

Efficiency Analysis on Amil Zakat Institutions in Indonesia 2015-2016 using Data Envelopment Analysis (DEA)

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Abstract: Efficiency is something that needs to be measured because efficiency can be used to see the performance of an institution. Zakat institutions need to be assessed for efficiency because zakat institutions need to manage and utilize resources efficiently to achieve the goals of zakat institutions, one of which is poverty alleviation. Therefore this study measures the efficiency of using Data Envelopment Analysis (DEA) method in community level national scale zakat institutions (namely Lembaga Amil Zakat) in Indonesia period 2015-2016. Efficiency measurement is based on the size of an Lembaga Amil Zakat on national scale so that measurements will be separated into three groups. Efficiency results at large Lembaga Amil Zakat on national scale groups have been good, but there is 1 institution namely Nurul Hayat which needs to improve efficiency in 2015. While the efficiency of small Lembaga Amil Zakat on the national scale groups has also been good, but there is also 1 institution namely YDSF which is not yet optimum in 2015 and 2016. Then the efficiency calculation of 9 Lembaga Amil Zakat on national scale combined into one, it appears that the average efficiency in 2015 (0,841) is smaller than in 2016 (0,936). So there needs to be an increase in each Lembaga Amil Zakat on national scale in this study that is not yet optimum efficiency.

1 INTRODUCTION

Indonesia is a developing country with a large population, so poverty is one of the main economic problems in Indonesia. Data from Central Bureau of Statistics Indonesia in 2017 recorded the number of poor people in Indonesia reached 27.77 million people or 10.64 percent of the total population in Indonesia (Badan Pusat Statistik, 2018). Therefore, a sustainable solution is needed to deal with this problem. One sustainable solution that can be used is derived from the Islamic economy. In the Islamic economy there are alternative instruments namely Zakat, Infaq and Shodaqoh which are able to be a solution to the problem of poverty, including in Indonesia. Indonesia is also a country with a majority of the population adhering to Islam, so this solution is expected to be able to be implemented properly.

Payment of zakat is an obligation that must be carried out by Muslims. In addition, the allocation of zakat funds (*asnaf*) has also been clearly stipulated in the Qur'an, in which the list of recipients of zakat is prioritized for the poor people. So that zakat can

function as a social security instrument, meaning that zakat has a duty in terms of transferring wealth from the rich to the poor (Beik, 2009). Besides that, zakat is a fund that must be issued by all Muslims so that it is considered to be sustainable.

Indonesia as a country with a majority of the population is Muslim and sees zakat as an obligation that must be carried out, so Indonesia should have the potential of raising large Zakat, Infaq and Shodaqoh funds. However, in Indonesian zakat's outlook from Badan Amil Zakat Nasional shows that the realization of national fund collection from Zakat, Infaq and Shodaqoh in Indonesia has not been maximized and the realization of its collection is still far from the potential that has been estimated in a study entitled Economic Estimation and Determinations of Zakat Potential in Indonesia by Institute Pertanian Bogor (IPB), Badan Amil Zakat Nasional (BAZNAS), and Islamic Development Bank (IDB) in 2011.

Indonesia is a country that has not obliged Muslims to pay zakat directly to the government as its management so that zakat institutions in Indonesia are still dominated by community-level

zakat institutions, namely Lembaga Amil Zakat (LAZ). But in Indonesia there are also governmental zakat institutions, namely Badan Amil Zakat Nasional (BAZNAS). But there is a fact that people in Indonesia cannot fully trust the funds of Zakat, Infaq and Shodaqoh that they will pay to government zakat institutions. These facts are evidenced in Graph 1 which illustrates the percentage of collection (a) and distribution (b) based on the zakat institution category.

