

## Analysis of The Efficiency Level of Zakat Management Institutions in Indonesia: Data Envelopment Analysis (DEA)

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### ***Abstract***

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*Zakat management in Indonesia faces significant challenges in achieving efficiency, even though the potential for national zakat is very large per year. The actual collection, which remains below 10% of this potential, indicates that the performance of zakat management institutions both governmental and non-governmental has yet to be optimized. This study aims to measure the efficiency levels of zakat management institutions in Indonesia, identify the factors that influence their efficiency, and analyze the differences in efficiency based on institutional clusters: government, civil society organizations, and corporate-based institutions. A quantitative descriptive approach was employed using Data Envelopment Analysis (DEA) applied to the audited financial reports of 14 zakat institutions over the period 2019–2023. Input variables included total operational costs, personnel expenses, and total assets, while output variables consisted of the amount of zakat collected and distributed. The findings reveal that not all institutions operate at optimal technical efficiency. Zakat institutions managed by civil society organizations demonstrated the highest efficiency, followed by corporate-based institutions, with government institutions showing the lowest levels of efficiency. The variation in efficiency across clusters is attributed to differences in organizational structure, decision-making flexibility, technological adoption, and community engagement. This study provide critical implications for improving zakat governance and offer strategic insights for policymakers and zakat managers to enhance institutional efficiency and maximize the potential of zakat funds in Indonesia.*

**Keywords:** Zakat; Efficiency, Data Envelopment Analysis (DEA), Zakat Management Institutions, Islamic Financial Management

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## INTRODUCTION

Zakat is a key instrument in the Islamic economic system that serves a dual role: as an individual religious obligation and as a socio-economic mechanism for creating justice and prosperity (Imronudin, 2019). Within the framework of Islamic economic theory, zakat is considered a tool for wealth distribution that not only channels funds from the wealthy to the needy but also aims to promote economic growth through consumption, productivity, and social solidarity (Ghufran et al., 2023). Through its redistributive function, zakat has the potential to reduce social inequality and strengthen the economic structure of the community.

In Indonesia, as the country with the largest Muslim population in the world, the potential for zakat is enormous, estimated at Rp327.6 trillion per year (Salman & Mujahidin, 2022). However, the reality is that the collection of zakat remains below 10% of this potential. This disparity indicates problems in the effectiveness and efficiency of the national zakat management system. One of the main dimensions of concern is institutional efficiency, namely the extent to which zakat management institutions can optimally convert inputs (such as operational funds, personnel, and assets) into outputs (zakat collection and distribution) (Sarasi et al., 2020).

In economics and management, efficiency is defined as the ratio between inputs and outputs in a production or service process. This concept is in line with the theory of productive efficiency, which emphasizes the importance of optimal use of resources to produce maximum output (Anisah, 2024). In the context of zakat management, efficiency does not only mean minimizing administrative costs, but also maximizing the collection and distribution of zakat funds to mustahik in a targeted manner (Ashfahany et al., 2023).

Zakat management institutions in Indonesia consist of two main categories, namely the National Zakat Agency (BAZNAS), which is a government agency, and Zakat Management Institutions (LAZ), which are managed by community organizations or private entities (Jannah et al., 2025). This diversity of institutional forms is closely related to institutional theory, which explains how organizational structures, norms, and practices influence performance and efficiency (Riani et al., 2024). According to this theory, differences in ownership structure, funding sources, governance, and levels of professionalism will result in variations in institutional performance, including efficiency (Burhanudin & Indrarini, 2020).

Several previous empirical studies have applied quantitative approaches such as Data Envelopment Analysis (DEA) in assessing the efficiency of zakat institutions (Jannah et al., 2025). DEA is a non-parametric method developed by Charnes, Cooper, and Rhodes (1978), which is used to measure the relative efficiency of decision-making units (DMUs) based on inputs and outputs. DEA has gained popularity because it does not require assumptions about the form of the production function and allows comparisons between institutions of different sizes and capacities. Several DEA models, such as the CCR (constant returns to scale) and BCC (variable returns to scale) models, are used to measure pure technical efficiency and scale. However, most zakat studies in Indonesia remain limited to the use of conventional DEA models with a narrow sample of institutions (Fuad, 2023).

