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## **Advancing Zakat Performance through a Triple Helix Framework: An ANP-Based Prioritization of Solutions from South Sulawesi-Indonesia**

**Azwar**

Institut Agama Islam STIBA Makassar, Indonesia

*Email: azwar.iskandar@gmail.com*

**Abur Hamdi Usman**

Faculty of Islamic Civilization Studies, Universiti Islam Selangor (UIS), Malaysia

*Email: aburhamdi@uis.edu.my*

**Hassan Shakeel Shah**

Department of Islamic Thought and Civilization, School of Social Sciences and Humanities (SSSH)

University of Management and Technology, Pakistan.

*Email: hassan.shakeel@umt.edu.pk*

**Mutsalim Khareng**

Department of Islamic Studies, Academy of Islamic and Arabic Studies,

Princess of Naradhiwas University, Narathiwat, Thailand

*Email: mutsalim.k@pnu.ac.th*

**Lilly Suzana Shamsu**

Faculty of Usuluddin

Universiti Islam Sultan Sharif Ali (UNISSA), Bandar Seri Begawan, Brunei Darussalam

*Email: lilly.shamsu@unissa.edu.bn*

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### **Abstract**

As an essential component of Islamic social finance, zakat possesses considerable potential to reduce poverty and promote inclusive socio-economic development. However, the performance of zakat management remains suboptimal in many regions due to persistent governance challenges involving multiple stakeholders. This study aims to identify and prioritize strategic solutions for improving zakat performance in South Sulawesi, Indonesia, using the Analytic Network Process (ANP) within a Triple Helix governance framework. An exploratory sequential mixed-methods design was employed, in which qualitative findings were used to identify and validate governance determinants before being incorporated into the ANP model for priority analysis. The findings indicate that government-based solutions constitute the highest strategic priority, particularly strengthening regulatory certainty and policy support. Institutional reforms, including improvements in transparency, accountability, governance, and service quality, rank second, while community-based initiatives focusing on zakat literacy and public engagement serve as complementary priorities for sustainable zakat development. These results demonstrate that improving zakat performance requires coordinated and synergistic collaboration among government, zakat institutions, and society rather than isolated interventions by individual stakeholders. Methodologically, this study contributes by integrating the Triple Helix governance framework with the ANP approach to generate evidence-based strategic priorities for zakat governance. The proposed framework provides practical guidance for policymakers and zakat management organizations in designing integrated governance strategies to maximize the socio-economic impact of zakat.

**Keywords:** *zakat, zakat performance, Triple Helix, ANP, South Sulawesi*

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## 1. INTRODUCTION

Zakat constitutes one of the most important instruments within the Islamic social finance framework for promoting socio-economic equity, reducing poverty, and fostering inclusive development in Muslim communities<sup>1</sup>. Beyond its status as a compulsory act of worship, zakat functions as a formal redistribution mechanism designed to support social welfare and improve the well-being of disadvantaged populations<sup>2</sup>. In Indonesia, which is home to the largest Muslim population globally, the strategic value of zakat extends to its potential contribution to national development agendas, particularly through poverty mitigation, socio-economic empowerment of vulnerable groups, and the strengthening of economic resilience<sup>3</sup>. However, notwithstanding this substantial potential, the realization of zakat revenues and the overall performance of zakat institutions remain far from optimal<sup>4</sup>.

One of the longstanding challenges in zakat administration concerns the substantial discrepancy between its estimated potential and the amount actually collected. At the national level, zakat has long been recognized as a strategic Islamic social finance instrument capable of supporting poverty alleviation and social protection programs. According to Pusat Kajian Strategis – Badan Amil Zakat Nasional (Puskas BAZNAS)<sup>5</sup>, Indonesia's zakat potential was projected to reach approximately IDR 327 trillion in 2023. However, the realized collection of zakat, infaq, sadaqah, and other religious social funds (ZIS-DSKL) amounted to only IDR 32.321 trillion, representing less than ten percent of the estimated potential. This persistent gap suggests the existence of structural challenges

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<sup>1</sup> E R Kismawadi, "Sustainable Islamic Financial Inclusion: The Ethical Challenges of Generative AI in Product and Service Development," in *Exploring the Ethical Implications of Generative AI* (IAIN Langsa, Indonesia: IGI Global, 2024), 237–58, <https://doi.org/10.4018/979-8-3693-1565-1.ch013>.

<sup>2</sup> Sri Herlina, Dana Syahputra Barus, and Muhammad Syahbudi, "The Triple Helix Model of Islamic Social Financial Institutions Achieves SDGs 2030 Finance in North Sumatra," *Electronic Journal of Education Social Economics and Technology* 6, no. 2 (2025): 1228, <https://doi.org/10.33122/ejeset.v6i2.1228>.

<sup>3</sup> Imsar Imsar, Febriandi Akbar Sitompul, and Juliana Nasution, "Pengaruh Dana Zakat, Pembiayaan Syariah, Anggaran Penerimaan Dan Belanja Negara (APBN) Terhadap Tingkat Kemiskinan Dengan Indeks Pembangunan Manusia Sebagai Variabel Intervening," *Oikonomika Jurnal Kajian Ekonomi Dan Keuangan Syariah* 4, no. 1 (2023): 1–13, <https://doi.org/10.53491/oikonomika.v4i1.557>.

<sup>4</sup> Bismi Khalidin et al., "Islamic Economics Towards the Sustainability of Economic Development," *International Journal of Social Science Humanity & Management Research* 03, no. 11 (2024), <https://doi.org/10.58806/ijsshmr.2024.v3i11n16>.

<sup>5</sup> Pusat Kajian Strategis – Badan Amil Zakat Nasional (Puskas BAZNAS), "Potensi Zakat BAZNAS RI," 2022, <https://www.puskasbaznas.com/publications/published/officialnews/1703-potensi-zakat-baznas-ri>.

in zakat mobilization and governance that continue to hinder the optimal utilization of zakat as an instrument of socio-economic development.

The mismatch between potential and realization is even more evident in South Sulawesi. Provincial estimates suggest that zakat potential may reach as much as IDR 7.8 trillion, while alternative studies place the figure at approximately IDR 217.6 billion, ranking South Sulawesi as the leading province in Eastern Indonesia and the fifth highest nationally. Despite this promising potential, the actual collection of ZIS funds as of December 2024 amounted to only IDR 6.59 billion, equivalent to roughly 0.08% of the identified potential. Such figures demonstrate the existence of a significant governance deficit. Additional evidence is provided by performance indicators<sup>6</sup> reported by The National Zakat Index (IZN) recorded an overall provincial score of 0.48, categorized as “Fairly Good”; however, considerable disparities remain across dimensions. The micro dimension, which evaluates institutional effectiveness and socio-economic outcomes, achieved a score of only 0.35 and was classified as “Poor.” Within this dimension, the institutional indicator scored 0.42, whereas the zakat collection component obtained a very low score of 0.13, largely attributable to a 17% decline in growth alongside weak collection performance. The zakat distribution component registered a score of 0.44, reflecting continuing inefficiencies in beneficiary targeting and impact achievement. Although the macro dimension attained a relatively high score of 0.79 due to supportive regulatory conditions, these favorable structural circumstances have yet to generate corresponding improvements in institutional performance<sup>7</sup>.

From a conceptual perspective, these governance challenges may be understood through the lens of the Triple Helix framework, which emphasizes the interactive relationships among institutional organizations, governmental authorities, and societal actors as key determinants of governance quality and innovation capacity<sup>8</sup>. Within this framework, government provides the regulatory and policy environment, zakat institutions are responsible for operational management and service delivery, while society contributes both as zakat payer and beneficiary, thereby influencing public trust, participation, and compliance. Accordingly, the effectiveness of zakat governance depends not only on the performance of individual actors but also on the quality of coordination and synergy among these three interconnected stakeholders<sup>9</sup>. Consequently, the effectiveness of zakat governance is highly dependent upon the degree of alignment, coordination, and synergy among these three interrelated components.

The continuation of these governance deficiencies raises important questions concerning the capacity of zakat systems to fulfill their broader socio-economic mandate<sup>10</sup>. Declining collection growth and less-than-optimal distribution outcomes suggest the

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<sup>6</sup> Sulsel.Baznas.Go.Id, “Penghimpunan Zakat, Infak, Dan Sedekah Januari-Desember 2024,” <https://sulsel.baznas.go.id/>.