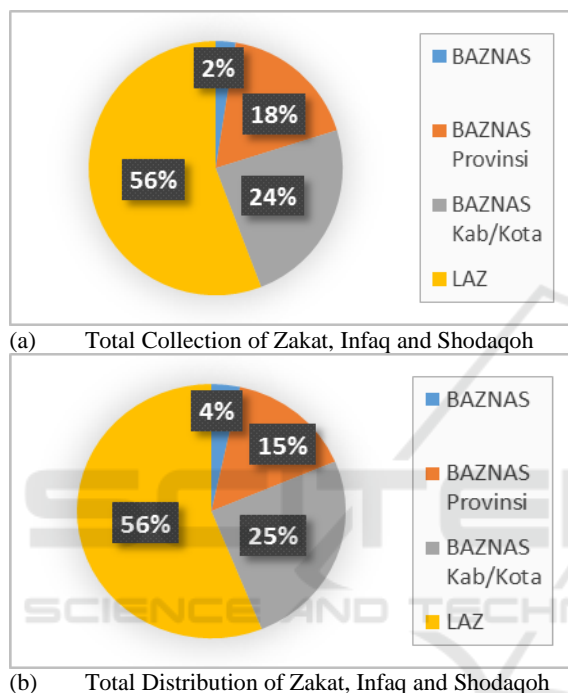


Figure 1: Percentage of Total Collection of Zakat, Infaq and Shodaqoh and Distribution by Zakat Institution Category in 2016

*note : BAZNAS is Badan Amil Zakat Nasional (government level zakat institution); LAZ is Lembaga Amil Zakat (community level zakat institution).

Source : (Pusat Kajian Strategis BAZNAS, 2017)

In Graph 1 also illustrates that the largest percentage of total fund collection and distribution from Zakat, Infaq and Shodaqoh comes from Lembaga Amil Zakat. Where Lembaga Amil Zakat contributes in collecting funds of Zakat, Infaq and Shodaqoh by 56 percent of the total zakat collected in 2016. While the distribution of zakat by Lembaga Amil Zakat also contributed 56 percent of the total zakat funds distributed from all zakat institution category in 2016. This indicates that Lembaga Amil Zakat has a large contribution, both in terms of collection and the distribution of Zakat, Infaq and

Shodaqoh funds. In addition, by looking at the same percentage of Zakat, Infaq and Shodaqoh fund collection and distribution, which is 56 percent, indicates that the performance of Zakat, Infaq and Shodaqoh fund management by Lembaga Amil Zakat is good.

Operations at zakat institutions come from amil funds obtained from total collection of Zakat, Infaq and Shodaqoh fund. The maximum acquisition of amil funds from zakat is 1/8 or 12.5% of the total zakat funds collected. Therefore, an efficiency principle for zakat institutions is needed in order to be able to maximize greater benefits for the people. Therefore, this study aims to analyze the level of efficiency in zakat institutions with a focus on Lembaga Amil Zakat national scale in Indonesia using the Data Envelopment Analysis (DEA) method. Lembaga Amil Zakat was chosen because Lembaga Amil Zakat was a zakat institution in Indonesia that gained greater trust from the community to channel Zakat, Infaq and Shodaqoh funds. So that to continue to increase the trust of the Lembaga Amil Zakat, people must be able to undergo the principle of efficiency because through the efficiency value it can also be seen the performance of an Lembaga Amil Zakat itself.

2 ANALYTICAL FRAMEWORK

2.1 Lembaga Amil Zakat (LAZ)

Lembaga Amil Zakat is a community-formed institution that has the task of assisting the collection, distribution, and utilization of zakat. By Lembaga Amil Zakat definition it can be seen that the role of Lembaga Amil Zakat is as an institution that assists Badan Amil Zakat Nasional (government level zakat institution) in the management of zakat in Indonesia. In the formation of Lembaga Amil Zakat is required to obtain permission from the Minister or an official appointed by the Minister. Then in the case of reporting on the implementation of the collection, distribution and utilization of zakat, Lembaga Amil Zakat is required to report the reports audited to Badan Amil Zakat Nasional on a regular basis.