Research by Maharani et al (2022); Fauzi et al (2023) and Fuad (2023) has attempted to measure the efficiency of zakat institutions at the regional and national levels. On the other hand, (Hadi Ryandono, 2019) compared the efficiency of institutions based on institutional clusters using various methods, and Riani et al (2024) conducted a cross-country analysis. Although contributing to the literature, most of these studies have limitations in terms of the scope of institutions, measurement methods, and the lack of consideration of external and contextual variables that also influence efficiency, such as technological developments, digital innovation, and economic crises.

Based on these gaps, this study aims to measure and analyze the level of technical efficiency of zakat management institutions in Indonesia using the BCC DEA approach on 14 institutions representing three main institutional clusters: BAZNAS (government), LAZ community organizations, and private LAZ. This study also identifies internal factors that influence efficiency, such as operational costs, personnel, total assets, and output in the form of zakat funds collected and distributed (Alam, 2018).

The theoretical contribution of this study is to fill a gap in the literature on zakat institutional efficiency by using a cross-cluster approach and medium-term data (2019–2023), as well as examining efficiency within the framework of institutional theory and productive efficiency theory. The practical contribution is to provide relevant evidence-based insights for policymakers and zakat managers in improving the performance of zakat institutions through efficient and adaptive managerial and institutional strategies. This research is expected not only to strengthen the theoretical foundation in zakat efficiency studies but also to expand the discourse on the role of zakat in supporting an inclusive and sustainable socio-economic development agenda in accordance with the principles of *maqashid syariah* (Lestari et al., 2025).

This study aims to measure the efficiency levels of zakat management institutions in Indonesia, identify the factors that influence their efficiency, and analyze the differences in efficiency based on institutional clusters: government, civil society organizations, and corporate-based institutions.

## LITERATURE REVIEW

### Concept of Zakat

Etymologically, the term zakat carries meanings of blessing, purification, growth, and development. In legal terminology, Law No. 23 of 2011 Article 1 Paragraph 2 defines zakat as a portion of wealth that must be given by a Muslim or a business entity to those who are entitled to receive it, in accordance with the provisions of Islamic law (Andira Tsaniya Al-Labiyah et al., 2023).

Zakat has a strong legal basis in the Qur'an. One of the verses that emphasizes the obligation to pay zakat is Allah's words in Surah Al-Baqarah verse 43, which reads: "And establish prayer, and give zakat, and bow with those who bow."

This verse indicates that the obligation of zakat is equal to the obligation of prayer in the life of a Muslim, signifying the importance of zakat as a pillar of worship and a social dimension in Islam. Furthermore, the Qur'an also emphasizes that in every asset there is a right for others.

This is reflected in Surah Adz-Dzariyat verse 19, which states: "And in their wealth there is a right for the poor who ask and the poor who do not ask." This verse underscores that the wealth possessed by a Muslim is not entirely his own, but contains a social responsibility that must be fulfilled through zakat, infak, and sadaqah.

Thus, zakat is not merely an individual act of worship but also a mechanism for wealth distribution in Islam aimed at achieving social justice and the well-being of the community (Alfina & Putra, 2021). The obligation of zakat reflects the social concern and collective responsibility of Muslims in assisting one another, as well as a means of purifying wealth and the soul (Nur Hakim et al., 2022).

### *Sharia Enterprise Theory (SET)*

Sharia Enterprise Theory (SET) is an extension of enterprise theory that has been integrated with Islamic values, resulting in a theoretical approach that is not only rational and economic, but also transcendental, ethical, and humanistic (Hikmah & Shofawati, 2020). Within the SET framework, the orientation of a company or institution is not limited to the pursuit of profit or the interests of shareholders, but extends to encompass all stakeholders comprehensively. This reflects the principles of inclusivity and social justice as emphasized in Islamic teachings (Hasan & Muhammad, 2023).

