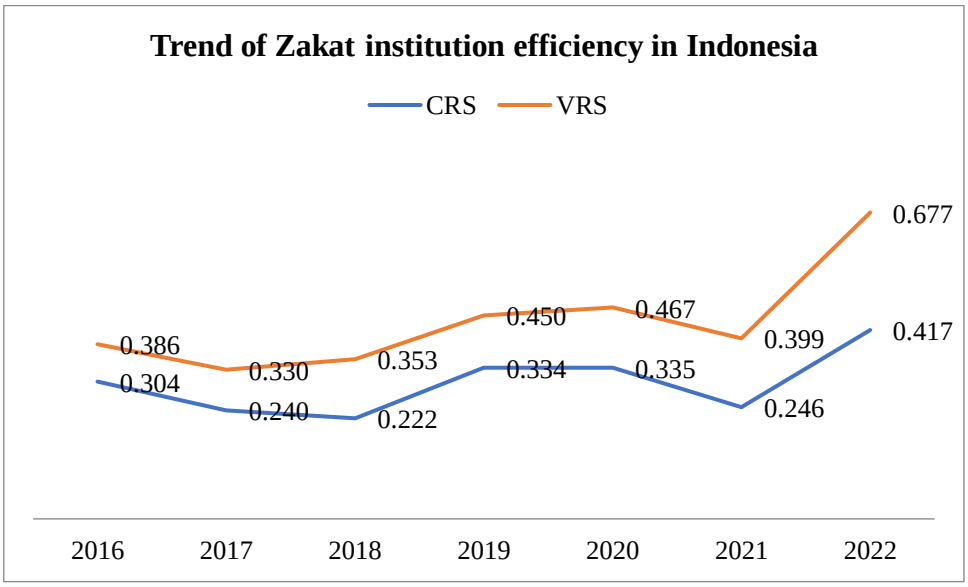

Figure 1: Trend of zakat institution efficiency

Figure 1 explains the efficiency trend of zakat amil institutions from 2016 to 2022. Judging from the efficiency graph, it is known that the efficiency of zakat amil institutions based on CRS and VRS assumptions fluctuates and tends to increase from year to year. The efficiency trend of zakat amil institutions decreased in 2017. Then, the level of efficiency continued to increase again until the 2020 period. However, in 2021 the level of efficiency again decreased quite significantly. Until finally, in 2022 the level of efficiency of zakat amil institutions will again increase significantly.

Based on this figure, it can also be concluded the influence of the Covid-19 pandemic on the level of efficiency of zakat amil institutions in Indonesia. As is known, the Covid-19 pandemic began to spread at the end of 2019 until it spread massively in Indonesia at the beginning of 2020. Judging from the efficiency trend graph, the efficiency level of zakat amil institutions began to decline from 2020, until there was a quite significant decline in 2021 Then, in 2022 the efficiency of zakat amil institutions will again show a significant increase. This explains that the Covid-19 pandemic has significantly affected the efficiency of zakat amil institutions in Indonesia.

Potential Improvement

The next analysis is related topotential improvement or potential improvements to obtain values that must be improved to achieve optimal levels of efficiency. Through analysis Potential Improvemet This results in variables that need to be improved to reach the optimal level. The analysis uses the last observation period which is carried out separately from other periods to get an idea of the value that must be achieved. In other words, from potential improvement This can reveal the source of the inefficiency. The following are the measurement results Potential Improvement.