Similar with Badan Amil Zakat Nasional which has levels, Lembaga Amil Zakat also has levels ranging from city, province, and national. In this study using Lembaga Amil Zakat on a national scale, this is because the Lembaga Amil Zakat on level national scale has a greater contribution when compared to the provincial and city scales. Every

Lembaga Amil Zakat on a national scale also has representative offices in almost every region in Indonesia. So that the collection and distribution will be more optimal.

2.2 Efficiency

Theoretically efficiency is one of the performance measures that underlie all organizational performance. The definition of efficiency according to the Kamus Besar Bahasa Indonesia (KBBI) is the accuracy of the way to do things by not using excessive time, effort, and costs. Economic efficiency based on conventional economic context, is defined as a term that explains how well an organization performs in terms of maximizing the desired output from the use of provided inputs and available technology.

In the context of zakat institutions as a business unit or Decision Making Unit (DMU), efficiency refers to how well zakat institutions use their resources to meet socio-economic justice objectives, while governance refers to processes and structures in directing and managing the affairs of zakat institutions to improve social welfare of recipients legal zakat and shows accountability to zakat payers. There are several previous studies that have measured efficiency in zakat institutions in Indonesia and in other countries.

Akbar (2009), he examined the efficiency analysis of 9 zakat institutions in Indonesia during the period 2005 to 2007 with the DEA method. The approach taken is the production approach. Overall, the efficiency of Zakat institutions in 2005 is still better than in 2006 and 2007 both technically (94.52%), scale (75%), and overall (71.27%). The calculations use the assumption of CRS and produce only two efficient zakah institutions. The main cause of inefficiency using output orientation is channeled funds and funds collected. While the measurement with the input orientation states that the source of inefficiency is other operational costs and socialization costs. (Akbar, Analisis Efisiensi Organisasi Pengelola Zakat Nasional dengan Pendekatan Data Envelopment Analysis, 2009)

There is research about efficiency analysis at zakat institution in Malaysia during the period 2003 to 2007 using DEA method. The results show that the zakat institution shows an average of technical efficiency of 80.6 percent (Wahab & Rahman, Efficiency of Zakat Institutions In Malaysia : An Application of Data Envelopment Analysis, 2012). In addition, there are studies that analyzing the overall efficiency of the entire Zakat Sabah Center

from 2007 to 2015. The method used is Data Envelopment Analysis (DEA) using CCR assumptions. The results show that zakat institutions have been operating efficiently during 2009, 2012, 2014, and 2015. Inefficiencies were found in 2007, 2008, 2010, 2011, 2012, and 2013. The main cause of inefficiency is the excessive use of staff is considered inefficient. (Krishnan & Hamzah, Evaluating the Efficiency of a Zakat Institution over a Period of Time Using Data Envelopment Analysis, 2017)

3 DATA AND METHOD

This study uses primary data and secondary data. The primary data used in this study were obtained from Lembaga Amil Zakat internal data provided through questionnaires. While the secondary data obtained comes from literature studies and LAZ internal data. The type of research used in this study is quantitative with a non-parametric Data Envelopment Analysis (DEA) approach. The object of this research is 9 Lembaga Amil Zakat on national scale. The selection of Lembaga Amil Zakat on national scale is based on institution's willingness to provide their financial reports and the availability of financial report data on the website. The year period used in this study is from 2015-2016.

Table 1: Sample Data

Lembaga Amil Zakat on National Scale	2015*	2016*
Dompot Dhuafa	Available	Available
Rumah Zakat	Available	Available
Pos Keadilan Peduli Ummat (PKPU)	Available	Available
Yayasan Kesejahteraan Madani (YAKESMA)	Available	Available
Al Azhar Peduli Ummat	Available	Available
Lembaga Manajemen Infak Ukhuwah Islamiyah (LMI)	Available	Available
Dana Sosial Al Falah Surabaya (YDSF)	Available	Available
Yatim Mandiri Surabaya	Available	Available
Nurul Hayat	Available	Available

*Note : Available = Financial Report Available; (-) = Financial Report Not Available.