Unlike conventional corporate theory, which emphasizes economic value, SET places Allah Subhanahu wa Ta'ala as the highest stakeholder. With this position, all economic and accounting activities are viewed as part of worship and must reflect spiritual responsibility. The primary function of Islamic accounting in this context is to foster spiritual consciousness and vertical accountability to God, which underpins integrity and transparency in all forms of financial reporting and management.

After Allah, humans occupy the position of the second stakeholder, which includes all parties related to the institution, either through financial or non-financial contributions, as well as those directly or indirectly affected by the institution's activities. In the context of managing zakat, infak, and sedekah (ZIS) funds, Zakat Management Organizations (OPZ) have a moral and social responsibility to ensure that the funds entrusted to them are managed efficiently, transparently, and faithfully. This obligation not only pertains to fulfilling the rights of beneficiaries but also constitutes accountability to vertical stakeholders (Allah SWT) and horizontal stakeholders (society) (Fauzi et al., 2023).

Thus, SET provides a strong theoretical and normative basis for promoting zakat governance practices that are oriented towards the welfare of the community. This approach also emphasizes the importance of efficiency in the use of resources as a form of moral responsibility for the trust that has been entrusted, as well as a maximum effort to realize the values of justice, sustainability, and socio-economic empowerment in an Islamic manner (Yusuf & Masruchin, 2021).

### Efficiency of Zakat Management Organizations (OPZ)

Efficiency in Zakat Management Organizations (OPZ) refers to the ability of institutions to optimally manage resources, particularly operational costs, in order to maximize zakat distribution programs (Subardi et al., 2020). This means that the smaller the proportion of costs incurred for operations, the greater the funds that can be allocated directly to beneficiaries. Therefore, efficiency is an important indicator in evaluating the performance of OPZ, especially in ensuring that zakat funds are managed in a frugal, effective, and responsible manner (Balqis et al., 2023).

In order for this efficiency to be measured objectively, OPZ needs to conduct periodic performance evaluations. These evaluations are not only intended to assess the accountability of the institution internally, but also as a form of transparency to external parties, including muzakki and regulators. With systematic measurements, institutions can determine the extent to which the management and distribution of zakat has been carried out effectively (Ashfahany et al., 2023).

Organizational efficiency itself can be analyzed through two main approaches, namely parametric and non-parametric methods (Hasan & Muhammad, 2023). One commonly used non-parametric method is Data Envelopment Analysis (DEA), which assesses the relative efficiency of an institution based on the ratio between inputs (e.g., operating costs and resources) and outputs (such as the amount of zakat collected and distributed). DEA does not require assumptions about the form of the production function, making it suitable for public sector organizations and non-profit institutions such as OPZ (Khaq & Anggraini, 2024).

Findings from (Fuad, 2023) support the use of this approach. They state that DEA can be used effectively to develop a framework for evaluating efficiency and governance in zakat institutions. Given the characteristics of OPZs, which are not profit-oriented but still must account for their performance quantitatively, DEA is a relevant and reliable analytical tool in this context.

### METHODS

This study uses a descriptive quantitative approach with non-parametric efficiency analysis, namely Data Envelopment Analysis (DEA). This approach was chosen because it is capable of measuring the relative efficiency level between decision-making units (DMUs) based on input and output ratios, without requiring specific production function assumptions.

The DEA model used is the BCC (Banker, Charnes, and Cooper) model for the variable returns to scale (VRS) assumption. The population in this study is all national zakat management institutions in Indonesia that have operational permits from the Ministry of Religious Affairs and submit audited financial reports publicly. The sample was selected using purposive sampling with the following criteria:

- 1) The institution has audited financial reports for five consecutive years (2019–2023), and
- 2) The institution represents three institutional clusters, namely government institutions (baznas), community-based institutions (laz), and private-based institutions.

Based on these criteria, 14 zakat management institutions were selected as research samples, consisting of 1 government institution and 13 community-based or private institutions.

