Optimizing zakat governance in East Java using analytical network process (ANP): the role of zakat technology (ZakaTech)

Tika Widiastuti, Eko Fajar Cahyono, Siti Zulaikha, Imron Mawardi
and Muhammad Ubaidillah Al Mustofa
*Islamic Economics Department, Faculty of Economics and Business,
Universitas Airlangga, Surabaya, Indonesia*

Abstract

Purpose – This study aims to formulate a strategy for optimizing zakat governance in zakat institutions in East Java Province by identifying priority problems, creating solutions and developing strategies.

Design/methodology/approach – This qualitative research uses the analytical network process method. Ten respondents representing practitioners, academics, associations and regulators were selected for their expertise in zakat governance. The data were processed using Super Decision software program and Excel.

Findings – Priority issues in optimizing zakat governance found in this study are lack of information on Mustahik's needs and development to Muzakki and the low motivation and ability of Mustahik to develop. Improving the quality and capacity of Amil's, especially in the technological aspect, is a priority solution. The priority strategy considers intensification (by developing Amil's ability to use technology) and extensification (by increasing Amil's numbers who master technology).

Practical implications – The results highlight the urgency of increasing Amil's capacity and capability in technology-based zakat management. Zakat institutions need to prepare for management's transformation toward zakat technology as one of the priorities in optimizing zakat governance.

Originality/value – Problems, solutions and strategies for optimizing zakat governance are collected by connecting it to the Zakat Core Principles, namely, the ninth principle of collection management and the tenth principle of distribution management. Further, for identifying problems, solutions and strategies, four aspects must be considered of Amil, Muzakki, Mustahiq and other supporting elements to present better policies to optimize zakat governance.

Keywords Optimization, Analytical network process, Zakat governance, Zakat technology

Paper type Research paper

1. Introduction

Poverty is one of the most serious socioeconomic problems in Indonesia. Statistics Indonesia (2020) noted that the poverty rate in March 2020 reached 26.42 million people. This number has increased when compared to the 2019 data of 24.79 million people. This data shows an increasing trend in the poverty rate by 1.63 million people. One of the roles and contributions of zakat institutions is needed to support the realization of sustainable empowerment so that poverty alleviation can be realized.

Zakat is an Islamic-economic instrument that acts as an alternative solution in reducing poverty. The essence of zakat is Allah SWT's commandment for Muslims who have the financial capacity to set aside a portion of their assets in the way of Allah for those in need (Kashif and Jamal, 2016). The correlation of zakat is not limited to the aspect of religiosity but is also associated with activities to accomplish the economic and social contributions (Saad and Farouk, 2019). Abdullah *et al.* (2015) stated that zakat is a useful instrument in reducing poverty and inequality. Djaghballou *et al.* (2018) observed that the distribution of zakat provides equal distribution of wealth because it encourages *Mustahik* to be economically productive and achieve poverty alleviation effort. Zakat plays a role in providing services for the benefit of community welfare, especially for the eight categories of zakat beneficiaries (*asnaf*), as stated in the *Quran* Chapter At-Taubah Verse 60 (Owoyemi, 2020).

Indonesia possesses an exceptional potential for collecting zakat. The development of zakat is structured through various programs, in terms of collection and distribution to help achieving sustainable prosperity (Handi Khalifah *et al.*, 2017). The potential number of zakat collection in 2019 reaches IDR 233.84tn (BAZNAS, 2020). The map of zakat potential in Indonesia is described in Table 1.

The potential for zakat in East Java dominates the order of regions in Indonesia with an immense zakat potential in 2019, as illustrated in Table 2. The potential for Zakat in East Java is as follows.

Sources of zakat collection	Potential of zakat
Zakat on profession/income	IDR 139.07tn
Cash zakat	IDR 58.76tn
Zakat of livestock	IDR 9.51tn
Zakat of company	IDR 6.71tn
Total	IDR 233.84tn
Source: BAZNAS (2020)	

Table 1.
Potential zakat collection in Indonesia in 2019

Types of zakat	Potency	Rank in Indonesia
Agricultural Zakat	IDR 2.66tn	1
Zakat of livestock	IDR 2.07tn	1
Zakat on profession/income (public and non-public workers)	IDR 487bn and IDR 24.75tn	1
Zakat on deposits	IDR 5.6tn	2
Source: BAZNAS (2020)		

Table 2.
Potential zakat collection in East Java province in 2019

Based on the data of zakat collection potential in Indonesia in 2019 described in Table 1, it shows that the potential value of zakat in 2019 equals to 1.47% of gross domestic products of 2019. However, the potential for zakat collection is still far from its realization. As happened in 2018, the potential for zakat collection in Indonesia was recorded at IDR 233tn, but its collection only reached IDR 8.2tn, which equals to 3.4% of the potential accumulation (BAZNAS, 2020). The total accumulation number is relatively small compared to the potential for zakat. This gap has become an important issue that affects zakat institutions.

Problems with zakat institutions are solved by implementing an optimal governance system. Organizational governance is formed through various elements such as corporate culture, values, systems, policies and organizational structures, aiming to achieve more effective and efficient management. Optimal zakat governance increases the benefits of zakat as an effort to realize poverty alleviation and improve community welfare (Santoso et al., 2018; Wahab and Abdul Rahman, 2011).

