EFFICIENCY OF ZAKAT MANAGEMENT IN BAITUL MAL BANDA ACEH: DATA ENVELOPMENT ANALYSIS APPROACH

T. Muhammad Ghufran[1], Muhammad Hasbi Zaenal[2], Endri[3]
Insititut Agama Islam Tazkia, Indonesia
tmghufran@gmail.com

ABSTRACT

Purpose – The aim of the study is to examine the level of efficiency and the total potential improvement efficiency in Baitul Mal Banda Aceh.

Design/methodology/approach – To achieve this objective, the current study used the DEA to analyzes the interaction between input variables consisting of socialization costs, number of amil and operational costs with output variables consisting of the total collection and the total distribution of zakat, infaq and sadaqah of Baitul Mal Banda Aceh for the period 2018-2020.

Findings – The results show that Baitul Mal Banda Aceh operated inefficient. Inefficiency occurred throughout 2018, 2019, 2020 with overall efficiency scores of 64.1%, 60.1% and 57.5%. Scale efficiency scores of 74.5%, 72.8% and 71.7%. Technical efficiency scores of 86%, 82.5% and 80.1%. Inefficiency comes from all variables, both output and input.

Research limitations/implications – The study invokes the attention of government and policymakers to build up the efficiency of Baitul Mal, which in turn, leads to increased public participation to paying zakat in official Zakat Institutions. For Baitul Mal management, it is necessary to increase its efficiency. Because it is known that there are still many factors that can be optimized.

Originality/value – This adds to the scarce literature on measuring efficiency of zakat management in Baitul Mal using the DEA approach. This study contributes to the literature on the issue of zakat management, variations of variables and measurement approaches by reconfirming (or otherwise) findings of previous studies.

Keywords Efficiency, Zakat, Management, Baitul Mal, Banda Aceh, Data Envelopment Analysis

INTRODUCTION

Islam is a religion that pays great attention to alleviating poverty and inequality. This is because the zakat instrument is used as one of the pillars of Islam (Firmansyah, 2013). Zakat is considered to be able to reduce inequality which can be beneficial for development in general (Ayuniyyah et asl., 2017), (Ahmad Malik, 2016),(Ahmed Shaikh & Ghafar Ismail, 2017). It is considered that the pattern of zakat-based inequality reduction programs performs better(Ariyani, 2016).

Aceh Province as a region with special autonomy that implements Islamic law in its government has Qanun No. 10 of 2018 concerning Baitul Mal related to the management of zakat. Baitul Mal Aceh is a zakat management institution established by the government in Aceh Province.

The management of zakat funds in 2012-2015 has not been efficient with an average inefficiency of 60.75% (Afrida & Amin, 2018). Based on data from the Baitul Mal Banda Aceh Secretariat Performance Report in 2019, the efficiency of performance achievements was 74,13% (Baitul Mal, 2020). Performance achievement data is an analysis of the above-average achievement implementation duty subject and function in Plan Strategic Baitul Mal Banda Aceh Secretariat. Efficiency in managing zakat in Aceh is an obligation for Baitul Mal Aceh to realize mashlahat to contribute to alleviating the problems of poverty and inequality in Aceh.

Efficient zakat management can be seen in how the institution can provide the best output with the available inputs. Several studies use DEA in analyzing the efficiency level of zakat management organizations (Akbar, 2009), (Lestari, 2015), (Zahra et al., 2019), (Parisi, 2017), (Alam, 2018), (Djaghballou et al., 2018). In their research, Wahab proposed the use of DEA to measure the efficiency of zakat management. In the case of a zakat management organization, several variables can be included in the model, such as the number of employees and total expenditure as input and the amount of zakat collected, the amount of zakat distribution, the number of muzakki and the number of mustahik as output (Wahab & Rahim Abdul Rahman, 2011).