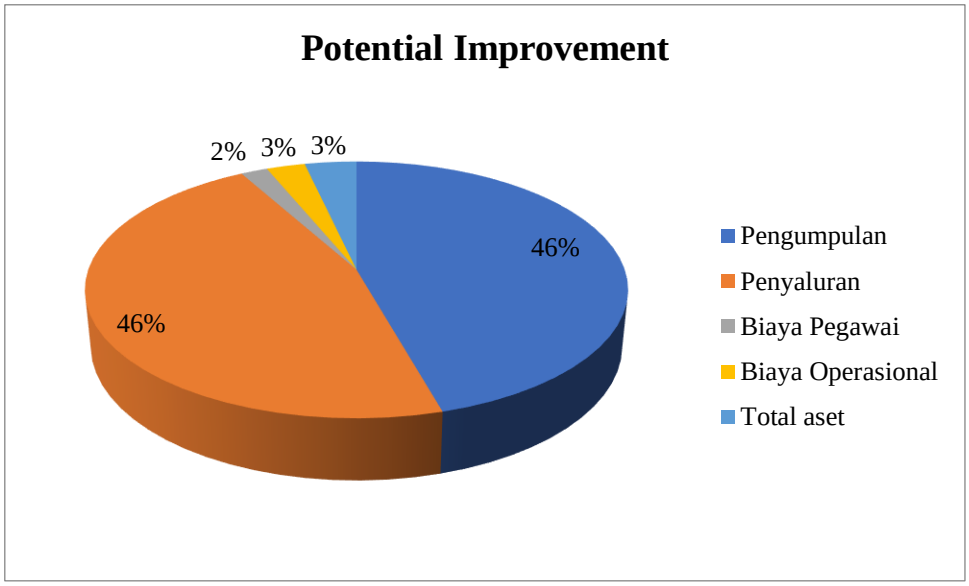

Figure 2: Potential Improvement

Figure 2 shows the results of the analysispotential improvement. It is known that the variables that cause inefficiency in zakat amil institutions in Indonesia come from input variables, namely employee costs, operational costs and total assets. Then, from the output variable, namely collection and distribution. Furthermore, the graph explains that to achieve optimal efficiency in zakat amil institutions, the variables for employee costs, operational costs and total assets must be reduced by 2% and 3% respectively. Meanwhile, the collection and distribution variables must be increased by 46% each. Based on the potential improvement results, it can be concluded that the biggest cause of inefficiency in zakat amil institutions comes from the output variable, namely collection and distribution.