Zakat institutions conduct an intermediary function, i.e. the obligation to collect zakat funds from *Muzakki* and distribute them to *Mustahik*. There are several problems found in implementation of their intermediary services. Khalid *et al.* (2018) examine that zakat management has not created prosperity because of several factors such as the lack of periodic sharia audits. Santoso *et al.* (2018) mention that the management of zakat institutions still has not reached its optimum level, due to the lack of synergy between all stakeholders in the collection and distribution of zakat.

Firmansyah and Sukmana (2014) argue the management and performance of zakat institutions are still far from expectations. This is partly because of the absence of standard operation in determining *Mustahik* priorities, the lack of comprehensive database of *Mustahik* and the overlapping implementation of zakat distribution with government assistance programs. Therefore, it is necessary to formulate an appropriate strategy to optimize the intermediary function of zakat institutions. Widiastuti *et al.* (2018) suggest that zakat institutions must improve their strategy by developing their strengths and turning threats into opportunities.

One of the standards for zakat management is the Zakat Core Principles (ZCPs). ZCP consists of 18 principles, each of which contains directions, recommendations and references to improve zakat management (Rusydiana and Firmansyah, 2017). ZCP is the standardization of zakat institution governance in becoming a more professional, accountable and transparent institution. Hamdani *et al.* (2019) mention that ZCP contains the principles of zakat management that classified into six dimensions. Two of them are the dimensions of intermediary function as the ninth principle, which addresses zakat collection management, and as the tenth principle, which explains zakat distribution management.

This study develops a strategy to optimize the intermediary function of zakat institutions in the management of zakat collection and distribution based on ZCP through the analytical networking process (ANP) approach. The ANP method helps researchers to see the relationship between level of complex decisions and their attributes (Zulkifli *et al.*, 2018). The findings show that lack of information on Mustahik's needs and the development of an empowerment program for Muzakki, and the low motivation and ability of Mustahik to develop are the top priority issues. For the solution, improving Amil's quality and capacity, especially in the technological aspect, become the solution with the highest priority. Intensification (increasing Amil's ability to use technology) and extensification (increasing Amil's number who master technology) for Amil become the highest priority strategy.

This study adds to the literature of zakat in the following ways. First, the result of this study shed light on the urgency of technology application in zakat governance. The

application of advanced technology in zakat management will make management activities more effective and efficient. Second, this study extends studies of Hamdani *et al.* (2019), Rusydiana and Firmansyah (2017), Santoso *et al.* (2018), Djaghballou *et al.* (2018), Afriadi and Sanrego (2016), Huda *et al.* (2013), Huda *et al.* (2015), Zainal *et al.* (2016), Firmansyah and Sukmana (2014), Setianingrum *et al.* (2019), Prazil *et al.* (2019), Khalifah *et al.* (2017), Hidayatullah and Priantina (2018) and Firmansyah and Devi (2017). The previous studies analyzed zakat governance's problem using ANP or a similar approach but did not focus on specific governance standards or principles such as ZCPs. Meanwhile, this study formulates strategies to optimize the intermediary function of zakat institutions based on ZCP (the principles of collection and distribution). Further, problem identification is focused on aspects of zakat institutions, *Muzakki, Mustahik* and other supporting elements. Each problem is analyzed and then a priority scale of the solution and a strategy can be formulated. Third, the results of this study might be useful as a consideration for building strategic management planning. By knowing the issues, solutions and strategies of zakat management, zakat institutions will have more decent tools to optimize zakat governance.

The remainder of the paper is structured as follows. Section 2 cites the literature reviews of the study. Section 3 describes the research method and respondents. Section 4 presents the results, whereas Section 5 discusses the analysis. Section 6 summarizes the paper and offers concluding remarks.

2. Literature review

2.1 Concept of zakat economics
In Islam, zakat is a worship that includes socioeconomic goals *(al-ibaadah al-maaliyah al-ijtima'iyyah)* (BAZNAS, 2016). Zakat provides society's socioeconomic welfare, by the contribution in the areas of health, education, religion, small businesses and so on. Therefore, the primary purpose of zakat is to distribute the wealth of the rich to the poor to achieve socioeconomic justice, increase economic growth and reduce the gap of inequality (Manurung, 2014).

Zakat has a profound economic dimension of two main concepts, namely, equitable economic growth, as stated in QS. Ar-Rum: 39, and the mechanism of sharing or redistribution of wealth in the economy, as stated in QS. Al-Hashr: 19. The purpose of zakat is to improve the welfare of the poor in the short term by fulfilling the basic needs of Mustahik. In the long run, zakat aims to strengthen the poor's economic resilience and financial stability while stimulating economic growth.

2.2 Zakat governance
Zakat governance or management is a system to ensure that zakat is managed in a professional, competent, transparent and fair manner. Good governance will achieve the vision and mission of the organization in a more manageable way. Proper management of the organization may avoid violation of the applied laws and regulations, promote an efficient system, being responsive to problems, maintain reputation and manage zakat to add values for stakeholders (Bank Indonesia, 2016).

Governance refers to the exercise of economic, political and administrative power in managing the resource endowment of a state. Its practice requires mechanisms, processes and institutions where citizens and community groups articulate their interests through, exercise their legal rights, meet their obligations and mediate their differences. Legitimacy and voice, direction, performance, accountability and fairness are the five governance principles (UNDP, 1998; Wahab and Rahman (2011).