<sup>7</sup> Pusat Kajian Strategis – Badan Amil Zakat Nasional, “Indeks Zakat Nasional 2020 Sulawesi Utara, Sulawesi Tengah, Sulawesi Selatan, Sulawesi Tenggara, Gorontalo, Sulawesi Barat Maluku, Maluku Utara” (Jakarta, 2020).

<sup>8</sup> Yuzhuo Cai and Annina Lattu, “Triple Helix or Quadruple Helix: Which Model of Innovation to Choose for Empirical Studies?,” *Minerva* 60, no. 2 (2022): 257–80; A Hidayatullah and A Priantina, “Toward Zakat Management Integration in Indonesia: Problems and Solution,” *Ahkam: Jurnal Ilmu Syariah* 18, no. 2 (2018): 321–46, <https://doi.org/10.15408/ajis.v18i2.6319>.

<sup>9</sup> S Herianingrum et al., “Zakat as an Instrument of Poverty Reduction in Indonesia,” *Journal of Islamic Accounting and Business Research* 15, no. 4 (2024): 643–60, <https://doi.org/10.1108/JIABR-11-2021-0307>.

<sup>10</sup> Shamsher Mohamad and Zulkarnain Muhamad Sori, “Governance Issues in Managing Zakat Funds,” *I-Iecons E-Proceedings*, 2023, 960–65, <https://doi.org/10.33102/iecons.v10i1.116>.

presence of multidimensional constraints involving institutional capability, community engagement, and regulatory performance. Viewed through the Triple Helix perspective, these shortcomings are indicative not only of internal managerial limitations but also of insufficient collaboration among zakat organizations, regulatory institutions, and societal stakeholders<sup>11</sup>. Weak institutional capacity limits innovation and reduces service effectiveness, fragmented regulatory arrangements hinder policy implementation and system interoperability, and limited public participation contributes to lower compliance and donation levels<sup>12</sup>. These realities highlight the need for comprehensive reforms encompassing institutional strengthening, improved transparency, enhanced digital infrastructure, and stronger intersectoral coordination<sup>13</sup>. Without the establishment of an integrated governance framework, the substantial zakat potential available in South Sulawesi is likely to remain underutilized, thereby limiting its contribution to poverty reduction and sustainable socio-economic development<sup>14</sup>.

Likewise, the Triple Helix approach emphasizes that governance effectiveness and innovation emerge from continuous interaction among institutional, governmental, and societal actors<sup>15</sup>. In this configuration, zakat institutions assume responsibility for service management and operational implementation, governmental agencies provide policy direction and regulatory oversight, and society contributes to the legitimacy and compliance necessary for system sustainability<sup>16</sup>. Accordingly, the overall performance of zakat governance is shaped by the extent to which these three domains reinforce one another<sup>17</sup>. Existing governance problems continue to challenge the ability of zakat systems to maximize their socio-economic contribution<sup>18</sup>. Slow growth in collection performance and inefficiencies in distribution processes point to structural weaknesses related to institutional competence, community participation, and regulatory coherence<sup>19</sup>. From the standpoint of the Triple Helix framework, these limitations reflect inadequate

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<sup>11</sup> Hidayatullah and Priantina, "Toward Zakat Management Integration in Indonesia: Problems and Solution."

<sup>12</sup> Irmawati Wahyuningsi, Lince Bulutoding, and Suhartono Suhartono, "Pengelolaan Zakat Produktif Berbasis PSAK 109 Dalam Mewujudkan Good Zakat Governance," *Isafir Islamic Accounting and Finance Review* 2, no. 1 (2021): 54–63, <https://doi.org/10.24252/isafir.v2i1.19468>.

<sup>13</sup> S Herianingrum et al., "Muzakki and Mustahik's Collaboration Model for Strengthening the Fundraising Capacity of Islamic Social Finance Institutions during COVID-19," *International Journal of Ethics and Systems* 40, no. 1 (2024): 175–88, <https://doi.org/10.1108/IJOES-05-2022-0091>.

<sup>14</sup> Mohamad and Sori, "Governance Issues in Managing Zakat Funds."

<sup>15</sup> Muhammad R Danlami, Muhamad Abduh, and Lutfi A Razak, "Social Finance, Institutional Quality and Stability of Islamic Banks: Evidence From Four Countries," *International Journal of Social Economics* 50, no. 8 (2023): 1186–1216, <https://doi.org/10.1108/ijse-06-2022-0441>.

<sup>16</sup> M Irfan and E R Kismawadi, "Sharia Stock Transactions Utilizing Technology and Artificial Intelligence," *Innovative Ventures and Strategies in Islamic Business* (Christ University, Bengaluru, India: IGI Global, 2024), <https://doi.org/10.4018/979-8-3693-3980-0.ch004>.

<sup>17</sup> Loso Judijanto, Al-Amin Al-Amin, and Lukman Nurhakim, "Implementasi Teknologi Artificial Intelligence Dan Machine Learning Dalam Praktik Akuntansi Dan Audit: Sebuah Revolusi Atau Evolusi," *COSMOS: Jurnal Ilmu Pendidikan, Ekonomi Dan Teknologi* 1, no. 6 (2024): 470–83, <https://cosmos.iainsambas.ac.id/index.php/cms/article/view/183>.

<sup>18</sup> T Kato, "Islamic and Capitalist Economies: Comparison Using Econophysics Models of Wealth Exchange and Redistribution," *PLoS ONE* 17, no. 9 September (2022), <https://doi.org/10.1371/journal.pone.0275113>.

<sup>19</sup> Herlina, Barus, and Syahbudi, "The Triple Helix Model of Islamic Social Financial Institutions Achieves SDGs 2030 Finance in North Sumatra."

synergy among zakat institutions, regulatory authorities, and the wider community<sup>20</sup>. Organizational weaknesses restrict innovation capacity, fragmented regulations obstruct system integration, and insufficient public engagement contributes to lower compliance rates<sup>21</sup>. Therefore, addressing these challenges necessitates a systematic effort to strengthen governance structures, improve transparency, accelerate digital transformation, and foster deeper collaboration among relevant stakeholders<sup>22</sup>.

A growing body of literature has examined various aspects of zakat governance. Existing studies highlight the importance of institutional effectiveness, accountability, and transparency in improving zakat management<sup>23</sup>, while others emphasize socio-cultural factors such as public literacy, trust, and religious awareness as determinants of zakat compliance<sup>24</sup>. In addition, regulatory support, technological innovation, and integrated information systems have been recognized as important drivers of zakat performance<sup>25</sup>. Although these studies collectively provide valuable insights into the institutional, societal, and governmental dimensions of zakat governance, they generally examine these factors in isolation rather than as interdependent components of a single governance system<sup>26</sup>. Consequently, the dynamic interactions and mutual influence among the key stakeholders responsible for zakat governance remain insufficiently explored.

From a methodological perspective, previous studies have employed decision-support approaches such as the Analytic Hierarchy Process (AHP), Analytic Network Process (ANP), and other multi-criteria decision-making techniques to prioritize strategies for zakat development<sup>27</sup>. However, these applications have primarily focused

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<sup>20</sup> Kato, "Islamic and Capitalist Economies: Comparison Using Econophysics Models of Wealth Exchange and Redistribution"; Kismawadi, "Sustainable Islamic Financial Inclusion: The Ethical Challenges of Generative AI in Product and Service Development."

<sup>21</sup> Fauz M Khamis, "Constructing Indicators for Islamic Financial Inclusion," *International Journal of Islamic Economics* 3, no. 2 (2021): 101, <https://doi.org/10.32332/ijie.v3i2.3720>.

<sup>22</sup> Danlami, Abduh, and Razak, "Social Finance, Institutional Quality and Stability of Islamic Banks: Evidence From Four Countries."

<sup>23</sup> Faizatul Ansoriyah et al., "Identifying Public Value of Zakat Management Organizations: A Review of Muzaki's Perception," *Dinika Academic Journal of Islamic Studies* 8, no. 1 (2023): 1–21, <https://doi.org/10.22515/dinika.v8i1.6664>; M H Thamrin et al., "Religiosity in Paying Zakat and Tax Compliance in Medan City," *Pharos Journal of Theology* 104, no. 3 (2023), <https://doi.org/10.46222/pharosjot.104.330>.