The data used in this study were secondary data collected from the audited financial reports of each institution, obtained through the institutions' official websites, annual publications, and other open documents. The input variables in this study include total operational costs, personnel costs, and total assets, while the output variables include the amount of zakat collected and the amount of zakat distributed. Data analysis was conducted using DEAP 2.1 software, with each institution as the decision-making unit.

The output of the analysis is a technical efficiency score that indicates the extent to which an institution is able to utilize its inputs to produce outputs optimally. Furthermore, a descriptive analysis was conducted to compare efficiency scores between institutions based on their

institutional clusters, in order to identify emerging efficiency patterns and the factors influencing them.

## RESULTS AND DISCUSSION

### Zakat Management Institution Efficiency Score

DEA is a programming technique used to measure the efficiency of a set of Decision Making Units (DMUs) in managing certain inputs to produce maximum output. After the data was processed using DEAP 2.1 software with a VRS approach oriented towards output variables, the efficiency levels of each zakat management institution in Indonesia from 2019 to 2023 can be seen in the following table.

**Table 1. Efficiency Score of Zakat Management Institutions**

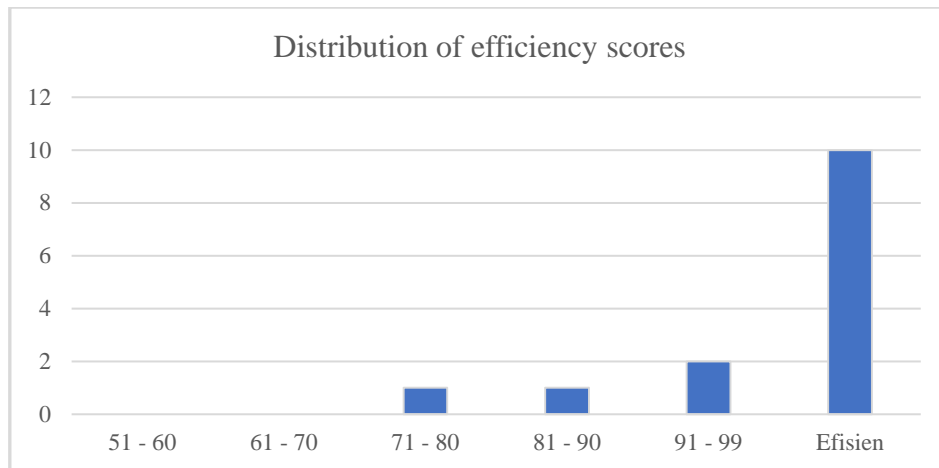
Name of Institution	Score	Scale
Badan Amil Zakat Nasional	1.000	Decreasing
LAZ Muhammadiyah	1.000	Decreasing
LAZ Lembaga Amil Zakat Infak dan Shadaqah Nahdatul Ulama (LAZIS NU)	0.982	Decreasing
LAZ Dompot Dhuafa Republika	0.978	Decreasing
LAZ Rumah Zakat Indonesia	1.000	Constant
LAZ Baitul Maal Hidayatullah	1.000	Constant
LAZ Nurul Hayat	1.000	Increasing
LAZ Inisiatif Zakat Indonesia	0.832	Decreasing
LAZ Lembaga Manajemen Infak Ukhuwah Islamiyah	1.000	Constant
LAZ Dewan Dakwah Islamiyah Indonesia	1.000	Constant
LAZ Yayasan Daarul Qur'an Nusantara (PPPA)	1.000	Constant
LAZ Yayasan Mizan Amanah	1.000	Constant
LAZ Panti Yatim Indonesia Al Fajr	1.000	Decreasing
LAZ Yayasan Wahdah Inspirasi Zakat (WIZ)	0.774	Decreasing

Source: DEA Analysis Results using DEAP 2.1 Software

The efficiency analysis using the Data Envelopment Analysis (DEA) approach shows that 10 zakat institutions achieved perfect efficiency (score 1) in VRS and operated on a diverse scale, with 1 institution operating on an increasing scale, 3 institutions operating on a decreasing scale, and 6 other institutions operating on a constant scale, making them benchmarks for other institutions. Conversely, institutions such as LAZIS NU, Dompot Dhuafa, Inisiatif Zakat Indonesia, and LAZ WIZ experienced inefficiency with decreasing operational scales, indicating the need for evaluation of excessive cost structures and operational processes (Hadi Ryandono, 2019).