Research on good governance in Islamic institutions, mainly focusing on zakat institutions, has been conducted previously by various researchers. Studies on proper management in Islamic institutions were conducted by Irma *et al.* (2017), Mansoor Khan and Ishaq Bhatti (2008) and Samra (2016). They determine that good governance has become a standard that every financial institution should have, though there are still many problems faced by these financial intermediaries in implementing the concept of Good Corporate Governance (GCG). Several other studies also discuss Islamic governance in social organizations Issyam *et al.* (2016), Kaslam (2009), Ramli and Muhamed (2013), Wahab and Rahman (2011), Amalia (2019), Ishak *et al.* (2019) and Saad *et al.* (2017). These studies discuss and emphasize the importance of sharia-based good governance to improve the performance of social institutions. Amalia (2019) examines dimensions of good governance principles, which are transparency, accountability, responsibility, independence and fairness. They are practiced in zakat institutions and it is found that the dimension of transparency contributed the most to good governance level followed by other aspects. Ishak *et al.* (2019) point out few practices to support the implementation of good governance that include the internal audit reports to the audit committee, governance code initiation and creating a risk management committee.

According to the Law of The Republic of Indonesia Number 23 Year 2011 concerning zakat management, zakat management in Islamic law is based on trust, benefit, justice, legal certainty, integrated and accountability. The principle of "trust" means that zakat managers must be trustworthy. What is meant by the principle of "benefit" is that zakat management is carried out to provide the maximum benefit for mustahik. "Fairness" refers to the management of zakat in a fair distribution. "Legal certainty" means that in the management of zakat there is a guarantee of legal certainty for *mustahik* and *Muzakki*. The principle of "integrated" means that zakat management is carried out hierarchically to increase the collection, distribution and utilization of zakat. The principle of "accountability" implies that zakat management can be accounted for and is accessible to the public. Further, zakat governance is regulated explicitly in the third dimension of ZCPs, which comprised by seventh and eighth principles. Supervision, sanctions, strong *Amil* governance, Sharia compliance, strategic instruments, knowledge of zakat management and the responsibility of the zakat institution board are principles of zakat governance that must be considered. Good governance is needed to optimize the collection and distribution of zakat (Saad and Farouk, 2019), to maintain the reputation of zakat institutions (Abidin *et al.*, 2014), to gain public trust by distributing zakat in a fair manner, effectively and transparently. Improved aspects of governance have an impact on increasing the collection and distribution of zakat funds (Saad *et al.*, 2017).

Zakat institutions carry out an intermediary function by accommodating the interests of *Muzakki* and *Mustahik*. The intermediary role is discussed in ninth and tenth principles. The ninth principle describes the collection management and consists of seven essential criteria and one additional criterion, whereas the tenth principle describes the disbursement of zakat management consisting 16 essential criteria and 3 additional criteria.

Many studies discuss zakat governance using the analytical network process (ANP) method or similar methods. Hamdani *et al.* (2019) formulated a solution to the problems within BAZNAS institution by the implementation of ZCP. Generally, ZCP has not been fully implemented. The biggest problem that hinders the implementation of the ZCP is the lack of socialization and literacy about ZCP. Besides, several issues with zakat institutions include a lack of transparency and accountability in BAZNAS financial reports and a lack of sharia controls. Being financially independent and providing socialization and literacy on ZCP in several stages are priority strategies. Firmansyah and Devi (2017) examined the best strategy for improving the governance of zakat institutions. To improve better governance, prioritizing the principles of responsibility, accountability and fairness is necessary.

Building human resource management system with a good quality, sharia supervision and audit reports and a computerized zakat system are the strategies with top priorities. Saad *et al.* (2017) examined the governance of zakat institutions in Malaysia with three aspects of zakat management, namely, the performance of collection and distribution, zakat management and innovation in the collection and distribution of zakat. The findings show zakat institutions must improve management aspects and suggest innovation to improve the collection and distribution of zakat funds.

2.3 Role of zakat technology

Expanding complexity of human activity encourages humans to develop technology innovation (Mulyadi *et al.*, 2018). The use of technology provides benefits such as work efficiency and convenience for its users (Wahab and Rahman, 2013). Amilahaq *et al.* (2021) argue that digital platforms can be the medium to spread zakat literacy to increase social, financial literacy and inclusion for young adult Muslims to understand contemporary zakat. The application of digital platforms in zakat literacy can raise the intention of paying zakat among young Muslims. Technological development can help improve the collection and distribution of zakat (Muharman *et al.*, 2011). Online payment channels and computerized systems improve performance and promote zakat reach to the broader community (Razimi *et al.*, 2016). Digital-based services such as e-commerce payment channels, crowdfunding, digital payment machines and QR codes help *Muzakki* pay zakat, accelerating zakat value received by *Mustahik* and making the management more effortless.

Abidin and Utami (2020) argue that digital zakat provides an efficient step to facilitate the management of zakat. It increases the potential of zakat collection. Muneeza and Nadwi (2019) discuss the potential use of technology in improving zakat administration in India. Technological innovations such as an automated teller machine (ATM), mobile applications, blockchain technology and databases play an essential role in ensuring the effectiveness of zakat management.