Benchmarking

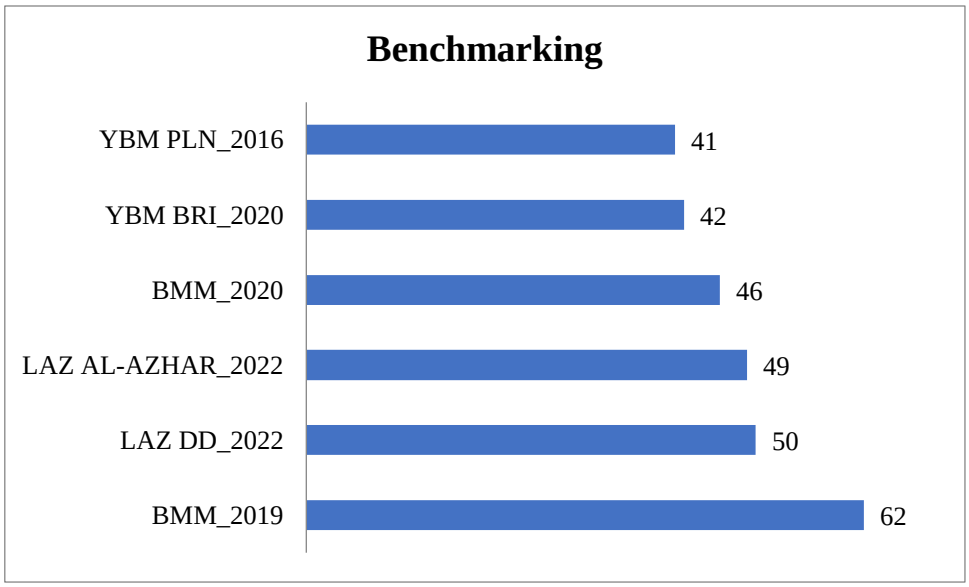

Figure 3: Benchmarking Result

Figure 3 explains the related benchmarking namely showing the DMU as a reference for other DMUs, especially for DMUs that have not yet reached the level of efficiency. Based on the frontier analysis, it is known that BMM 2019 and BMM 2020 are the most frequently referred zakat amil institutions, with a total of 108. Then, followed by LAZ DD 2022 with a total of 50 referrals. Next, the Al-Azhar 2022 amil zakat institution with a total of 49 referrals, YBM BRI 2020 with a number of 42 and YBM PLN 2016 with a reference number of 41. This explains that, although on average the level of efficiency of zakat amil institutions has still not reached the optimal level of efficiency, individually zakat amil institutions are still able to maintain their level of efficiency. Apart from that, the efficiency of zakat amil institutions after 2019 is better than the efficiency in the year before 2019. This shows that the efficiency of zakat amil institutions continues to increase.

FINDINGS

Based on the results of the analysis using DEA, several findings were obtained that can be used by relevant parties in policy making and deepening existing research in the future. The first finding in this research is based on the efficiency scores of zakat amil institutions in Indonesia, explaining that the level of efficiency of zakat amil institutions fluctuates from year to year but with an increasing tendency. The highest increase in management efficiency by institutions will occur in 2022. Apart from that, there is no zakat institution in Indonesia that has achieved maximum efficiency. Based on CRS assumptions, BAMUIS BNI has the highest efficiency score and the zakat amil institution with the lowest score is obtained by Yatim Mandiri. Meanwhile, based on VRS assumptions, the zakat amil institution with the highest efficiency score based on VRS assumptions is YBM PLN and the institution with the lowest score is LAZ YDQ Nusantara (PPPA). The results of this research support research from Wahab & Rahman (2015) which states that there are still many zakat amil institutions in Malaysia that are not efficient. The cause of the inefficiency of zakat institutions is due to the inability of institutions to use available technology to collect more zakat and distribute it to recipients. Bahri et al (2023) also stated that zakat institutions in Indonesia have efficiency trends that fluctuate from year to year.

Suhail et al (2019) also expressed the same thing that the condition of zakat institutions in Indonesia is not yet fully efficient. Inefficiencies in zakat institutions are mostly caused by high operational costs incurred and the receipt of zakat funds which is still low, and the distribution of zakat funds which is only used for the short term. There are several factors that cause the low efficiency of zakat amil institutions, including decentralization, which is related to the responsibility for decision making being transferred from a higher level of government to a lower level of government, which can cause inefficiency (Wahab & Rahman, 2013; Wahab &

Rahman, 2015). Research on efficiency in zakat institutions in Indonesia is also still quite low, limiting the ability to increase efficiency (Suhail et al., 2019). The low number of zakat contributors, even though there has been an increase in collection, the number of zakat contributors is still relatively low (Ahmad & Ma'in, 2014). Apart from that, according to Firdaus et al (2019), low levels of trust in zakat institutions can also affect their efficiency.

Second, it was found that during the Covid-19 pandemic, the efficiency level of zakat institutions experienced a significant decline, then the level of efficiency increased in the 2022 period. The results of this research are relevant to research from Bahri et al (2023) that the pandemic has an influence on the efficiency of zakat institutions. Hernawati et al (2022) explained that the Covid-19 pandemic has had long-term economic and social impacts, thereby increasing the operational risks of zakat institutions. The same thing was also expressed by Herindar & Rusydiana (2021) who stated that the Covid pandemic had an effect on the level of efficiency of waqf funds due to the reduction in the amount of waqf funds collected and distributed. Therefore, in order to increase the efficiency of zakat institutions, they can adopt digitalization (Bahri et al., 2023). Ninglasari & Muhammad (2021) explain that digitalization can increase the effectiveness of zakat management during the Covid-19 pandemic. By adopting digitalization, zakat institutions can optimize the collection and distribution of zakat funds and have a tremendous impact on community welfare, especially for poor communities affected by Covid-19.