Based on the Decree of the Minister of Religion number 333 of 2015, it was stated that one of the conditions for applying for permission to form a

Lembaga Amil Zakat on national scale was a statement of ability to collect zakat funds, donations, infaq, shodaqoh and other socio-religious funds of at least 50 billion rupiah per year. Because this research only uses data on zakat, infaq, and shodaqoh funds, this research will divide the Lembaga Amil Zakat on national scale into a large Lembaga Amil Zakat on national scale category and a small Lembaga Amil Zakat on national scale. This division refers to the requirements for the amount of collection in the Minister of Religion Decree that has been explained previously. So that the efficiency analysis will be made into three parts, namely (1) measurement of efficiency in the large Lembaga Amil Zakat on national scale group (Zakat, Infaq and Shodaqoh fund collection above 51 billion rupiah), (2) efficiency measurement in the small Lembaga Amil Zakat on national scale group (Zakat, Infaq and Shodaqoh fund collection under 51 billion rupiah), (3) the measurement of the efficiency of all Lembaga Amil Zakat on national scale in this study.

The method used in this study to measure the LAZ national scale efficiency score is Data Analysis Envelopment (DEA). DEA is a non-parametric method for measuring the relative efficiency and managerial performance of Decision Making Units (DMUs). Based on Charnes et al (1978), initially DEA is widely used in the banking industry, but DEA can also be applied to several industries, one of which is zakat institution. Measurement of efficiency is based on how far the point of production of a particular DMU against the efficient frontier point. An efficient DMU will get a value of 1, closer to 0 then the DMU is declared inefficient. It is also possible to know the inefficiency source of each input or output.

DEA was first introduced by Charnes, Cooper, and Rhodes in 1978. This method has relatively relative results. The efficiency value can be measured by calculating the ratio between the weighted amount of output and the weighted amount of input. DMU efficiency calculation can be formulated as follows:

$$Efisiensi\ unit\ j = \frac{u_1y_{1j} + u_2y_{2j} + \dots}{v_1x_{1j} + v_2x_{2j} + \dots} \quad (1)$$

Where,

u_1	= weights for output i
y_{1j}	= value of output 1 of unit j
v_1	= weights for input i
x_{1j}	= value of input 1 of unit j

DEA has 2 models namely BCC and CCR models. The BCC model was developed by Banker, Charnes, and Cooper (1984). This model has assumed Variable Return to Scale (VRS), it means

that the addition of input n times will not cause the output to increase by n times (can be smaller or bigger). Such conditions will result in Increasing Return to Scale (IRS) and Decreasing Return to Scale (DRS). An efficient DMU on this model is technically efficient. While the CCR model was developed by Charnes, Cooper, and Rhodes (1978). This model assumes that the addition of input n times increases the output by n times or also called Constant Return to Scale (CRS). The efficient DMU of this model is called the overall efficiency, which is technically and scale efficient.

This study uses a production approach that sees zakat institutions as a producer that generates pooled funds and channeled funds. This study also used CCR model which has the assumption of CRS. This research uses 3 inputs (X) and 2 outputs (Y) with input orientation. The selection of inputs (X) and outputs (Y) variables in this paper is based on several previous studies and data availability.

The variable output (Y) of the DMU is consisting of Total Collection from Zakat, Infaq, and Shodaqoh (Y1) and Total Distribution from Zakat, Infaq, and Shodaqoh (Y2), while the input (X) variables comprised of Personnel Costs (X1), Socialization Cost (X2), and Operating Expenses except personnel and socialization costs (X3).