Badan Amil Zakat Nasional (BAZNAS) establish a system of information management BAZNAS or SIMBA, a system developed to store data and information by BAZNAS. SIMBA is also equipped with a report printing feature that includes 88 different sub-reports classified into 33 types of reports within five major groups. It is a centralized system that connects all zakat agencies or institutions throughout the country. SIMBA is used in all levels of BAZNAS to facilitate data reports about the collection, distribution and empowerment of zakat, *infaq* and *sadaqah*. The socialization of SIMBA began in 2014. Further, in 2016, BAZNAS started to use technology for fundraising purposes, and the amount of fundraising increased by 16% in 2017. BAZNAS form cooperated management with companies so that Muslims can pay zakat through different platforms, which include apps (Muzaki Corner, kitabisa.com, Gopay, Gopoints, Gotix, OVO, Tcash, Kaskus, Onvisee, Lenna, Mcash, Wisata Muslim, Oorth and Asuransi Jasindo Syariah), e-commerce (elevenia. co.id, blibli.com, shopee.co.id, tokopedia.com, lazada.com, mataharimall.com, jd.id, bukalapak.com), social media (Line) and digital fabrication tools (Rice ATM). The use of a digital platform in zakat management must be supported by Amil's ability as the operating subject. With technology, information on zakat institution governance reports can be published accurately, precisely and quickly through digital platforms such as websites, applications and other social media (BAZNAS, 2019).

3. Methodology

This research is a qualitative research by using the ANP analysis, which is a development of the analytical hierarchy process (Saaty and Vargas, 2006). ANP is an analysis of

comprehensive decision-making by considering qualitative and quantitative matters. It is a qualitative approach that is non-parametric and non-Bayesian in nature. The ANP is used to examine problems, create feasible solutions and develop strategies for optimizing zakat institutions' governance in East Java and contemplating technology's role in optimizing zakat governance (Ascarya, 2005). The research goes through several stages. The first stage is a decomposition stage consisting of a literature review, focus group discussion (FGD) and in-depth interviews with practitioners, academics, associations and regulators. This stage aims to identify problems, solutions and strategies for preparing the construction and validation of the ANP framework. Second, the preparation of the ANP model framework is done by creating relevant questionnaires and pairwise comparison. Third, the writers calculate the geometric mean and a rater agreement. The results of questionnaire filling are processed using Super Decision software to obtain conclusions and priorities on aspects of problems, solutions and strategies for optimizing zakat governance. Respondent data is then processed through Super Decision and Microsoft Excel to achieve quantification results, the calculation of rater agreement and the geometric mean. Rater agreement is a measure that shows the level of suitability of the respondents (R1-Rn) to a problem in one cluster. The tool used to measure the rater agreement is Kendall's Coefficient of Concordance (W; $0 < W < 1$), where $W = 1$ indicates a perfect fit. The geometric mean is a type of average calculation that shows a particular tendency or value (Ascarya, 2005). The stages of the ANP research method are shown in Figure 1.

The data used are primary data obtained through FGD, in-depth interviews and ANP questionnaires. The selection of respondents applies purposive sampling method with several criteria to meet that include the following:

- The respondent from academicians must have expertise in zakat management. They must have published literature on zakat management.
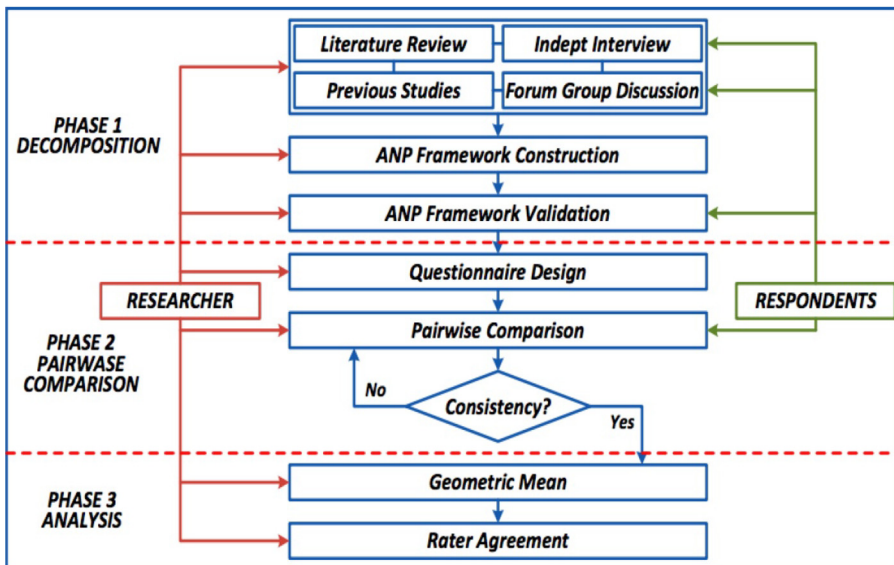

Figure 1.
Stages of the ANP
research method

Source: Ascarya (2005)

- The practitioners and zakat association must belong to Amil Zakat Organization and hold significant responsibility or placed in an organization's essential position.
- The respondent from regulators must have placed in a vital position in the National Zakat Agency (BAZNAS).

The purposive sampling is an appropriate sampling method since some criteria need to be met for a selected respondent. As such, valuable responses could be obtained from respondents who meet these set criteria. In ANP's analysis, the number of respondents is not a reference for validity (Firmansyah and Sukmana, 2014). There were 10 respondents with backgrounds as practitioners, academics, associations and regulators. In avoiding bias and misinterpretation, the respondents were accompanied by the researchers during the process of filling out questionnaires. This is because of a mission that the respondents would have the same understanding in answering the questionnaires. The assistantship also aims to maintain consistency of the answers. The list of respondents and their affiliations are presented in Table 3.

The questionnaires are in the form of pairwise comparisons of identified aspects to obtain answers that describe the priority or most dominant aspects and influence measurement by a numerical scale of 1–9. These methods are purposed to give the respondents opportunity for flexibility in answering the questions. The classification of the scale is discussed in Table 4 as follows.