<sup>24</sup> Mega A Mulindra, Ira Novianty, and Iwan Setiawan, "Muzakki's Perception Regarding Implementation Good Corporate Governance (GCG) Against Muzakki's Trust in OPZ," *Indonesian Journal of Economics and Management* 3, no. 3 (2023): 582–91, <https://doi.org/10.35313/ijem.v3i3.4876>; Mohammad Qutaiba, Mohd Owais, and Abdus S Muharam, "The Current Issue of Reporting Zakat in Indonesia: A Critical Analysis," *Journal of Islamic Economic and Business Research* 4, no. 1 (2024): 1–23, <https://doi.org/10.18196/jiebr.v4i1.227>.

<sup>25</sup> Noraini Shamsuddin and Nor S Bakar, "Influence of the Internal Audit Function Towards Zakat Performance," *International Journal of Islamic Economics and Finance Research* 4, no. 1 July (2021): 77–93, <https://doi.org/10.53840/ijiefer50>; Teh S Tajuddin, "Trust in Zakat Authorities and Zakat Compliance: A Conceptual Analysis," *Almimbar*, 2023, 115–28, <https://doi.org/10.53840/almimbar.v3i2.82>.

<sup>26</sup> Herianingrum et al., "Muzakki and Mustahik's Collaboration Model for Strengthening the Fundraising Capacity of Islamic Social Finance Institutions during COVID-19"; Ika S Wahyuni-TD, Hasnah Haron, and Yudi Fernando, "The Effects of Good Governance and Fraud Prevention on Performance of the Zakat Institutions in Indonesia: A Shari'ah Forensic Accounting Perspective," *International Journal of Islamic and Middle Eastern Finance and Management* 14, no. 4 (2021): 692–712, <https://doi.org/10.1108/imefm-03-2019-0089>.

<sup>27</sup> Jejen Hendar, Neni Ruhaeni, and Asep H Zakiran, "The Concept of Safe Zakat Management According to the Provisions of the Prevailing Laws and Regulations in Indonesia," *Kne Social Sciences*,

on evaluating isolated institutional issues or specific managerial priorities, with limited attention to integrating stakeholder perspectives within a comprehensive governance framework. As a result, there remains a lack of empirical studies that simultaneously examine government, zakat institutions, and society through the Triple Helix perspective while using ANP to identify strategic priorities based on the interdependencies among these actors. This study addresses these gaps by employing the Triple Helix framework as an integrated governance model and applying ANP to generate evidence-based strategic priorities for improving zakat performance in South Sulawesi.

Overcoming these limitations necessitates the adoption of a comprehensive analytical framework that accommodates multiple stakeholders and captures the interconnected nature of governance actors. The Analytic Network Process (ANP) offers such a framework by facilitating structured prioritization within systems characterized by complex interdependencies. Accordingly, this study aims to identify and systematically prioritize the most strategic solutions for improving zakat performance in South Sulawesi, based on an integrated diagnosis of institutional, societal, and governmental determinants within a Triple Helix governance framework using a multi-stakeholder ANP approach.

This research offers several notable contributions and introduces important elements of novelty. First, it proposes an integrated multi-dimensional framework that simultaneously incorporates institutional, societal, and governmental aspects within a single analytical model. Second, the study investigates both governance challenges and corresponding strategic solutions in parallel, thereby providing a more holistic understanding of the factors constraining zakat performance and the reforms required to address them. Third, through the application of the Analytic Network Process (ANP), the research captures the interdependent relationships among determinants, extending existing methodological approaches beyond traditional hierarchical decision-making structures. Fourth, the study contributes context-specific empirical evidence from South Sulawesi, thereby enriching the broader academic discussion on zakat governance and Islamic social finance.

The results of this study carry important implications for both theory and practice. Theoretically, the research contributes to the advancement of zakat governance scholarship by integrating multi-level determinants into a network-oriented analytical framework. Practically, the findings provide policy-relevant guidance for zakat institutions, regulatory authorities, and other stakeholders in determining strategic priorities for performance enhancement. Through the systematic identification of critical challenges and the prioritization of corresponding solutions, this study supports the development of more coordinated, effective, and sustainable zakat governance systems capable of maximizing the socio-economic benefits of zakat.

This study employed an exploratory sequential mixed-method design, in which the qualitative phase preceded and informed the quantitative phase<sup>28</sup>. The qualitative component was conducted through field-based data collection involving multiple stakeholders to identify, explore, and validate the key problems and strategic solutions affecting zakat performance across the institutional, societal, and governmental domains.

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2023, <https://doi.org/10.18502/kss.v8i18.14266>; Mulindra, Novianty, and Setiawan, "Muzakki's Perception Regarding Implementation Good Corporate Governance (GCG) Against Muzakki's Trust in OPZ."

<sup>28</sup> John W Creswell and J David Creswell, *Research Design Qualitative, Quantitative, and Mixed Methods Approaches*, 5th ed. (New York, NY: SAGE Publications, Inc, 2017), <http://www.ceil-conicet.gov.ar/wp-content/uploads/2015/10/Creswell-Cap-10.pdf>.

The findings from this phase were then synthesized into a network of determinants that served as the basis for constructing the Analytic Network Process (ANP) model, including the formulation of clusters, elements, and their interrelationships<sup>29</sup>.

The subsequent quantitative phase applied the ANP to evaluate the relative importance and interdependent relationships among the identified determinants based on expert pairwise comparisons. Thus, the integration of the qualitative and quantitative components occurred during the model-building stage, where the validated qualitative findings directly informed the development of the ANP network and questionnaire. This design is particularly appropriate for investigating zakat governance because it captures the complexity of interactions among zakat institutions, government, and society while enabling the prioritization of strategic solutions through a systematic decision-making framework consistent with the Triple Helix perspective<sup>30</sup>.

The empirical setting of this study was South Sulawesi, Indonesia, a province that possesses considerable zakat potential yet continues to experience relatively low realization rates and suboptimal performance, especially in relation to collection effectiveness and distribution efficiency. Empirical data were gathered from formal zakat management organizations, including the National Amil Zakat Agency (Badan Amil Zakat Nasional/BAZNAS), officially accredited Amil Zakat Institutions (Lembaga Amil Zakat/LAZ), and other relevant stakeholders involved in the governance and administration of zakat.

The implementation of this research followed four consecutive stages, as summarized in Table 1.

Table 1. Research Procedural Steps

Research Stage	Main Phase	Activity Description
Stage 1	Research Objective Formulation	Establish the research objectives aimed at identifying and prioritizing strategic institutional, societal, and governmental solutions that influence zakat performance. Define the analytical boundaries of the study and assess the appropriateness of employing a network-based decision-making framework.
Stage 2	Qualitative Structuring Process	Undertake a comprehensive review of the literature related to zakat governance, Islamic social finance, and regulatory frameworks. Assemble an expert panel comprising academics, regulators, and zakat practitioners. Identify, validate, and refine the determinants of proposed solutions. Organize these determinants into institutional, societal, and governmental categories. Examine the interrelationships among determinants and develop the ANP network model structure.
Stage 3	ANP Quantitative Assessment	Design an ANP pairwise-comparison instrument based on Saaty's 1–9 measurement scale. Conduct structured interviews with experts to obtain judgments. Develop pairwise comparison matrices and compute eigenvector-based priority weights. Assess the consistency of judgments using the consistency ratio criterion ( $CR < 0.10$ ). Combine stakeholder evaluations through the geometric mean approach and construct the unweighted, weighted, and limit supermatrices required for ANP analysis.

<sup>29</sup> Thomas L Saaty, "Decision Making with the Analytic Hierarchy Process," *International Journal of Services Sciences* 1, no. 1 (2008): 83–98, <https://doi.org/10.1504/IJSSCI.2008.017590>; Thomas L Saaty and Luis G Vargas, *The Analytic Network Process* (Springer, 2013).

<sup>30</sup> Cai and Lattu, "Triple Helix or Quadruple Helix: Which Model of Innovation to Choose for Empirical Studies?"