Meanwhile, Baitul Mal Banda Aceh was chosen as a case study for several reasons: the availability of the necessary data and so far research on measuring the efficiency of zakat management in Banda Aceh is still limited. Previous research conducted by Afrida & Amin (2018) used a qualitative descriptive type of research. Therefore, this research is different from previous research and the Performance Report of the Baitul Mal Banda Aceh Secretariat. This study aims to measure the efficiency of zakat management in Baitul Mal Banda Aceh with input and output variables using the Data Envelopment Analysis (DEA) method.

LITERATURE REVIEW
Efficiency
Efficiency can be interpreted as a condition where a certain output can be achieved with minimal input. Philosophically, an organization's performance measurement is seen by how it can produce optimal output from the available inputs.

The concept of efficiency introduced by Farrell (1957) can calculate multiple inputs. Farrell classified efficiency into three types, namely technical efficiency, allocative efficiency and economic efficiency. Technical efficiency (TE) is the efficiency that can be achieved by using or selecting production techniques or technology so that certain inputs can produce maximum output. Allocative efficiency (AE) is the efficiency obtained through the use of inputs in an optimal proportion by considering the price of each input and production technology. Economic efficiency (EE) is a combination of technical efficiency and allocative efficiency which is also known as total efficiency(Anggraini et al., 2017).

A company can be said to be efficient when compared to other companies if with the same amount of input it can produce a larger amount of output or can produce the same amount of output but spend a smaller amount of input value(Anwar et al., 2019).

Coelli (2005) mentions that there are two efficiency measurement techniques, namely input orientation and output orientation. Input-Oriented Measures describe the number of inputs that can be reduced in proportion to the

amount of output produced remains. Output-Oriented Measures describe a number of output values that can be increased proportionally to the number of fixed input values used (Coelli et al., 2005).

The principle of efficiency is one of the indicators in measuring the level of success of a company, organization or institution (Mukhlas, 2020). There are at least 2 hadiths that form the basis for the concept of efficiency. The first hadith is narrated by Bukhari number 5105 which means:

From Salih, he said: Ibn Shihab told me, verily Ubaidillah bin Abdullah reported to him that Abdullah bin Abbas RA reported to him, "The Messenger of Allah passed by a dead goat, so he said, 'Why don't you take advantage of its skin? They said, "Indeed it is a carcass." He said, "Indeed (the carcass) is forbidden to eat it."

The second hadith is narrated by Bukhari number 5106 which means:

From Thabit bin 'Ajlan he said; I heard Sa'id bin Jubayr say; I heard Ibn Abbas radiallahu 'anhuma say; "The Prophet sallallaahu 'alaihi wasallam once passed the carcass of a goat, then he said: "Why doesn't the owner take advantage of the skin?"

The explanation of the two hadiths above the author refers to the book Fathul Baari written by Ibn Hajar Al-Asqalani which in Chapter 72 on the Book of Slaughter Animals and Hunted Animals in section 30 on Carcass Skins it is explained that there is an order to use goat skins. Imam Ahmad also added that Ibn Abbas took skin from a goat carcass and tanned it, then made it into a qirbah (dringking water container) (Asqalani, 2003). This shows the values of Islamic teachings that pay attention to the realization of efficiency from the process of maximizing input factors by trying not to waste potential inputs.

The above hadith shows how the Prophet emphasized being efficient and utilizing resources. The use of inefficient input factors in zakat management institutions such as Baitul Mal Banda Aceh can cause waste where the funding sector is financed without careful calculation. Qardhawi also explained that being efficient has become an intellectual value for every Muslim because being excessive is the same as wasting effort to be able to increase production capabilities (Faizah & Fuaddi, 2019).

Efficiency Approach at Baitul Mal

Baitul Mal in the management of zakat funds carries out its role as zakat amil who carries out the role of collecting, managing and distributing zakat. Baitul Mal, whose funding source is from the APBD (Regional Government Budget) scheme, demands that they be able to use it efficiently. The institution is expected to play a key role in promoting the socio-economic objectives of zakat in Banda Aceh. Therefore, it is very important that these institutions are managed efficiently (Wahab & Rahman, 2013).