In developing the structured questionnaire, few essential questions regarding the issues, solutions and strategies to optimize zakat governance are considered. The study also stressed the importance of technology to optimize zakat management. Further, identifying problems, solutions and strategies considers four aspects of Amil, *muzakki, mustahiq* and other supporting elements to present better policies to optimize zakat governance.

4. Results/discussion
Identification of problems, solutions and strategies are conducted in the first phase of decomposition. The next stage is to build the ANP framework and questionnaire that consist of pairwise composition. The ANP's rater agreement and geometric mean are then

No.	Name	Affiliation	Representative of
1	Imron Mawardi	Lecturer, Department of Islamic Economics, Universitas Airlangga	Academician, Researcher
2	Sri Herianingrum	Lecturer, Head of the Department of Islamic Economics, Universitas Airlangga	Academician, Researcher
3	Nana Sudiana	Secretary of Forum Zakat (FOZ) Indonesia	Zakat Asociation
4	Kholaf Hibatullah	The leader of Forum Zakat (FOZ) East Java	Zakat Asociation
5	Helmy Bachtiar A.	Head of LAZ Representative for Indonesian Zakat Initiative (IZI) East Java	Practitioner (Amil)
6	Hendy Nurrochmansyah	Director of Empowerment for Yatim Mandiri	Practitioner (Amil)
7	Aditya Kusuma	*Branch Manager* LAZ Al-Azhar Jawa Timur	Practitioner (Amil)
8	Kholid Abdillah	Chairman of the East Java Dompet Dhuafa	Practitioner (Amil)
9	Nana Mintarti	Representative of Amil Zakat National Agency	Regulator
10	Benny Nur Miftahul Ulum	Head of Amil Zakat National Agency for East Java Province	Regulator

Table 3.
List of respondents

Source: Authors' compilation (2020)

used to prioritize each identifies issues, solutions and strategies, and the findings are discussed as follows.

4.1 Identification of problems in optimizing zakat governance

Zakat governance issues are divided into four aspects: zakat institutions, *Muzakki*, *Mustahik* and legal support, as depicted in Figure 2. In the case of the Zakat Institution, there are eight problems as follows:

(1) (P 1.1) The lack of coordination and synergy between Zakat Institutions resulting in the overlapping of zakat collection. There is a barrier to information and communication exchange between zakat institutions at the national, provincial and local levels.

(2) (P 1.2) Many zakat institutions cannot identify potential *Muzakki* (individual, company, etc.). Amil's limited ability is the cause of this problem. This indicates that the essential criteria number four and five of the ninth ZCP (collection management) principle has not been fulfilled.

(3) (P 1.3) Limited human resources of the Zakat Institution both in terms of numbers and quality. Regarding this, zakat institutions have not fulfilled the first essential criterion of the ninth ZCP (collection management).

(4) (P 1.4) The lack of knowledge and use of technology, especially for the newly established Amil. Investments in technology are not cheap, especially for newly

Score	Classification
1	Equally preferred
3	Moderately preferred
5	Strongly preferred
7	Very strongly preferred
9	Extremely preferred
2,4,6,8	Intermediate values

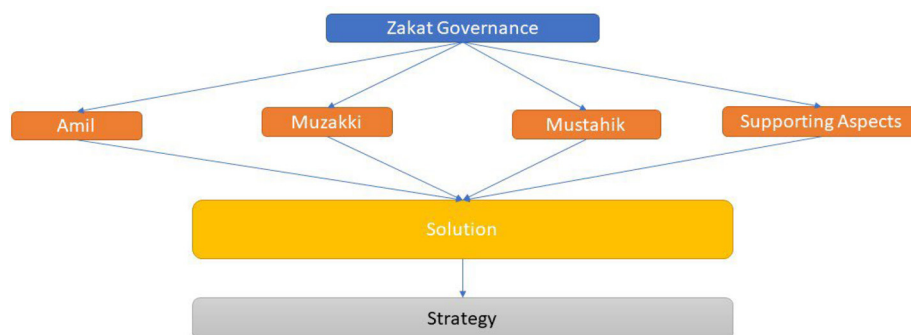**Source:** Ascarya (2005)

Table 4.
The classification of
the scale

Figure 2.
ANP model

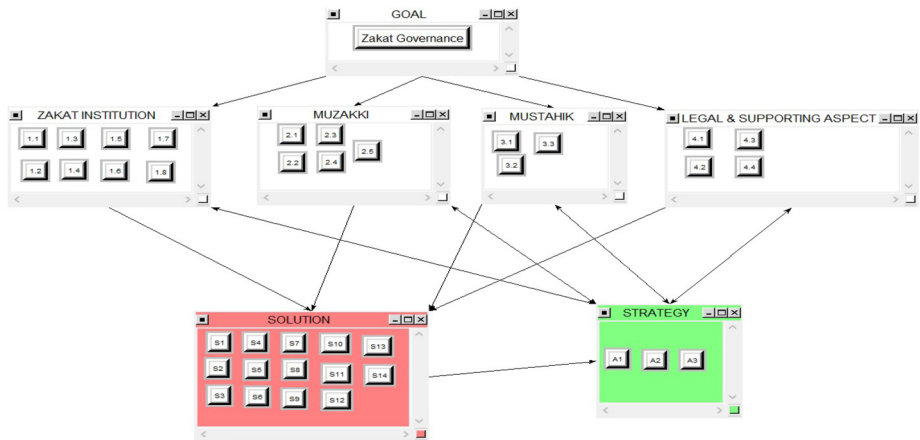**Source:** Primary Data Processed, 2020

Source: Primary Data Processed, 2020

established *Amil*. This problem indicates that the essential criteria number one of the ninth ZCP has not been fulfilled.