Stage 4	Priority Integration and Interpretation	Produce a comprehensive global ranking of strategic solutions. Analyze and interpret the interdependent relationships among determinants. Formulate policy recommendations and governance implications aimed at enhancing zakat performance in South Sulawesi.
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Source: Author's Analysis

This study employs a structured analytical framework developed to systematically identify and prioritize strategic solutions that influence zakat performance. The framework is built around a single overarching objective, namely the prioritization of strategic interventions aimed at improving zakat governance and overall performance. By concentrating on the prioritization of solutions, the study seeks to determine the interventions that are most effective and capable of generating the greatest impact across institutional, societal, and governmental dimensions. Such an approach facilitates a focused and action-oriented analytical process that supports evidence-based policymaking and informed strategic decision-making for strengthening zakat performance.

The analytical objective is organized into three interconnected clusters derived from the Triple Helix governance perspective, which highlights the complementary contributions of zakat institutions, society, and government in influencing zakat performance. The institutional dimension addresses internal organizational capabilities, encompassing amil competency, service delivery quality, governance effectiveness, transparency practices, and performance assessment mechanisms. The societal dimension represents community participation through factors such as public literacy regarding zakat, donor preferences, and the influence of religious leaders and public figures on compliance behavior and institutional trust. Meanwhile, the governmental dimension reflects the regulatory and structural context, including government commitment, regulatory coherence, data integration mechanisms, and digital infrastructure that supports zakat governance.

Table 2. Cluster and Sub- Cluster

Cluster	Sub-Cluster	Element (Node)	Operational Definition
Solutions	Institutional Aspect	Development of amil competency	Training, certification, and professional development programs to improve human resources.
		Enhancement of muzaki service quality	Improving convenience, accessibility, and service responsiveness.
		Strengthening organizational management	Improving governance structures, coordination, and internal decision-making systems.
		Improvement of transparency and accountability	Strengthening reporting systems and disclosure mechanisms.
		Strengthening institutional performance evaluation	Establishment of standardized monitoring and evaluation systems.
	Community Aspect	Enhancement of public zakat literacy	Educational and awareness programs to improve zakat understanding.
		Addressing alternative donation preferences	Strengthening institutional attractiveness and donor trust.

	Optimizing leadership and public figure involvement	Increasing advocacy roles of ulama and influential public figures.
Government Aspect	Strengthening local government support	Improving policy facilitation, coordination, and institutional backing.
	Strengthening regulatory certainty	Harmonizing zakat regulations across governance levels.
	Development of integrated data systems	Establishing unified zakat databases connecting stakeholders.
	Expansion of digital infrastructure	Improving technological platforms and information systems.

Overall, the framework comprises 12 solution determinants distributed across the three clusters. Five determinants are assigned to the institutional dimension, three determinants to the societal dimension, and four determinants to the governmental dimension. These determinants were derived from an extensive review of the literature and subsequently validated through consultations with an expert panel. This process ensured that the framework accurately represents the institutional conditions, societal characteristics, and governmental context of zakat governance while providing a robust foundation for ANP-based analysis.

The framework was implemented through the Analytic Network Process (ANP), a methodology that facilitates the examination of complex interdependencies among determinants. In contrast to conventional linear decision-making approaches, ANP acknowledges that zakat performance emerges from reciprocal interactions among institutional capacity, community participation, and regulatory effectiveness. By adopting a network-oriented perspective, the method enables the identification of both direct and indirect influences among determinants, thereby offering a more comprehensive and realistic representation of the governance dynamics underlying zakat management <sup>31</sup>.

To enhance the validity and reliability of the analytical framework and prioritization outcomes, an expert panel consisting of 15 participants was established. The panel represented three principal stakeholder groups corresponding to the Triple Helix governance structure. The first group comprised academics with expertise in Islamic economics, zakat, and Islamic social finance, who provided theoretical perspectives and analytical insights. The second group consisted of regulators responsible for zakat governance and policy supervision, contributing institutional and regulatory viewpoints. The third group included practitioners from zakat management organizations, particularly representatives of BAZNAS and officially authorized LAZ institutions operating in South Sulawesi, who contributed practical knowledge and operational experience derived from field implementation.

The recruitment of expert participants followed purposive sampling principles to ensure the relevance of expertise and the quality of judgments obtained. Specifically, participants were required to possess at least two years of professional experience in areas related to zakat management, Islamic social finance, academic research, or regulatory governance. Furthermore, experts were selected based on their demonstrated engagement in zakat-related activities, leadership positions within relevant institutions, or scholarly contributions to zakat governance and research.

<sup>31</sup> Thomas L Saaty, *Theory and Applications of the Analytic Network Process: Decision Making with Benefits, Opportunities, Costs, and Risks* (RWS publications, 2005); Saaty and Vargas, *The Analytic Network Process*.

Data were collected through structured individual interviews employing ANP-based pairwise comparison instruments. During the interviews, each expert assessed the relative importance of the determinants through systematic pairwise evaluations using a standardized judgment scale. Conducting the interviews individually ensured that expert opinions were expressed independently, thereby reducing the possibility of conformity effects and preserving the authenticity of individual expertise. This procedure also allowed researchers to obtain deeper clarification regarding the rationale underlying expert judgments, thereby strengthening the validity and reliability of the prioritization outcomes. Through this rigorous multi-stakeholder data collection process, the study ensured that both the analytical framework and the resulting priorities accurately reflect the institutional realities, societal conditions, and regulatory environment that shape zakat performance.

Subsequently, the ANP questionnaire was developed using Saaty’s fundamental nine-point scale (1–9), where a score of 1 represents equal importance and a score of 9 denotes extreme importance between compared elements<sup>32</sup>. Experts were asked to perform pairwise comparisons across clusters, among determinants within the same cluster, and among interconnected determinants in order to capture feedback effects and interdependent relationships. The use of structured individual interviews further ensured the independence of expert judgments while minimizing potential sources of bias.

Table 3. Pairwise Comparison Scale

Definition of importance	Explanation	Intensity
Extreme importance	An activity is overwhelmingly favored over another	9
Very, very strong		8
Very strong	An activity is favored very strongly over another	7
Strong plus		6
Strong importance	Experience and judgement strongly favor one activity	5
Moderate plus		4
Moderate importance	Experience and judgement slightly favor one activity	3
Weak or slight		2
Equal importance	Two activities contribute equally to the objective	1

The ANP model consists of clusters and nodes (specific determinants) interconnected through influence relationships. For each pairwise comparison matrix  $A=[a_{ij}]$ , where  $a_{ij}$  represents the relative importance of element  $i$  over element  $j$ , the reciprocal property applies  $a_{ij}=1/a_{ji}$ .

$$A\omega = \lambda_{max}\omega$$

where  $\lambda_{max}$  is the maximum eigenvalue of matrix A. In practical computation, the eigenvector was approximated through normalization, where each matrix element was divided by the column sum and then averaged across rows:

<sup>32</sup> Saaty, *Theory and Applications of the Analytic Network Process: Decision Making with Benefits, Opportunities, Costs, and Risks*; Saaty and Vargas, *The Analytic Network Process*.

$$\omega_i = \frac{1}{n} \sum_{j=1}^n \frac{a_{ij}}{\sum_{i=1}^n a_{ij}}$$

Consistency of judgments was evaluated to ensure logical coherence. The Consistency Index (CI) was calculated as:

$$CI = \frac{\lambda_{max} - n}{n - 1}$$

and the Consistency Ratio (CR) was obtained by comparing CI with the Random Index (RI):

$$CR = \frac{CI}{RI}$$

A matrix was considered consistent if  $CR < 0.10$ . The results indicate that all matrices across stakeholder groups met the acceptable consistency threshold, confirming the reliability of expert judgments.

Local priority vectors were assembled into a supermatrix:

$$W = \begin{bmatrix} W_{11} & W_{12} & \dots \\ W_{21} & W_{22} & \dots \\ \dots & \dots & \dots \end{bmatrix}$$

The weighted supermatrix was then raised to limiting powers:

$$\lim_{k \rightarrow \infty} W^k = W^\infty$$

The resulting limit supermatrix provides the final global priority weights representing the long-term stable influence of each determinant within the network.