### Distribution of Efficiency Scores

The following table presents the results of the number of efficient and inefficient DMUs based on varying efficiency scores. Based on the table, there are 10 efficient institutions, 1 institution in the 71-80% efficiency level, 81-90%, and 2 other institutions in the 91-99% efficiency level.

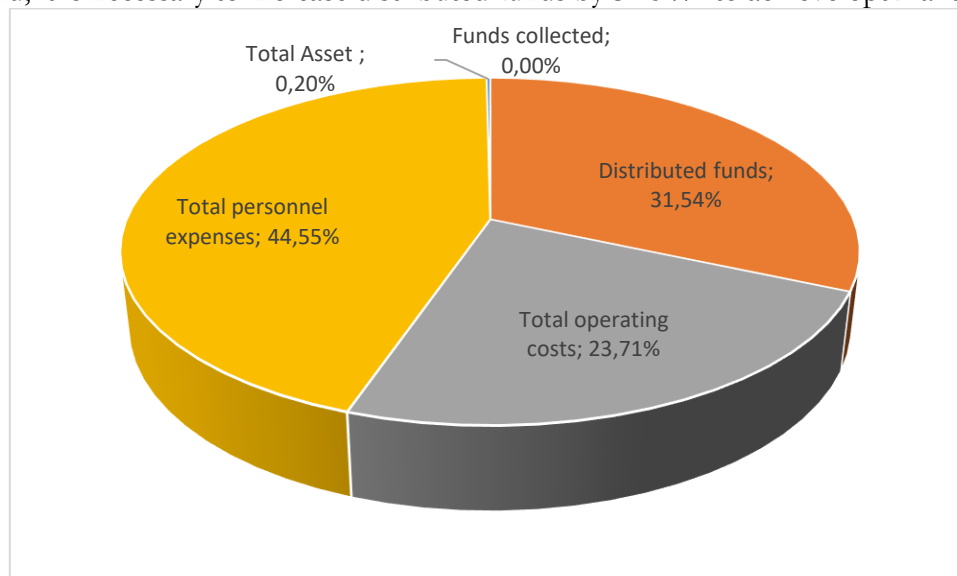


**Figure 1. Distribution of Efficiency Scores**

Figure 1 illustrates the distribution of institutional efficiency scores in five categories, from highly efficient to low, showing variations in performance among zakat management institutions.

### Total Potential for Improvement of Zakat Institutions

To identify sources of inefficiency in zakat institutions, observations can be made based on the total potential for improvement. The following diagram shows the total potential for improvement that zakat institutions can achieve to become efficient by reducing total personnel costs by 44.55%, total operational costs by 23.71%, and optimizing total assets by 0.20%. On the other hand, it is necessary to increase distributed funds by 31.54% to achieve optimal efficiency.