(5) (P 1.5) There is a lack of coordination and synergy between zakat institutions for the distribution and utilization of zakat. This problem indicates that the essential criterion number five of the tenth ZCP (disbursement management) has not been fulfilled.

(6) (P 1.6) Some zakat institutions do not have a focus on empowerment in specific fields/sectors. Amil's lack of knowledge about empowerment in particular areas or sectors is the cause of this problem.

(7) (P 1.7) Limited knowledge and competence of zakat institutions regarding zakat management, especially about financial management. This problem indicates that the tenth ZCP criteria number three has not been fulfilled, where zakat institutions should have adequate planning, recording and financial management to prevent misallocation of funds.

(8) (P 1.8) Inexact selection of *Mustahik* by zakat institutions. This problem indicates that zakat institutions have not fulfilled the tenth ZCP in the essential criteria numbers 4, 12 and 13.

Problems in the *Muzakki* aspect include the following:

- *(P 2.1) Muzakki's* lack of awareness, knowledge, understanding and motivation to pay zakat. Zakat in Indonesia is still voluntary and not an obligatory state levy.

- *(P 2.2) Muzakki's* lack of trust in the Zakat Institution. This problem indicates that the tenth ZCP in the essential criteria number one has not been fulfilled.

- (P 2.3) Many *Muzakki* are not contacted by Zakat Institutions. Many *Muzakki* have never received socialization about the importance of zakat and the function of zakat institutions from the zakat institutions around them.

- (P 2.4) The lack of information received by *Muzakki* regarding the profile of zakat institutions. Many *Muzakki* still do not know the zakat institutions around them.

- (P 2.5) *Muzakki* is more comfortable distributing zakat directly to *Mustahik*, which causes an overlap in the distribution of zakat distribution.

Problems in the *Mustahik* aspect include the following:

- (P 3.1) The lack of information on Mustahik's needs and developments to Muzakki. Sometimes, the Muzakki do not know the latest news and developments in Mustahik.
- (P 3.2) Limited information on the whereabouts of Mustahik. Many Mustahik locations are not known since they do not report and submit an assistance application to zakat institutions.
- (P 3.3) Low motivation and ability of Mustahik to develop (change for the better condition) so that the distribution of zakat becomes ineffective.

From a legal and supporting perspective, several issues include the following:

- (P 4.1) Zakat duties are still voluntary, not obligatory. Until now, no law or regulation states that zakat is a mandatory in state level. This problem is related to the ninth ZCP in the essential criteria number seven.
- (P 4.2) Many zakat institutions are still constrained or have not completed the Amil legal entity permits. This problem indicates that the ninth ZCP the essential criteria number one has not been fulfilled.
- (P 4.3) Lack of socialization and application of contemporary zakat (Zakat on shares, sukuk, deposits, etc.). This problem indicates that the ninth ZCP in the additional criteria number one has not been fulfilled.
- (P 4.4) Lack of zakat regulation as a direct tax deduction (tax credit).

4.2 Identification of solutions in optimizing zakat governance
The solutions are formulated as follows:

- (S.1) Standard regulations have to be created to support the performance of collecting zakat (obligatory/mandatory). In Indonesia, the regulations and laws have not focused on the obligation to collect zakat.
- (S.2) Conduct the socialization and education of Zakat to *Muzakki*. *Muzakki* needs to be educated in knowing the types of zakat.
- (S.3) Increase the intensity of communication with *muzakki*, donors and beneficiaries.
- (S.4) Optimization of various digital channels such as developing zakat channels on websites, e-commerce platforms and social media.
- (S.5) Digitalization and development of IT-based systems has to be built, namely, the advancement of a computerized zakat management system.
- (S.6) Transparency of the reports must be increased such as transparency of financial statements with real evidence of empowerment program to all stakeholders.
- (S.7) Standardization of governance of Zakat Institutions must be done such as the application of ZCP. This standardization includes supervision and sanctions by the zakat supervisory board and proper management of Amil.

- (S.8) Synergy and collaboration have to be created between Zakat Institutions in collecting and distributing zakat.
- (S.9) Quality and capacity of human resources must be developed, particularly in financial management and technology.
- (S.10) Creativity of the Zakat institution program must be developed.
- (S.11) Intensity of communication exchange between *Mustahik* and potential beneficiaries must be increased.
- (S.12) Specializing the distribution and empowerment (utilization) of zakat in specific sectors or regions.
- (S.13) There is real-time information related to the assistance that has been distributed.
- (S.14) There are monitoring and evaluation of the funds channeled in accordance with the ZCP.

4.3 Identification of strategies in optimizing zakat governance
Several strategies were formulated to facilitate the implementation of those solutions. These strategies include (A.1) strengthening regulation on zakat management, (A.2) encouraging integration, synergy and collaboration with all zakat institutions and stakeholders and (A.3) implementation of intensification and extensification of Amil based on digital technology. The model of ANP is presented in Figures 2 and 3.

The results of problems, solutions and strategies for optimizing zakat governance are shown in Table 5. Priority problems faced by the Zakat Institution include the following:

- Lack of ability to identify potential *Muzakki* (0.15746).
- Limited human resources of the Zakat Institution both in terms of numbers and quality (0.15746).
- Lack of coordination and synergy between zakat institutions for the distribution and utilization of zakat (0.15746).
- Limited knowledge and competence of zakat institutions regarding zakat management (0.15746).