Given the involvement of multiple stakeholder groups, aggregation of judgments was conducted using the geometric mean method, which preserves the reciprocal properties of pairwise comparisons. For each criterion, aggregated weights were calculated as:

$$\omega_i^{GM} = \left( \prod_{k=1}^m \omega_{ik} \right)^{\frac{1}{m}}$$

where  $\omega_{ik}$  represents the priority weight assigned by stakeholder group  $k$ , and  $m$  denotes the number of stakeholder groups.

All initial computational procedures, including normalization, eigenvalue estimation, Consistency Index (CI) calculation, Consistency Ratio (CR) assessment, and the aggregation of expert judgments through the geometric mean method, were conducted using Microsoft Excel to ensure methodological transparency and facilitate replicability. Following these preliminary calculations, the entire ANP framework was reconstructed and verified using Super Decisions software, which enabled the development of the network structure, the construction of unweighted, weighted, and limit supermatrices, and the generation of the final priority synthesis.

The ANP analysis ultimately generated a comprehensive prioritization of the institutional, societal, and governmental determinants affecting zakat performance. Through the integration of qualitative framework development, rigorous mathematical procedures, multi-stakeholder judgment aggregation, and software-supported network modeling, the methodology offers a robust analytical basis for identifying and prioritizing complex governance reforms within Islamic social finance systems.

## 2. DISCUSSION

### 2.1 Rater Agreement and Judgment Consistency Analysis

To strengthen the methodological robustness of the ANP framework, this study employed two complementary validation procedures: (1) Kendall's Coefficient of Concordance ( $W$ ) to measure the degree of agreement among evaluators, and (2) the inconsistency ratio to assess the internal logical consistency of pairwise comparison judgments within each stakeholder category. The outcomes of these validation procedures are presented in the following tables and are subsequently discussed through an integrated interpretation.

Table 4. Kendall's Coefficient of Concordance ( $W$ )

Cluster/Sub-Cluster	Kendall's $W$
Solution (Overall)	0.19
Institutional Solution	0.19
Community Solution	0.08
Government Solution	0.27

As presented in Table 4, the overall level of concordance among academics, regulators, and practitioners within the Solution cluster remains relatively low ( $W = 0.19$ ), suggesting limited consensus regarding the prioritization of strategic measures for improving zakat performance. This finding implies that although stakeholders generally acknowledge the necessity of reform, they differ in their assessments of which interventions should receive the greatest priority. Among the sub-clusters, the Government Solution dimension exhibits the highest level of agreement ( $W = 0.27$ ), indicating a comparatively stronger consensus concerning the significance of regulatory enhancement and policy-oriented initiatives. The Institutional Solution dimension records a lower concordance value ( $W = 0.19$ ), reflecting differences in stakeholder perceptions regarding organizational governance improvements and managerial reforms within zakat institutions. In contrast, the Community Solution dimension displays the lowest level of agreement ( $W = 0.08$ ), indicating considerable divergence in views related to public engagement strategies, literacy development, and efforts to strengthen community participation. Taken together, these results suggest that stakeholder perspectives on solution priorities remain fragmented. Such a pattern illustrates the challenges associated with harmonizing the viewpoints of multiple actors within the Triple Helix governance framework and emphasizes the importance of systematic and evidence-driven prioritization mechanisms to improve strategic alignment.

Table 5. Inconsistency Ratio Results (ANP)

Cluster/Sub-Cluster	Expert	Regulator	Practitioner
Solution (Overall)	0.00000	0.00000	0.00885
Institutional Solution	0.00222	0.00000	0.00000
Community Solution	0.00000	0.00000	0.00000
Government Solution	0.00000	0.00000	0.00000

The results displayed in Table 5 demonstrate that all inconsistency ratios associated with the Solution cluster are substantially below the widely accepted threshold value of 0.10, indicating a high degree of internal logical coherence in the pairwise comparison assessments. At the aggregate level, inconsistency values across all stakeholder categories are either zero or approach zero. The highest value appears within the overall Solution cluster for the practitioner group (0.00885); however, this figure remains considerably below the accepted tolerance level, confirming the stability and reliability of the judgment structure. Furthermore, all sub-clusters—including Institutional Solution, Community Solution, and Government Solution—record inconsistency ratios of 0.00222 or lower, with several values equal to zero. These findings indicate that experts, regulators, and practitioners demonstrated highly consistent reasoning when evaluating and prioritizing alternative solutions.

When considered together with the results of Kendall’s Coefficient of Concordance (W), two important conclusions can be drawn. First, the extremely low inconsistency ratios indicate that stakeholder judgments possess strong methodological validity and internal reliability. Second, although the Kendall’s W values within the Solution cluster reveal relatively limited agreement among stakeholder groups, this divergence should not be interpreted as evidence of random, irrational, or contradictory judgments. Rather, it reflects systematic differences in institutional viewpoints concerning the prioritization of strategic interventions. Consequently, the combined application of agreement and consistency assessments enhances the credibility of the findings by demonstrating that the ANP-based prioritization results are both statistically robust and substantively reflective of the multi-actor governance dynamics embedded within the Triple Helix framework.

## 2.2 Solution Priority

The ANP results for the Solution Cluster provide a strategic complement to the previously identified problem hierarchy by revealing stakeholder preferences regarding the most effective intervention domains for improving zakat performance in South Sulawesi. The aggregated priorities in Figure 1, calculated using the geometric mean (G-Mean), indicate a clear ranking among the three solution clusters: Government solutions (G-Mean = 0.4307) occupy the highest priority, followed by Community solutions (G-Mean = 0.2892) and Institutional solutions (G-Mean = 0.2801).

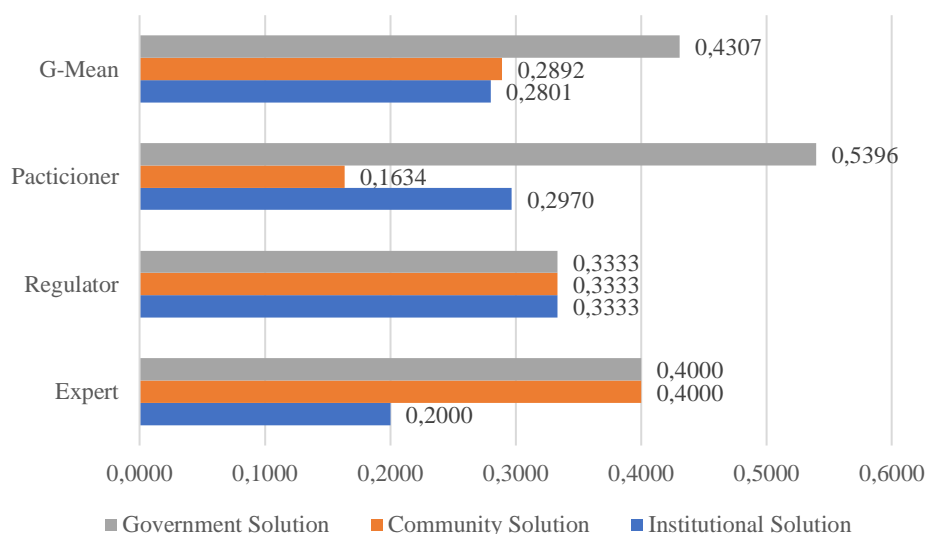


Figure 1. ANP Results on Solution Priority

At the aggregate level, the predominance of government-oriented solutions suggests that stakeholders perceive systemic reform at the policy and structural level as the most strategic lever for accelerating zakat performance. This finding is particularly noteworthy when juxtaposed with the earlier problem cluster analysis, where institutional problems ranked highest. The shift in priority from institutional problems to government solutions implies that while institutional weaknesses are recognized as the primary constraint, stakeholders view governmental intervention as the most powerful catalyst for systemic improvement.

Practitioners assign the highest weight to government solutions (0.5396), reflecting their operational experience with regulatory frameworks, digital systems, and inter-agency coordination. From their perspective, improvements in public policy support, integrated data systems, digital infrastructure, and fiscal incentives may directly enhance institutional efficiency and public trust. Experts also assign substantial weight to government solutions (0.4000), indicating recognition of the state’s coordinating and enabling role within the broader zakat ecosystem. Regulators, meanwhile, distribute equal weights across all solution clusters (0.3333), suggesting a more balanced or neutral assessment of intervention domains.