Good management of zakat funds will be illustrated by the optimal level of efficiency and productivity. So that good governance indicators are needed, where efficiency and effectiveness become one of the standards in knowing the performance of the Zakat Management Institution. This is also a form of accountability monitoring from the Zakat Management Institute (Noor et al., 2012). So it can be concluded that efficient operational management will have an impact on the success of the role of zakat for mustahik.

DATA AND METHODOLOGY

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This study uses a quantitative analysis research method whose analysis emphasizes nonparametric measurements with the Data Envelopment Analysis (DEA) method. The DEA methodology is a data-oriented mathematical program technique to evaluate the efficiency of the comparison of input and output ratios called the Decision-Making Unit (DMU) or decision-making unit (Cooper et al., 2011).

This study analyzes the interaction between input variables consisting of data on socialization costs (X_1), number of staff (X_2) and operational costs (X_3) with output variables consisting of total collection (Y_1) and total distribution (Y_2) of zakat and infaq. The object of research in this study is Baitul Mal Banda Aceh for the period 2018-2020. Input variables describe resource factors that support Baitul Mal's work efficiency in managing zakat and infaq funds. The output variables describes the products that are the main objectives of Baitul Mal Banda Aceh in managing zakat and infaq funds.

Baitul Mal Banda Aceh can be said to be efficient if it can achieve an efficiency score of 100%. So that if the efficient score is getting further away from 100% or close to a score of 0%, then it is increasingly inefficient with their respective assumptions.

DEA has three model assumptions in evaluating efficiency. The Constant Return to Scale (CRS) assumption states that every addition of n units of input must increase the increase in output by n times. Another assumption in this model is that Baitul Mal Banda Aceh operates optimally so that this model is also known as Overall efficiency, which is technically efficient and on a scale. Assumption of Variable Return to Scale (VRS) states that every addition of n units of input does not mean that it is followed by an increase in output of n times. In this case, Baitul Mal Banda Aceh has different Return to Scale (RTS) conditions, it could be that the output is getting bigger called Increasing Return to Scale (IRS) or vice versa the output is decreasing called Decreasing Return to Scale (DRS). The measurement of efficiency with the VRS assumption is known as Pure Technical Efficiency (Endri, 2010). The decomposition of the Technical Efficiency score from CRSTE into two components, which refers to Scale efficiency (SE) and refers to pure technical efficiency (VRSTE). This is obtained from the calculation of CRSTE and VRSTE on the same data. If there is a difference in the TE results from the two assumption models, it is indicated that Baitul Mal Banda Aceh is not efficient on a scale (Fathony, 2012).

RESULTS AND DISCUSSION

The results of this study use DEAP 2.1 software. Measurement of efficiency at Baitul Mal Banda Aceh is output-oriented which aims to determine the level of efficiency carried out by Baitul Mal in collecting and distributing ZIS funds with a certain number of inputs.

The following are the results of data processing using DEAP 2.1 software:

Table 1. Efficiency Level of Baitul Mal Banda Aceh

Baitul Mal	Year	CRSTE	VRSTE	SCALE	RTS
Banda Aceh	2018	64,1	86,0	74,5	drs
	2019	60,1	82,5	72,8	drs
	2020	57,5	80,1	71,7	drs

Based on the data shown in table 1, it is known that Baitul Mal Banda Aceh operated inefficient during the study period. The results of the overall efficiency

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measurement (CRSTE) Baitul Mal Banda Aceh have an efficiency score below 65%. The results of the measurement of pure technical efficiency (VRSTE), the efficiency score is 80%-86%. As for the efficiency of the scale, the efficiency score is 71.7%-74.5%. The results of the processed data also show that in the 2018-2020 period Baitul Mal Banda Aceh is in a decreasing condition (drs). This condition illustrates that Baitul Mal must reduce or optimize inputs to achieve efficiency, because the number of inputs at Baitul Mal is not ideal.