Lack of human resources management and lack of synergy between zakat institutions are important problems in Hamdani *et al.* (2019) and Huda *et al.* (2013).

Priority problems in the *Muzakki* cluster include *Muzakki*'s lack of awareness, knowledge, understanding and motivation to pay zakat (0.3333). Lack of education and socialization of zakat is a crucial problem found in Hamdani *et al.* (2019) and Huda *et al.* (2013). Priority problems in the *Mustahik* cluster are the lack of information on *Mustahik*'s needs and development to *Muzakki* (0.4) and low motivation and ability of *Mustahik* to develop, so that zakat distribution becomes ineffective (0.4). Afriadi and Sanrego (2016) also found that the priority problem of Zakat institution was low mental knowledge and awareness of *Mustahik*.

Priority problems in the legal and supporting clusters are lack of socialization and application of contemporary zakat (0.35091) and lack of zakat regulation as a direct tax credit (0.35091). This finding support Huda *et al.* (2015), Hamdani *et al.* (2019) and Hidayatullah and Priantina (2018), who found essential problems in the government aspect: the lack of government support in providing incentive funds,

Cluster	Name	Contribution of sub-criterion to clusters	Contributions of sub-criteria for the model	Contribution of sub-criteria at the level	Total contribution
Mustahik problem	P 3.1	0.4	0.04	0.10000	0.4
	P 3.2	0.2	0.02	0.05000	
	P 3.3	0.4	0.04	0.10000	
Muzakki's problem	P 2.1	0.33333	0.03333	0.08333	
	P 2.2	0.16667	0.01667	0.04167	
	P 2.3	0.16667	0.01667	0.04167	
	P 2.4	0.16667	0.01667	0.04167	
	P 2.5	0.16667	0.01667	0.04167	
Zakat institution problems	P 1.1	0.04909	0.00491	0.01227	
	P 1.2	0.15746	0.01575	0.03937	
	P 1.3	0.15746	0.01575	0.03937	
	P 1.4	0.0818	0.00818	0.02045	
	P 1.5	0.15746	0.01575	0.03937	
	P 1.6	0.0818	0.00818	0.02045	
	P 1.7	0.15746	0.01575	0.03937	
	P 1.8	0.15746	0.01575	0.03937	
Legal and supporting issues	P 4.1	0.18906	0.01891	0.04727	
	P 4.2	0.10911	0.01091	0.02728	
	P 4.3	0.35091	0.03509	0.08773	
	P 4.4	0.35091	0.03509	0.08773	
Solution	S 1	0.0515	0.0103	0.0515	0.2
	S 2	0.09536	0.01907	0.09536	
	S 3	0.05106	0.01021	0.05106	
	S 4	0.0841	0.01682	0.0841	
	S 5	0.04628	0.00926	0.04628	
	S 6	0.09536	0.01907	0.09536	
	S 7	0.07211	0.01442	0.07211	
	S 8	0.03868	0.00774	0.03868	
	S 9	0.14313	0.02863	0.14313	
	S 10	0.11058	0.02212	0.11058	
	S 11	0.03868	0.00774	0.03868	
	S 12	0.03868	0.00774	0.03868	
	S 13	0.06233	0.01247	0.06233	
	S 14	0.07211	0.01442	0.07211	
Strategy	A1	0.36768	0.14707	0.36768	0.4
	A 2	0.25427	0.10171	0.25427	
	A3	0.37805	0.15122	0.37805	

Source: Primary Data Processed (2020)

Table 5.
ANP result

inadequate zakat regulations and synergy between the government and zakat institutions.

Observed from all clusters, the most priority problem in the problem aspect is the *Mustahik* sub-criteria, namely, the lack of information on *Mustahik*'s needs and development to *Muzakki* and low motivation and ability of *Mustahik* to develop. The priority solution for optimizing zakat governance is improving the quality and capacity of human resources (0.14313), whereas the best strategy for optimizing zakat governance is the implementation of digital-based Amil intensification and extensification (0.37805).

5. Discussion/analysis

5.1 Priority issues

The highest dominant aspect in the problem aspect is the *Mustahik* sub-criteria, namely:

- lack of information on *Mustahik*'s needs and development to *Muzakki* (0.40); and
- low motivation and ability of *Mustahik* to grow and develop. Hidayatullah and Priantina (2018) found that the lack of information to the public is a priority problem for all *Amil* institutions.

These results are in line with Afriadi and Sanrego (2016), which examines the problems of zakat institutions. The priority of issues among zakat institutions is the low mental knowledge and awareness of *Mustahik*. Meanwhile, when it is viewed from the inner side of the zakat institutions, the absence of standards in determining priority of *Mustahik* is a problem with the highest priority level.

The productive zakat mechanism and its success depend on the ability of *Mustahik* to develop a business and how they generate income (Anwar, 2014; Ibrahim, 2014; Sukmana *et al.*, 2018). Productive zakat is expected to transform a *Mustahik* into a *Muzakki*. If the *Mustahik* has low motivation to develop, the distribution of zakat becomes ineffective.