Community-based solutions rank second in the aggregated results (G-Mean = 0.2892). Experts attribute relatively high importance to this cluster (0.4000), reflecting an academic understanding that enhancing zakat literacy, public awareness, and normative engagement is essential for sustainable compliance and participation. Regulators again provide a balanced assessment (0.3333), while practitioners assign a lower weight (0.1634), possibly indicating that operational actors prioritize structural and policy reforms over purely social interventions. This pattern suggests that while community engagement is acknowledged as important, it may be perceived as more effective when supported by strong governmental frameworks and institutional credibility.

Institutional solutions rank third at the aggregate level (G-Mean = 0.2801), although the difference between institutional and community solutions is marginal. Regulators assign the highest weight to institutional reform (0.3333), followed by practitioners (0.2970) and experts (0.2000). This distribution reflects recognition that strengthening governance structures, managerial capacity, transparency systems, and

professional standards remains essential for performance enhancement. However, the lower aggregate ranking relative to government solutions suggests that stakeholders may perceive institutional reform as dependent upon enabling policy environments and regulatory support.

Collectively, the solution cluster analysis reveals a critical insight within the Triple Helix governance framework: although institutional weaknesses are identified as the primary source of performance constraints, stakeholders perceive governmental reform as the most influential intervention mechanism<sup>33</sup>. This reflects an understanding of the state as a meta-governor capable of orchestrating alignment among institutional actors and societal stakeholders<sup>34</sup>. Effective policy harmonization, digital integration, and coordinated support from public authorities are viewed as catalytic forces that can simultaneously strengthen institutions and stimulate community participation<sup>35</sup>. Strategically, the findings imply that improving zakat performance in South Sulawesi requires a government-led enabling framework that reinforces institutional capacity and community engagement in an integrated manner<sup>36</sup>. Rather than viewing the three solution domains as isolated, the ANP results suggest a hierarchical yet interdependent reform architecture in which governmental action functions as the systemic driver, institutional reform serves as the operational backbone, and community engagement ensures social legitimacy and sustainability<sup>37</sup>.

### 2.3 Institutional Solution Priority

The ANP results for the sub-cluster of Institutional Solutions provide a more detailed prioritization of internal reform strategies aimed at improving zakat performance in South Sulawesi. By disaggregating institutional reform into five strategic interventions, the analysis reveals both convergence and variation in stakeholder preferences, while the geometric mean (G-Mean) establishes an aggregate hierarchy of institutional reform priorities. At the aggregate level in Figure 6, the improvement of transparency and accountability emerges as the most critical institutional solution (G-Mean = 0.3020), significantly surpassing other alternatives. This is followed by strengthening organizational management (G-Mean = 0.1937) and strengthening institutional

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<sup>33</sup> Any Setianingrum, Nurul Huda, and Perdana Wahyu Santosa, "Prospects of Zakat as Tax Credit in a New Normal COVID-19 Period," *International Journal of Zakat* 6, no. 1 (2021): 25–38, <https://doi.org/10.37706/ijaz.v6i1.242>.

<sup>34</sup> Damanhur Damanhur, Ahmad Fauzul Hakim Hasibuan, and Ichsana Ichsana, "Analisis Problematika Pendistribusian Zakat Terhadap Masyarakat Miskin Di Provinsi Aceh," *E-Mabis Jurnal Ekonomi Manajemen Dan Bisnis* 23, no. 1 (2022): 168–75, <https://doi.org/10.29103/e-mabis.v23i1.800>.

<sup>35</sup> Abdulsalam Ahmed Sawmar and Mustafa Omar Mohammad, "Governance of Formal Zakat Institution in Saudi Arabia," *International Journal of Zakat* 4, no. 2 (2019): 23–40.

<sup>36</sup> Yusrawati Yusrawati, Tatik Mariyanti, and Nanda Septiani, "The Effect of Commitment to Managerial Performance Intervening Variable at the National Baznas of Riau Province," *Aptisi Transactions on Technopreneurship (Att)* 4, no. 2 (2022): 135–41, <https://doi.org/10.34306/att.v4i2.249>; A A Nasution et al., "The Implementation of the Islamic Accounting Standard for Zakah, Infaq, and Shadaqah (ZIS) in Indonesia," in *Lecture Notes in Networks and Systems*, ed. Alareeni B. and Hamdan A., vol. 1083 LNNS (Universitas Sumatera Utara, Medan, 2015), Indonesia: Springer Science and Business Media Deutschland GmbH, 2024), 444–56, [https://doi.org/10.1007/978-3-031-67431-0\\_43](https://doi.org/10.1007/978-3-031-67431-0_43).

<sup>37</sup> Hamzah Hamzah and Fifi Fata'tiatul Hidayah, "The Empowerment of Productive Zakat Influence on Independence of the Community," *International Journal of Nusantara Islam* 7, no. 2 (2020): 203–18, <https://doi.org/10.15575/ijni.v7i2.10000>; Fatimah Sakeenah Anuar, Norhayati Mohd Alwi, and Noraini Mohd Ariffin, "Financial Management Practices and Performance of Zakat Institutions in Malaysia," *Ipn Journal of Research and Practice in Public Sector Accounting and Management* 9, no. 01 (2019): 1–26, <https://doi.org/10.58458/ipnj.v09.01.01.0056>.

performance evaluation (G-Mean = 0.1937), which share identical aggregate weights. Slightly below these are the enhancement of muzaki service quality (G-Mean = 0.1569) and the development of amil competency (G-Mean = 0.1537). The distribution indicates that governance-oriented reforms are prioritized over purely operational or human capital interventions.

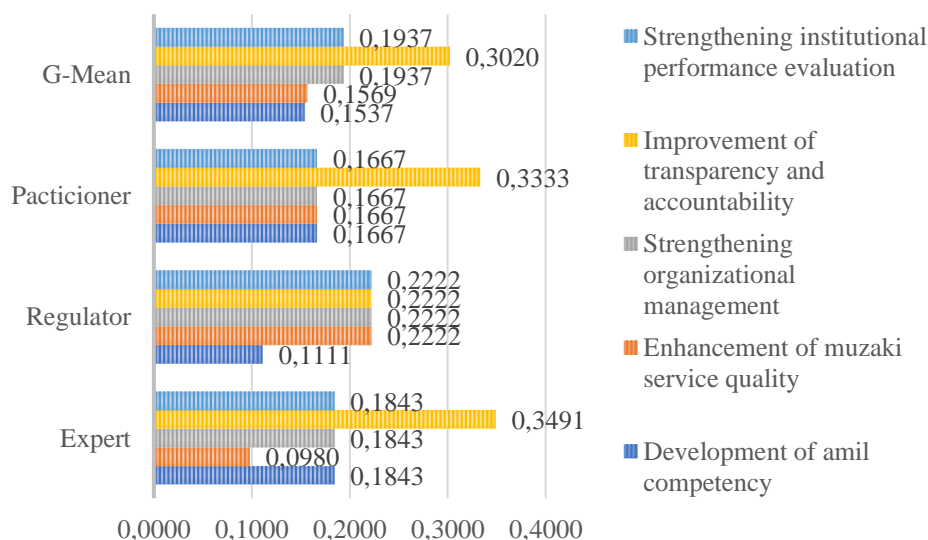


Figure 2. ANP Results on Institutional Solution Priority

The predominance of transparency and accountability reflects strong cross-stakeholder alignment. Experts assign the highest weight to this solution (0.3491), followed closely by practitioners (0.3333), while regulators also allocate a substantial weight (0.2222). This convergence underscores a shared recognition that transparency mechanisms—such as standardized financial reporting, digital disclosure systems, and open communication channels—are central to restoring and strengthening public trust. Accountability functions as a credibility anchor within zakat governance; without it, improvements in other domains may fail to translate into increased compliance or participation. Conceptually, transparency operates as a mediating variable linking institutional governance to community trust and governmental oversight, thereby reinforcing systemic legitimacy.