4 RESULT AND DISCUSSION

Tables 2, 3 and 4 show the results of the processing of DEAP software 2.1. Calculation of efficiency is divided into three groups, because the data sample is judged not to have the same scale when combined. This is assessed based on the collection of Zakat, Infaq and Shodaqoh funds every Lembaga Amil Zakat on national scale. Lembaga Amil Zakat on national scale, which succeeded in obtaining Zakat, Infaq and Shodaqoh fund collection exceeding 51 billion, then Lembaga Amil Zakat entered the large Lembaga Amil Zakat on national scale group. Whereas Lembaga Amil Zakat on national scale which succeeded in obtaining Zakat, Infaq and Shodaqoh funds was less than 51 billion, then that zakat institution entered the small Lembaga Amil Zakat on national scale group.

Lembaga Amil Zakat on national scale that entered the category of large groups is Dompot Dhuafa, Rumah Zakat, PKPU, Yatim Mandiri Surabaya, and Nurul Hayat. While the rest of Lembaga Amil Zakat on national scale goes to the small group category is YAKESMA, Al Azhar Peduli Ummat, YDSF, and LMI.

In Table 2, it can be seen from the average of 2015 and 2016 that the large Lembaga Amil Zakat on national scale groups experienced an increase in the average value of efficiency. Almost all LAZ in 2015 received optimum efficiency values except Nurul Hayat. Nurul Hayat did not get an optimum efficiency value because in 2015, the personnel costs used by Nurul Hayat were very high. Whereas in 2016, Nurul Hayat was able to reduce personnel costs but the total collection and distribution of ZIS actually increased. Therefore in 2016, Nurul Hayat managed to obtain optimum efficiency values.

Table 2: Efficiency in The Large Lembaga Amil Zakat on National Scale Group

Lembaga Amil Zakat on National Scale	Efficiency Value 2015	Efficiency Value 2016
Dompot Dhuafa	1,000	1,000
Rumah Zakat	1,000	1,000
PKPU	1,000	1,000
Yatim Mandiri	1,000	1,000
Nurul Hayat	0,806	1,000
Mean	0,961	1,000

Source : Results from DEAP software 2.1

In Table 3, shows the results that are almost the same as Table 2, which is almost all institution in this group get the optimum efficiency value, but there is 1 institution which is inefficient, the institution is YDSF. It was seen that YDSF was even more inefficient in 2016 compared to 2015. This was allegedly because in 2016, YDSF tried to raise collection of zakat, infaq, and shodaqoh by increasing the burden of socialization and personnel costs. However, with these two burdens, YDSF was considered able to generate more collection of zakat, infaq, and shodaqoh funds. The increase in zakat, infaq, and shodaqoh collection is less than the target so it is suspected that there is a need to increase again.

Table 3: Efficiency in The Small Lembaga Amil Zakat on National Scale Group

Lembaga Amil Zakat on National Scale	Efficiency Value 2015	Efficiency Value 2016
YAKESMA	1,000	1,000
Al Azhar	1,000	1,000
YDSF	0,834	0,699
LMI	1,000	1,000
Mean	0,958	0,925

Source : Results from DEAP software 2.1

Table 4 is the results of the efficiency of all Lembaga Amil Zakat on nation scale that were sampled in this study. When viewed from the side of zakat, infaq, and shodaqoh fund raising from each Lembaga Amil Zakat on national scale in this study, it has a large enough difference that making this 9 zakat institutions cannot be combined into one processing period. However, researchers are interested in seeing all Lembaga Amil Zakat on national scale as samples in this study combined. The results of this merger are shown in Table 4.

Table 4: Efficiency in All LAZ National Scale Group

Lembaga Amil Zakat on National Scale	Efficiency Value 2015	Efficiency Value 2016
Dompot Dhuafa	0,724	0,739
Rumah Zakat	1,000	0,990
YAKESMA	1,000	1,000
PKPU	0,801	1,000
Al Azhar	1,000	1,000
YDSF	0,834	0,699
Yatim Mandiri	0,765	1,000
LMI	1,000	1,000
Nurul Hayat	0,444	1,000
Mean	0,841	0,936

Source : Results from DEAP software 2.1

The results from Table 4 show that the average efficiency score in 2015 is smaller than in 2016. This is because in 2015, there were 5 institutions that received inefficient values. Whereas in 2016, there were only 3 institution which produced inefficient values. Another interesting thing is that 3 of 9 zakat institution in Table 4 produced optimum efficiency values during 2015 to 2016, but the 3 institutions were Lembaga Amil Zakat on national scale which entered the small group. This indicates that the small group LAZ is more efficient than the large group.