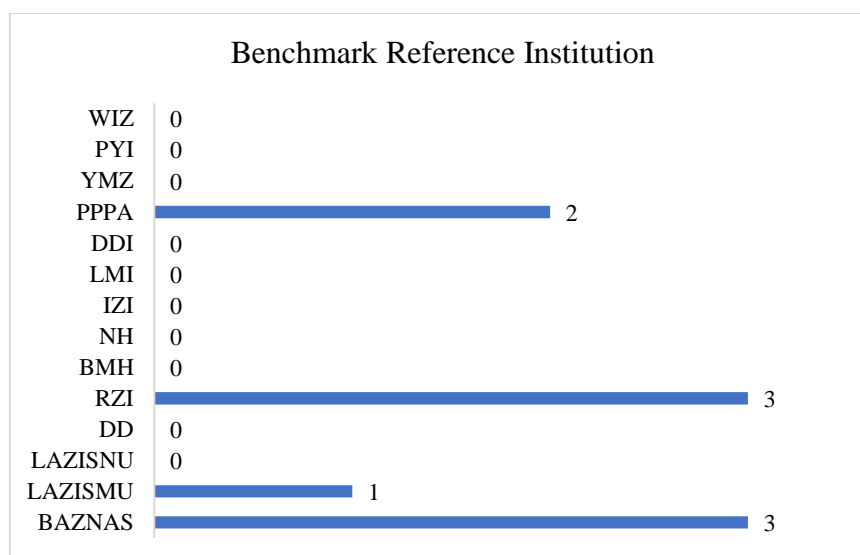


**Figure 2. Total Potential for Improvement**

Figure 2 shows the total potential improvements that can be made by inefficient institutions, including a reduction in personnel costs of up to 44.55%, a reduction in operating costs of 23.71%, and optimization of total assets by 0.20%. In addition, in terms of output, an increase in zakat funds distributed by 31.54% is required in order to achieve optimal technical efficiency.

### Benchmark Reference Institutions

Efficient institutions will serve as references for other institutions that are not yet efficient. The DEA results show that BAZNAS and LAZ Rumah Zakat Indonesia are the most frequently referenced institutions, each referenced three times. They are followed by PPPA, referenced twice, and Lazismu, referenced once. Other efficient institutions have not yet been referenced by less efficient institutions.



**Figure 3. Benchmark Reference Institutions**

Figure 3 shows the institutions that serve as benchmarks or references for other institutions that are not yet efficient. The analysis results show that the National Zakat Agency (BAZNAS) and LAZ Rumah Zakat Indonesia are the most referenced by other institutions, each three times, followed by PPPA Daarul Qur'an twice and LAZ Muhammadiyah once. This indicates that these institutions are considered to have the most efficient zakat management practices

### Relative Efficiency Among Zakat Management Institutions

Based on Data Envelopment Analysis (DEA) with the assumption of Variable Returns to Scale (VRS) and output orientation, it was found that the technical efficiency of zakat management institutions in Indonesia during the 2019–2023 period was relatively high, although only a few institutions achieved the maximum efficiency score (1). Institutions such as LAZ Dompot Dhuafa and LAZ Rumah Zakat stand out in terms of efficiency due to their professional managerial systems, adoption of digital technology, and extensive and adaptive zakat distribution strategies. This positive performance reflects their ability to maximize social and economic output with efficiently managed inputs.

Conversely, some institutions show low efficiency scores due to structural and managerial constraints, such as operational cost inefficiencies, institutional scale limitations, and lack of digitalization in collection and distribution processes. This inefficiency indicates the use of more inputs than necessary to produce the same output. These findings support the first hypothesis that the majority of zakat institutions in Indonesia have not yet achieved optimal technical efficiency, and this is reinforced by the research of Maharani et al. (2022) and Ryandono et al. (2023), which shows that social organization-based institutions are more adaptive and efficient than government or private institutions.

Theoretically, these results confirm Farrell's (1957) in (Riani et al., 2024) view of technical efficiency as an indicator of resource rationalization. In the context of zakat management, efficiency is not only assessed quantitatively but must also consider sharia principles such as justice, sustainability, and fairness toward beneficiaries. Therefore, although DEA provides a strong measure of technical efficiency, this approach needs to be complemented with the values of *maqashid syariah* to ensure that zakat management is not only economically efficient but also has social and spiritual impacts.

### Factors Affecting the Efficiency of Zakat Management Institutions in Indonesia

The results of this study indicate that the efficiency of zakat management institutions in Indonesia varies greatly between institutions and institutional clusters. Institutions managed by community organizations such as Dompot Dhuafa, Rumah Zakat, and Muhammadiyah generally

demonstrate higher technical efficiency compared to government institutions such as BAZNAS. Key success factors include flexible organizational structures, the use of digital technology, and adaptive management in zakat collection and distribution strategies. Conversely, institutions with conventional and bureaucratic approaches, despite having large resources, tend to show technical and allocative inefficiencies. This indicates that efficiency is more determined by the quality of governance and innovation, rather than the size of resources available.