Strengthening organizational management and institutional performance evaluation occupy the second tier of priorities, each with a G-Mean of 0.1937. Regulators assign relatively high and equal weights (0.2222) to both dimensions, indicating an emphasis on structural alignment and measurable performance standards. Experts also attribute considerable importance to these reforms (0.1843), while practitioners provide moderate but consistent evaluations (0.1667). The prioritization of organizational management highlights the need for clearer strategic planning, improved internal coordination, and professionalized administrative systems. Meanwhile, strengthening performance evaluation reflects growing awareness of the importance of monitoring, impact assessment, and evidence-based decision-making. Together, these two solutions represent the structural backbone of institutional reform, ensuring that transparency initiatives are supported by robust managerial systems and measurable performance indicators.

In contrast, the development of amil competency (G-Mean = 0.1537) and the enhancement of muzaki service quality (G-Mean = 0.1569) receive comparatively lower

aggregate weights, although they remain strategically relevant. Regulators assign the lowest weight to amil competency development (0.1111), while experts (0.1843) and practitioners (0.1667) place somewhat greater emphasis on it. This suggests that although human capital development is recognized as important, it may be perceived as secondary to structural governance reforms. Similarly, the enhancement of muzaki service quality receives moderate emphasis, with regulators assigning relatively higher importance (0.2222) compared to experts (0.0980) and practitioners (0.1667). This distribution indicates that regulators view service improvement as an institutional responsibility closely tied to public satisfaction and compliance.

The sub-cluster analysis overall reveals a governance-centered reform orientation within the institutional solution domain. Stakeholders collectively prioritize systemic improvements in transparency, accountability, and organizational management over isolated capacity-building measures<sup>38</sup>. Within the broader Triple Helix governance framework, these findings suggest that institutional reform must begin with strengthening credibility and governance architecture, which in turn can enhance community trust and facilitate more effective governmental coordination<sup>39</sup>. By reinforcing transparency and accountability as the primary reform lever, the ANP results underscore the central role of institutional legitimacy in driving sustainable improvements in zakat performance in South Sulawesi.

#### 2.4 Community Solution Priority

The ANP results for the sub-cluster of Community Solutions provide a refined prioritization of societal-level interventions aimed at strengthening zakat performance in South Sulawesi. Unlike other sub-clusters, the distribution of weights among experts and regulators appears evenly balanced across all three alternatives (0.3333 each), indicating a normative view that community-based reforms should be addressed in an integrated and proportionate manner. However, practitioners introduce differentiation in their assessments, which ultimately shapes the aggregate ranking reflected in the geometric mean (G-Mean). At the aggregate level in Figure 7, two solutions share the highest priority: addressing alternative donation preferences and optimizing leadership and public figure involvement, each with a G-Mean of 0.3713. These are followed by the enhancement of public zakat literacy (G-Mean = 0.2574). This ordering suggests that, while literacy remains important, stakeholders perceive behavioral alignment and socio-normative mobilization as more immediate levers for improving zakat participation.

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<sup>38</sup> Ssu-Chi Pan et al., "An Anticipatory Practice for the Future of Science Parks: Understanding the Indices and Mechanisms on Different Spatial Scales of Regional Innovation Systems," *Sustainability* 16, no. 11 (2024): 4600, <https://doi.org/10.3390/su16114600>.

<sup>39</sup> Oleksandr Yermakov and Iryna Kostetska, "Environmental Challenges of the Green Economy: Case of Ukraine," *Iop Conference Series Earth and Environmental Science* 1111, no. 1 (2022): 12002, <https://doi.org/10.1088/1755-1315/1111/1/012002>; Zhenhua Chen and Junmei Cheng, "Economic Impact of Smart City Investment: Evidence From the Smart Columbus Projects," *Journal of Planning Education and Research* 44, no. 3 (2022): 1881–97, <https://doi.org/10.1177/0739456x221129173>.

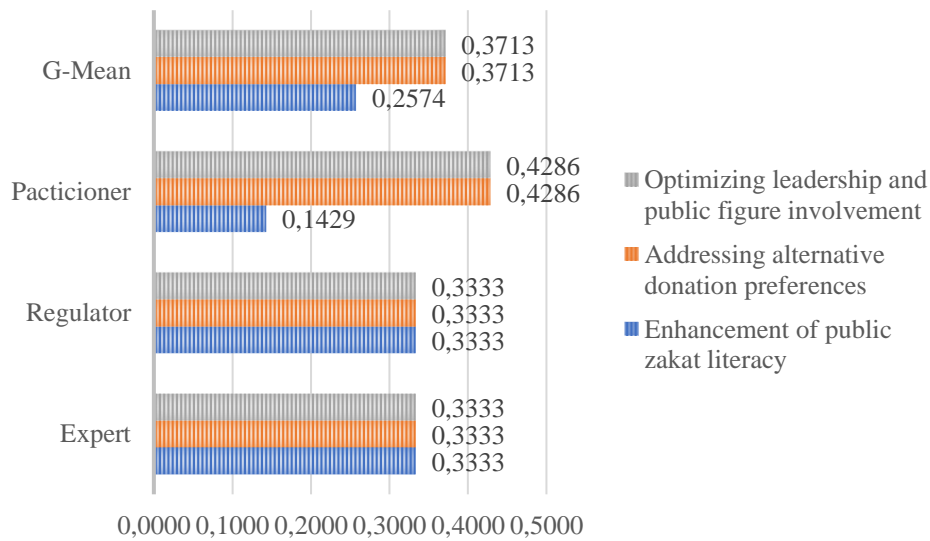


Figure 3. ANP Results on Community Solution Priority

The joint predominance of addressing alternative donation preferences reflects a recognition that fragmented charitable behavior—such as direct giving outside formal zakat institutions—reduces institutionalized zakat collection and weakens systemic coordination. Practitioners assign the highest weight to this solution (0.4286), likely reflecting operational realities where institutional collection is affected by informal donation practices. Experts and regulators assign equal weights (0.3333), suggesting theoretical and policy-level acknowledgment that redirecting donation flows toward formal institutions requires strategic engagement rather than coercive regulation. Conceptually, this solution is closely tied to trust-building and institutional credibility, as individuals often resort to alternative channels when institutional transparency or efficiency is perceived as inadequate.

Similarly, optimizing leadership and public figure involvement receives an identical aggregate priority (G-Mean = 0.3713). Practitioners again assign a relatively high weight (0.4286), while experts and regulators maintain balanced assessments (0.3333). This convergence highlights the strategic role of religious leaders, community figures, and influential actors in shaping normative compliance and collective behavior. In socio-religious contexts such as South Sulawesi, moral persuasion and symbolic endorsement from respected figures can significantly enhance public trust and motivate structured zakat payment through formal institutions. From a governance perspective, this solution represents an effort to bridge formal institutional frameworks with informal social authority networks, thereby reinforcing legitimacy and outreach effectiveness.

In contrast, the enhancement of public zakat literacy, while still significant (G-Mean = 0.2574), ranks third in the aggregated hierarchy. Experts and regulators assign equal weights (0.3333), indicating recognition of literacy as a foundational determinant of compliance and participation. However, practitioners provide a lower weight (0.1429), suggesting that from an operational standpoint, behavioral alignment and influential endorsements may yield more immediate impact than long-term educational initiatives. This does not diminish the structural importance of literacy; rather, it implies that stakeholders may perceive literacy enhancement as a gradual process whose effectiveness depends on concurrent improvements in institutional trust and leadership engagement.

In general, the ANP findings indicate that community-level solutions are perceived as predominantly socio-behavioral and normative in nature. While knowledge enhancement remains relevant, greater emphasis is placed on aligning public donation behavior with institutional channels and mobilizing influential leadership networks. Within the broader Triple Helix governance framework, these results suggest that societal reform strategies should not rely solely on awareness campaigns but must integrate behavioral incentives, trust-building mechanisms, and collaborative engagement with religious and public leaders. By prioritizing normative mobilization and behavioral alignment, stakeholders signal that strengthening the social legitimacy of zakat institutions is central to enhancing sustainable participation and overall performance.

### 2.5 Government Solution Priority

The ANP results for the sub-cluster of Government Solutions provide a strategic prioritization of policy-level interventions aimed at strengthening zakat governance in South Sulawesi. The aggregated results, calculated using the geometric mean (G-Mean), reveal a clear hierarchy among the proposed governmental reform strategies, with one solution emerging as distinctly dominant. At the aggregate level in Figure 8, strengthening regulatory certainty ranks first (G-Mean = 0.3460), significantly higher than the other three alternatives, which share identical aggregate weights: strengthening local government support (G-Mean = 0.2180), development of integrated data systems (G-Mean = 0.2180), and expansion of digital infrastructure (G-Mean = 0.2180). This distribution indicates that stakeholders perceive normative and legal clarity as the most critical governmental lever for enhancing zakat performance.