After knowing the value of efficiency at each Lembaga Amil Zakat on national scale, it is also necessary to see the main source of inefficiencies in each zakat institution in this study. The main source of inefficiency shown in Table 5 is only a source of inefficiency from the management of all Lembaga Amil Zakat on national scale without any groupings.

Table 5: Main Source of Inefficiency from All LAZ National Scale

Lembaga Amil Zakat on National Scale	Main Source of Inefficiency	Potential Improvement
Dompot Dhuafa 2015	Socialization Cost	76%
Dompot Dhuafa 2016	Socialization Cost	88%
Rumh Zakat 2016	ZIS Collection	4%
Yatim Mandiri 2015	Personalia Cost	63%
Nurul Hayat 2015	All variabel input / cost	56%
PKPU 2015	All variabel input / cost	20%
YDSF 2015	Personalia Cost	37%
YDSF 2016	Personalia Cost	63%

Source : Processed by the uthor

Table 5 is the main source of inefficiency for each zakat institutions in this study. It is seen that there are 2 institution which in 2015 and 2016 got the same main source of inefficiency. The zakat institution is Dompot Dhuafa and YDSF. This implies that Dompot Dhuafa must focus on reducing the burden of socialization which is considered too large. This is proven by the incessant Dompot Dhuafa making advertisements everywhere, so that Dompot Dhuafa is one of Lembaga Amil Zakat that many people have known. While the main source of inefficiency in YDSF is on personnel costs. Therefore, there are two ways for YDSF to be efficient. The first method is YDSF needs to reduce personnel costs, and the second method is YDSF needs to increase zakat, infaq, and shodaqoh fund collection.

5 CONCLUSION AND RECOMMENDATION

5.1 Conclusion

There is four conclusions from result of this research, First, Efficiency at large Lembaga Amil Zakat on national scale groups has been good, but there is 1 institution namely Nurul Hayat that needs to improve efficiency in 2015. However, in 2016 it was proven that Nurul Hayat was able to achieve optimum efficiency values like other LAZ in this group.

Second, Efficiency at small Lembaga Amil Zakat on national scale group has also been good, but there is 1 institution namely YDSF which has not been optimally efficient in 2015 and 2016.

Third, If the efficiency calculation of 9 Lembaga Amil Zakat on national scale is combined into 1 group, then it appears that the average efficiency in 2015 is smaller than in 2016. This is because in 2015 there were 5 inefficient institutions, while in 2016 there were only 3 inefficient institutions. In addition there are 3 institution that have efficiency for two consecutive years at this efficiency meeting. The three institutions are YAKESMA, Al Azhar Peduli Ummat, and LMI. When viewed by group, the three institutions are Lembaga Amil Zakat on national scale in small groups.

Forth, There are 2 institution that get the same main source of inefficiency during 2015-2016, both institution are Dompot Dhuafa and YDSF. This means that Dompot Dhuafa must focus on streamlining socialization costs, while YDSF needs to focus on streamlining personnel costs.

5.2 Recommendation

All level of Lembaga Amil Zakat needs to be more transparent by publishing the financial statements annually to the their website.

For further research, it is expected to be able to multiply the input and output variables used. Then, increase the number of samples studied. Using other models on the DEA, this is because in this study only uses the CRS model and input orientation to see the value of efficiency and the source of inefficiency. And for further research need to see the relationship between each inputs and outputs variable using other method. So that it can be seen the relationship between each related variable and also the most influential variables in seeing the performance of the institution.

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