This study reinforces previous findings, such as those of Maharani et al (2022); Fuad, (2023), and Ashfahany et al (2023) which highlight the importance of modern management and community-based approaches in improving efficiency. Additionally, this study complements the research by (Hadi Ryandono, 2019) and Riani et al (2024) by including more institutions from various clusters and analyzing the influence of external factors such as regulations and muzakki preferences. With a scope of 14 institutions and a comprehensive combination of input-output variables, this study presents a more representative picture and emphasizes the need for digitalization, good governance, and innovative strategies to improve zakat efficiency in a sustainable manner.

### **Efficiency of Zakat Management Institutions Based on Their Clusters**

The results of technical efficiency analysis using the Data Envelopment Analysis (DEA) approach with the assumption of Variable Returns to Scale (VRS) indicate that most zakat management institutions in Indonesia have shown fairly good performance. Out of the 14 institutions analyzed during the 2019–2023 period, 10 achieved perfect efficiency scores (1.000), indicating that they are able to utilize inputs optimally in producing outputs. Institutions such as Rumah Zakat, Muhammadiyah, and Baitul Maal Hidayatullah stand out as entities with high efficiency that can be used as references in effective zakat management practices. Their success is supported by the implementation of modern managerial systems, resource optimization, and adaptive distribution strategies in response to social dynamics.

On the other hand, some institutions such as LAZIS NU, Dompot Dhuafa, Inisiatif Zakat Indonesia, and WIZ have efficiency scores below the optimal level. This inefficiency is caused by various factors, including high operational costs and personnel expenses that are disproportionate to the zakat collected and distributed, as well as limitations in adopting digital technology and institutional innovation. This indicates that there is still significant room for structural and operational improvements in several institutions. Efficiency potential can be enhanced through improvements in collection and distribution strategies, strengthening organizational structures, and optimizing the use of technology for cost efficiency and increased accountability (Hakim et al., 2021).

Theoretically, these results reinforce the concept of technical efficiency as proposed by Farrell (1957) in Zuhri et al (2023), namely the ability of a decision-making unit to produce maximum output with available inputs. However, in the context of zakat management, efficiency is not limited to technical achievements but must also consider sharia values such as justice, equity, and sustainability. Therefore, although DEA is a powerful tool for measuring efficiency from an economic perspective, the evaluation of zakat institutions also needs to touch on spiritual and social aspects so that the maqashid syariah objectives are maintained in the process of managing zakat funds.

The findings of this study also confirm the existence of differences in efficiency between institutional clusters. Institutions managed by community organizations such as Muhammadiyah and Dompot Dhuafa tend to be more efficient than government institutions such as BAZNAS. This is influenced by a more flexible organizational structure, a community-based approach, and internal policies that are more adaptive to change. Conversely, bureaucratic government institutions tend to be slow in responding to dynamics, despite having large resources.

This indicates that efficiency is not only influenced by the size of the budget, but more by the quality of governance and organizational culture. The implications of these findings are quite



important for policy makers and zakat managers in Indonesia. Strategic steps are needed to improve the efficiency of institutions that are still not optimal, including through managerial reform, human resource training, and digitization of financial and reporting systems.

The government is also advised to encourage collaboration between efficient and inefficient institutions through benchmarking, mentoring, or knowledge transfer. With a systematic and evidence-based approach, the zakat management system in Indonesia is expected to function more optimally as a sustainable economic empowerment tool for the community.

## CONCLUSION

This study concludes that the efficiency of zakat management institutions in Indonesia is greatly influenced by their institutional form and the quality of their governance. Community-based organizations have proven to be the most efficient because they have flexible structures, are adaptable to technology, and are close to the community. These findings confirm that the efficiency of zakat institutions does not only depend on the size of their resources, but more on how those resources are managed strategically and oriented towards social services. Therefore, it is recommended that inefficient institutions undertake structural reforms and digitize their systems, private institutions strengthen the integration of zakat programs with social strategies, and community institutions continue to maintain innovation and transparency. Further research is expected to combine quantitative and qualitative approaches to explore non-financial dimensions such as governance, public trust, and the social impact of zakat programs in a more in-depth and sustainable manner.

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