Ninglasari & Muhammad (2021) argue that digital platforms provide many conveniences for zakat users, especially during the pandemic, because they can collect, manage and distribute zakat funds online. In addition, real-time data technology can be used to optimize the allocation and distribution of zakat funds from decreasing zakat supply to increasing demand. So, with the progress of digitalization of zakat, the convenience of zakat payment services at zakat institutions can be significantly increased, because Muzaki can pay zakat directly online without having to visit the zakat institution's office. Rizal & Pakkanna (2023) also emphasize that digitalization can increase zakat contributions by providing a more accessible and convenient way to pay zakat, which can help zakat institutions collect more funds.

Third, based on an analysis of the potential for increasing efficiency using data from the last year for each institution, the variables that cause the greatest inefficiency are distribution and collection. Jaapar & Kamarulzaman (2020) explain that inefficient management in the aspect of zakat distribution can result in inefficiency in the collection and distribution of zakat funds. Ahmad & Ma'in (2014) also expressed the same thing that technical inefficiencies in zakat institutions originate from the collection and distribution of zakat. Apart from that, misuse of zakat funds can also cause inefficiencies in the collection and distribution of zakat funds. Wahab & Rahman (2015) argue that the lack of transparency in the collection and distribution of zakat funds can also cause inefficiency.

Finally, based on benchmarking results, it was found that the BMM zakat institution was the institution with the highest number of referrals, followed by the DD zakat institution. This may indicate that the adoption of many institutions towards an institution reflects the application of the principles of good governance. This principle can be reflected in various aspects, such as the level of accountability and professionalism implemented by these institutions. On the other hand, this adoption level can also be an indication of the extent to which these institutions implement good governance well. Amalia et al (2018) explain that good governance can strengthen the performance of zakat institutions by ensuring transparency, accountability, responsibility, independence and justice. Rahman (2015) also emphasized that transparency and accountability are important concerns in the management of zakat by OPZ. This is because the more transparent and accountable, the higher the level of public trust, which in turn will increase public awareness, compliance and motivation to distribute zakat.

Governance mechanisms can maintain proper and accountable management of zakat collection and distribution, which is important for the credibility and legitimacy of zakat institutions (Sawmar & Mohammed, 2021). Furthermore, good governance can also increase zakat compliance by ensuring transparent management and adequate access to information for all relevant parties. By identifying governance mechanisms that will influence zakat payer compliance, zakat managers can maximize zakat contributions and increase the effectiveness of zakat institutions (Sawmar & Mohammed, 2021). Overall, good governance and accountability are essential for the efficient and effective functioning of zakat institutions. By adhering to the principles of good governance, zakat institutions can maintain proper and accountable management, increase

zakat compliance, maximize zakat contributions, and maintain their legitimacy and credibility.

CONCLUSION

This research analyzes the efficiency of zakat amil institutions in Indonesia during 2016-2022 using the DEA method. The results of the analysis show that the level of efficiency of zakat amil institutions fluctuates from year to year but with an increasing trend. The highest increase in management efficiency by institutions occurred in 2022. Then, during the Covid-19 pandemic, the level of efficiency of zakat institutions experienced a significant decline. This explains that the Covid-19 pandemic has had an impact on the efficiency of zakat institutions in Indonesia.

Another finding in this research is that no zakat institution has achieved maximum efficiency. Based on CRS assumptions, BAMUIS BNI has the highest efficiency score and the zakat amil institution with the lowest score is obtained by Yatim Mandiri. Meanwhile, based on VRS assumptions, the zakat amil institution with the highest efficiency score based on VRS assumptions is YBM PLN and the institution with the lowest score is LAZ YDQ Nusantara (PPPA). Furthermore, based on an analysis of the potential for increasing efficiency using data from the last year for each institution, the variables that cause the greatest inefficiency are distribution and collection/collection. Then, based on the benchmarking results, it was found that the BMM zakat institution was the institution with the highest number of referrals, followed by the DD zakat institution.

In this research, there are limitations, including that the data used is data from 2016-2022. However, in collecting data there were several obstacles, one of which was caused by the management's annual report not being up to standard and there being differences in the accounts included in one report and another. Apart from that, from the 2016-2022 period, there were still 21 institutions that did not publish complete annual financial reports.

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