The sources of inefficiency from Baitul Mal Banda Aceh during the 2018-2020 can be seen from the table below:

Table 2. Sources of Inefficiency Baitul Mal Banda Aceh

Baitul Mal	Year	Variables	Actual	Target	Potential
Banda Aceh	2018	Collection of ZIS	18.149.646.281,82	21.095.254.174,82	16,23%
		Distribution of ZIS	16.796.498.920,00	20.826.747.960,00	23,99%
		Number of Amil	54,00	48,00	-11,11%
		Operational Costs	2.563.056.207,00	1.518.735.384,00	-40,75%
		Socialization Costs	89.850.000,00	50.000.000,00	-44,35%
	2019	Collection of ZIS	16.467.246.567,00	21.095.254.175,00	28,10%
		Distribution of ZIS	17.189.608.804,00	20.826.747.960,00	21,16%
		Number of Amil	59,00	48,00	-18,64%
		Operational Costs	2.563.056.207,00	1.518.735.384,00	-40,75%
		Socialization Costs	89.850.000,00	50.000.000,00	-44,35%
	2020	Collection of ZIS	16.667.585.736,00	20.806.677.933,10	24,83%
		Distribution of ZIS	15.385.281.000,00	20.349.220.093,90	32,26%
		Number of Amil	46,00	46,00	0,00%
		Operational Costs	25.963.709.708,00	1.571.134.136,30	-93,95%
		Socialization Costs	93.135.000,00	46.498.600,00	-50,07%

From the table above, it can be seen that Baitul Mal Banda Aceh experienced inefficiency both in terms of input and output. The improvements that can be made to increase efficiency are:

1. Increasing Collection of ZIS by 16.23%, increasing Distribution of ZIS by 23.99%, Optimizing the role of amil by 11.11%, optimizing the use of Operational Costs by 40.75%, and optimizing the use of Socialization Costs by 44.35 % in 2018.
2. Increasing Collection of ZIS by 28.10%, increasing Distribution of ZIS by 21.16%, Optimizing the role of amil by 18.64%, optimizing the use of Operational Costs by 40.75%, and optimizing the use of Socialization Costs by 44.35 % in 2019.
3. Increasing Collection of ZIS by 24.83%, increasing Distribution of ZIS by 32.26%, optimizing the use of Operational Costs by 93.95%, and optimizing the use of Socialization Costs by 50.07% in 2018.

Total Potential for Improvement Efficiency of Baitul Mal Banda Aceh

In this sub-chapter the author will discuss the sources of inefficiency as a whole by looking at the information displayed from the total potential for efficiency improvement data (total potential improvement). The total potential improvement

provides an overall picture of the output and input variables in the period 2018 to 2020 which must be increased or reduced in number. Below is a picture of the total potential efficiency increase:

Figure 1. Total Efficiency Improvement Potential
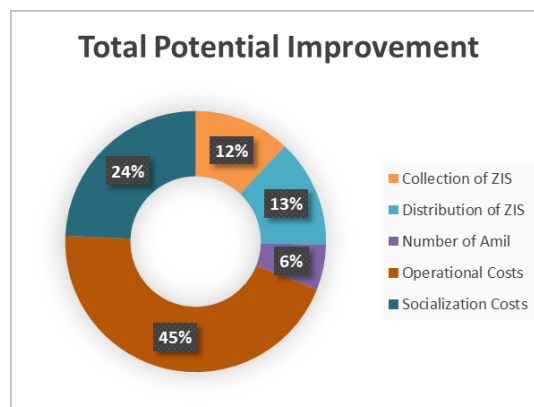
From Figure 14 it can be seen that the source of Baitul Mal Banda Aceh's inefficiency comes from all variables, both output and input with their respective levels. Baitul Mal Banda Aceh must optimize the use of socialization costs by as much as 24%, operational costs by as much as 45% and the number of amil by as much as 6%. Furthermore, Baitul Mal must increase the amount of ZIS collection by 12% and the distribution of ZIS by 13% to achieve efficiency.