5.2 Priority solutions

The priority solution for optimizing zakat governance is improving the quality and capacity of human resources (0.14313). Increasing the numbers and quality of human resources is the best solution to solve problems in zakat institutions. The first solution can be done by recruiting new *Amil*, whereas the latter solution is conducted through job appraisals, training and developing Amil's competencies. The goal is to create *Amil* with proficiency in zakat management (Firmansyah and Devi, 2017). Proper human resource management plays a crucial role in optimizing zakat management (Hasan *et al.*, 2019). With qualified human resources, giving zakat education to *ummah* become easier (Adiwijaya and Suprianto, 2020). Huda *et al.* (2015) analyzed the problems of zakat management in Banten and South Kalimantan. Amil certification or improving the quality of *Amil* is a priority solution for the regulatory cluster. Increasing *Amil's* competence, as evidenced by the ownership of *Amil* certification is a requirement for zakat management's success. Hamdani *et al.* (2019) stated that to improve the quality of management and human resources, socialization and education of the ZCP at the regional level is a solution worth considering.

In Islam, the commandment is always to improve yourself and become a better person for yourself and others. The importance of improving one's quality by education is highlighted by the Prophet SAW's, saying, D*emanding knowledge is mandatory for every Muslim and Muslimah from swinging to burrow* (H.N. Ibnu Majah no 224 from Anas bin Malik R.A). In Al Qur'an, Chapter Al-Mujadilah verse 11, Allah promises glory to those who always improve themselves. *Allah will raise those who have believed among you and those who were given knowledge by degrees.*

Hidayatullah and Priantina (2018) found that increasing the capacity of the zakat program coordinator, implementing zakat management with rigid standard operating procedures and education in zakat integration are the most priority solutions for solving problems in the internal issues of zakat institutions, which include lack of human resource performance/Amil, lack of coordinator capacity and differences of opinion and commitment from Amil.

Increasing the competence of human resources is also a concern of Firmansyah and Devi (2017). Building a quality human resource system is one of the priority strategies for implementing GCG in zakat institutions. Improving quality and number of human resources

answers the most priority problems in this study: the lack of information on the needs and development of *Mustahik* to *Muzakki* and the low motivation and ability of *Mustahik* to grow and develop. Quality human resources in zakat management organizations can provide accountable, transparent and fast information on the distribution of zakat funds. A competent Amil will create a sound governance system for zakat institutions (Amalia, 2019).

5.3 Priority strategy
Intensification and extensification of digital-based Amil is the best strategy for optimizing zakat governance. The use of digital-based technology provides benefits such as work efficiency and convenience for its users (Wahab and Rahman, 2013). Information technology is also a serious concern in supporting the integration of zakat institution governance (Hidayatullah and Priantina, 2018). Increasing service by easier method of zakat is a priority solution in the research of Huda *et al.* (2013) and Firmansyah and Devi (2017) in solving the problem of zakat management. The use of technology in zakat management is expected to simplify and speed up services for both *Muzakki* and *Mustahik*. Further, a computerized zakat system is a priority strategy for the implementation of GCG in zakat institutions. It supports financial reporting transparency, distribution transparency and provides more detailed information for the decision-making process.

The importance of implementing technology-based Amil intensification and extensification supports the research conducted by Mulyadi *et al.* (2018), Wahab and Rahman (2013), Muharman *et al.* (2011), Razimi *et al.* (2016) and Muneeza and Nadwi (2019). Technology development encourages increased collection and distribution of zakat and transforms the governance system more effectively and efficiently. Besides, the use of several digital channels, such as websites, social media and others, encourages a broader community reach. e-commerce payment channels, crowdfunding, e-banking, digital payment machines and QR codes make it easier for *Muzakki* to pay zakat, accelerate the receipt of zakat by *Mustahik* and make it easier for Amil to control and evaluate zakat funds. To solve the problem of lack of information related to *Mustahik*, a more competent Amil is needed. One form of competence that can be developed is to encourage mastery in the field of technology. Therefore, intensification (increasing Amil's ability related to the use of digital technology) and extensification (increasing the number of Amil who are capable of digital technology) are needed to optimize zakat governance.

Adopting the technology needed to support zakat institutions' management requires developing human capital. Providing required training to introduce Amil to the latest technology does not come at a low price. Besides, buying the infrastructure to support online management requires a massive amount of investment. Consequently, many zakat institutions, especially those newly established Amil and those that operate in the level of region or city do not have the required capital to invest in the latest technology. Although creating the required technology to assist zakat governance becomes the priority solution and strategy, many zakat institutions with no capital assistance is unable afford. The government and zakat association must highlight the level of acceptance of the zakat institutions and their readiness to develop human resources and provide the technological facilities.

6. Conclusion
This study emphasizes the importance of technological aspects in optimizing zakat governance in East Java. This study applies the ZCP in the analysis of the issues and formulation of solutions and strategies. The lack of information on *Mustahik*'s needs and development to *Muzakki* and the low motivation and ability of *Mustahik* to develop are

priority issues in optimizing zakat management in East Java. Increasing the quality and capacity of Amil's human resources is a priority solution, especially in the technological aspect. The best strategy for optimizing zakat governance is implementing intensification (increasing Amil's ability to use digital technology) and extensification of Amil (increasing the number of Amil who are capable of digital technology) based on zakat technology.

7. Limitation and study forward

The scope of this research limitation is that the study was conducted in one of the provinces in Indonesia. Besides, this study uses a one-level ANP approach that focuses on problem identification, solution and strategy formulations. Future research can focus on a broader scope of zakat institutions, or in other words, on a larger national scale. It is also possible to apply a two-level ANP model such as ANP with the benefit, opportunity, cost and risk analysis.

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Corresponding author

Tika Widiastuti can be contacted at: tika.widiastuti@feb.unair.ac.id