CONCLUSION

Based on the Data Envelopment Analysis method, it was found that Baitul Mal Banda Aceh was inefficient. Inefficiency occurred throughout 2018, 2019, 2020 with overall efficiency scores of 64.1%, 60.1% and 57.5%. Scale efficiency scores of 74.5% (2018), 72.8% (2019) and 71.7% (2020). Technical efficiency scores of 86% (2018), 82.5% (2019) and 80.1% (2020).

Baitul Mal Banda Aceh's source of inefficiency comes from all variables, both output and input with their respective levels. To achieve efficiency, Baitul Mal Banda Aceh must optimize the use of socialization costs by as much as 24%, operational costs by as much as 45% and the number of amil by as much as 6%. Furthermore, Baitul Mal must increase the amount of ZIS collection by 12% and the distribution of ZIS by 13%.

LIMITATION

The limitations of this study include, (1) this study only analyzes the level of efficiency without analyzing any factors that can affect the efficiency and inefficiency of Baitul Mal; (2) the scope of this research is still limited to five input and output variables due to the limited data obtained by the author; (3) the method of measuring efficiency in this study uses a non-parametric DEA approach, so it is difficult to test the hypothesis systematically; (4) the results of the calculation of efficiency in this study are relative.

REFERENCES

Afrida, E., & Amin, A. (2018). Analisis Efisiensi Pengelolaan Dana Zakat Pada Baitul Mal Provinsi Aceh. *Jurnal Ilmiah Mahasiswa Ekonomi Akuntansi*, *3*(1), 20–36. http://www.jim.unsyiah.ac.id/EKA/article/view/5358

Ahmad Malik, B. (2016). Philanthropy in Practice: Role of Zakat in the Realization of Justice and Economic Growth. *International Journal of Zakat*. https://doi.org/10.37706/ijaz.v1i1.7

Ahmed Shaikh, S., & Ghafar Ismail, A. (2017). Role of Zakat in Sustainable Development Goals. *International Journal of Zakat*. https://doi.org/10.37706/ijaz.v2i2.21

Akbar, N. (2009). Analisis Efisiensi Organisasi Pengelola Zakat Nasional Dengan Pendekatan Data Envelopment Analysis (DEA). *Islamic Finance & Business Review*, *4*(2), 760–784.

Alam, A. (2018). Analisis Efisiensi Pengelolaan Dana Zakat Infak Sedekah (Zis) Di Baznas Kabupaten/Kota Se-Karesidenan Surakarta Dengan Menggunakan Metode Data Envelopment Analysis DEA. *Iqtishoduna: Jurnal Ekonomi Islam*, *7*(2), 262–290.

Anggraini, N., Harianto, H., & Anggraeni, L. (2017). Efisiensi Teknis, Alokatif dan Ekonomi pada Usahatani Ubikayu di Kabupaten Lampung Tengah Provinsi Lampung. *Jurnal Agribisnis Indonesia*, *4*(1), 43. https://doi.org/10.29244/jai.2016.4.1.43-56

Anwar, M. S., Itang, & Risyanto, H. (2019). Analisis Efisiensi Lembaga Pengelola Zakat (LPZ) Dalam Mengelola Potensi Zakat di Indonesia. *Jurnal UIN Sultan Maulana Hasanuddin Banten*.

Ariyani, N. (2016). Zakat as a Sustainable and Effective Strategy for Poverty Alleviation: from the Perspective of a Multi-Dimensional Analysis. *International Journal of Zakat*. https://doi.org/10.37706/ijaz.v1i1.9

Asqalani, I. H. Al. (2003). Fathul Baari. In *Pustaka Azzam*.

Ayuniyyah, Q., Huq Pramanik, A., Md Saad, N., & Irwan Ariffin, M. (2017). The Comparison between Consumption and Production-based Zakat Distribution Programs for Poverty Alleviation and Income Inequality Reduction. *International Journal of Zakat*. https://doi.org/10.37706/ijaz.v2i2.22

Baitul Mal, K. B. A. (2020). *LAKIP Sekretariat Baitul Mal Kota Banda Aceh*. https://bandaacehkota.go.id/

Coelli, T. J., Prasada Rao, D. S., O'Donnell, C. J., & Battese, G. E. (2005). An introduction to efficiency and productivity analysis. In *An Introduction to Efficiency and Productivity Analysis*. https://doi.org/10.1007/b136381

Cooper, W. W., Seiford, L. M., & Zhu, J. (2011). Data envelopment analysis: History, models, and interpretations. In *International Series in Operations Research and Management Science* (Vol. 164). https://doi.org/10.1007/978-1-4419-6151-8_1

Djaghballou, C. E., Djaghballou, M., Larbani, M., & Mohamad, A. (2018). Efficiency and productivity performance of zakat funds in Algeria. *International Journal of Islamic and Middle Eastern Finance and Management*, *11*(3), 474–494. https://doi.org/10.1108/IMEFM-07-2017-0185

Endri, E. (2010). Pengukuran Kinerja Efisiensi Pérbankan Syariah: Analisis Empiris 15 Bank Syariah di Indonesia 2005-2007. *Jurnal Ekonomi Dan Pembangunan Indonesia*. https://doi.org/10.21002/jepi.v10i2.120

Faizah, L., & Fuaddi, H. (2019). Pemikiran Yusuf Qardhawi tentang Konsumsi (Studi Terhadap Kitab Daurul Qiyam wal Akhlaq fil Iqtishadil Islami. In *Jurnal Al-Amwal*.

Fathony, M. (2012). Estimasi Dan Faktor-Faktor Yang Memengaruhi Efisiensi Bank Domestik Dan Asing Di Indonesia. *Jurnal Keuangan Dan Perbankan*.

Firmansyah. (2013). Zakat As an Instrument for Poverty and Inequality Reduction.

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Jurnal Ekonomi Dan Pembangunan.

Lestari, A. (2015). Efisiensi Kinerja Keuangan Badan Amil Zakat Daerah (Bazda): Pendekatan Data Envelopment Analysis (Dea). *Jurnal Ekonomi & Studi Pembangunan*, *16*(2), 177–187. https://doi.org/10.18196/jesp.16.2.1288

Mukhlas, A. A. (2020). MANAJEMEN BISNIS RASULULLAH. *Jurnal Pemikiran Dan Penelitian Ekonomi Islam Al -Iqtishod*.

Noor, A. H. M., Abdul Rasool, M. S., Abdul Rahman, R., Md Yusof, R., & Ali, S. M. (2012). Assessing performance of nonprofit organization: A framework for zakat institutions. *British Journal of Economics, Finance and Management Sciences*, *5*(1), 12–22.

Parisi, S. Al. (2017). Tingkat Efisiensi dan Produktivitas Lembaga Zakat di Indonesia. *Esensi*, *7*(1). https://doi.org/10.15408/ess.v7i1.3687

Wahab, N. A., & Rahim Abdul Rahman, A. (2011). A framework to analyse the efficiency and governance of zakat institutions. *Journal of Islamic Accounting and Business Research*, *2*(1), 43–62. https://doi.org/10.1108/17590811111129508

Wahab, N. A., & Rahman, A. R. A. (2013). Determinants of efficiency of zakat institutions in Malaysia: A non-parametric approach. *Asian Journal of Business and Accounting*, *6*(2), 33–64.

Zahra, A., Harto, P. P., & Bisyri ASH, A. (2019). Pengukuran Efisiensi Organisasi Pengelola Zakat Dengan Metode Data Envelopment Analysis. *Jurnal Akuntansi Dan Keuangan Islam*, *4*(1), 25–44. https://doi.org/10.35836/jakis.v4i1.28