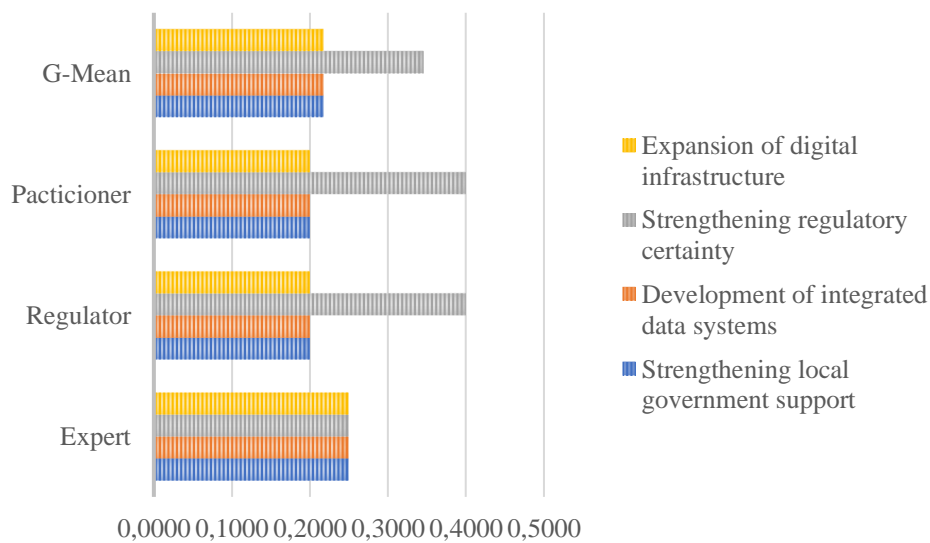


Figure 4. ANP Results on Government Solution Priority

The predominance of regulatory certainty reflects strong support from regulators (0.4000) and practitioners (0.4000), while experts assign a moderate yet consistent weight (0.2500). This convergence suggests that ambiguity, overlapping mandates, or inconsistent implementation of zakat regulations are perceived as major impediments to effective governance. For practitioners, regulatory uncertainty may create operational inefficiencies, compliance challenges, and coordination difficulties. Regulators, meanwhile, appear to recognize the need for clearer, more harmonized policy frameworks to enhance institutional alignment and enforcement consistency. Conceptually, regulatory

certainty functions as the normative backbone of the zakat ecosystem, shaping institutional authority, operational boundaries, and inter-agency coordination. Without a stable and coherent legal environment, other structural reforms may fail to achieve optimal impact.

In contrast, the remaining three solutions—strengthening local government support, developing integrated data systems, and expanding digital infrastructure—receive equal aggregate priorities (G-Mean = 0.2180). Experts distribute their weights evenly across all four alternatives (0.2500 each), reflecting a systemic view that governmental reform should be multidimensional and balanced. Regulators and practitioners assign slightly lower but identical weights (0.2000) to these three solutions, indicating moderate yet consistent recognition of their importance.

Strengthening local government support is viewed as essential for translating national zakat policies into effective regional implementation. Local government engagement can facilitate administrative coordination, budgetary alignment, and integration with regional development agendas. The moderate weighting suggests that while local support is important, it may be perceived as dependent upon clearer regulatory frameworks.

Similarly, the development of integrated data systems is recognized as a structural enabler of transparency, monitoring, and evidence-based policymaking. Although it does not surpass regulatory certainty in priority, its equal ranking with other structural reforms indicates acknowledgment of its role in improving coordination between zakat institutions and governmental bodies. Data integration enhances targeting accuracy, reduces duplication, and strengthens accountability mechanisms. The expansion of digital infrastructure also receives moderate and balanced support. Digitalization enhances service efficiency, reporting transparency, and stakeholder accessibility. However, the lower aggregate priority relative to regulatory certainty suggests that stakeholders may view technological improvements as secondary to normative and institutional clarity. In other words, digital tools are perceived as enablers rather than primary drivers of reform.

In general, the ANP findings indicate that community-level constraints are predominantly cognitive and socio-normative rather than purely behavioral. Low zakat literacy stands out as the central societal bottleneck, shaping both trust and compliance dynamics<sup>40</sup>. The relatively lower weight assigned to alternative donation preferences suggests that behavioral fragmentation is less problematic than informational deficits<sup>41</sup>. Within the broader Triple Helix governance framework, these results imply that strengthening community engagement requires coordinated efforts between institutions, regulators, and socio-religious actors to enhance literacy, reinforce normative commitment, and build sustained public trust<sup>42</sup>. Addressing community problems,

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<sup>40</sup> Tidarat Kumkit et al., “Members’ Perspectives of Good Governance Practice of Thailand’s Credit Union Cooperatives,” *Journal of Asian Business and Economic Studies* 31, no. 1 (2023): 55–73, <https://doi.org/10.1108/jabes-06-2022-0154>.

<sup>41</sup> M Zidny Nafi’ Hasbi, “The Relevance of the Human Development Index From an Islamic Perspective to Macroeconomics and Zakat: A Measure of the Development of the World’s Muslim Community,” *Muslim Business and Economic Review* 2, no. 2 (2023): 251–68, <https://doi.org/10.56529/mber.v2i2.189>.

<sup>42</sup> M K Hassan et al., “The National-Level Potential of Zakat and Its Integration into the Fiscal Framework: Sector-Specific Insights from the Economy of Bangladesh,” *International Journal of Islamic and Middle Eastern Finance and Management* 17, no. 1 (2024): 146–69, <https://doi.org/10.1108/IMEFM-09-2023-0313>.

therefore, necessitates not only awareness campaigns but also systemic alignment between institutional credibility, regulatory clarity, and socio-religious mobilization<sup>43</sup>.

### 3. CONCLUSION

This study identified and prioritized strategic solutions for improving zakat performance in South Sulawesi by applying the Analytic Network Process (ANP) within a Triple Helix governance framework. The findings indicate that government-based solutions constitute the highest priority, particularly strengthening regulatory certainty and policy support, followed by institutional reforms focusing on transparency, accountability, governance, and service quality. Community-based solutions, including zakat literacy and public engagement, remain important as complementary measures to support sustainable zakat development. These findings demonstrate that improving zakat performance requires coordinated efforts among government, zakat institutions, and society rather than isolated interventions by individual stakeholders. Methodologically, this study contributes by integrating the Triple Helix framework with the ANP approach to produce evidence-based strategic priorities for zakat governance. The proposed prioritization framework may assist policymakers and zakat management organizations in designing more integrated and effective governance strategies to enhance the socio-economic impact of zakat.

This research contributes theoretically, methodologically, and practically to the advancement of zakat governance within the Triple Helix framework. Theoretically, it enriches the Islamic social finance literature by emphasizing that zakat underperformance stems not only from technical or managerial issues but also from the interconnected dynamics of governance structures, regulatory alignment, and public trust. By applying the Triple Helix framework, the study highlights the importance of collaboration among academia, government, and zakat institutions in fostering effective governance. Methodologically, the study demonstrates the usefulness of the Analytic Network Process (ANP) in capturing complex interrelationships among institutional, societal, and governmental factors. The inclusion of inconsistency and inter-rater agreement tests strengthens the reliability of the prioritization process and offers a replicable framework for governance research in other contexts. Practically, the findings suggest a sequential reform agenda consisting of strengthening regulatory certainty and governmental coordination, improving institutional governance through transparency, accountability, service quality, and performance evaluation, and expanding community engagement through zakat literacy, leadership mobilization, and behavioral alignment with formal institutions.

Despite these contributions, the study is limited by its focus on South Sulawesi, its reliance on expert judgments, its cross-sectional design, and its emphasis on priority setting rather than causal impact assessment. Future research should conduct comparative and longitudinal studies, integrate objective performance indicators such as collection growth and distribution efficiency, and explore emerging themes including digital governance, behavioral-economic approaches to zakat compliance, and the integration of zakat within broader Islamic social finance ecosystems.

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<sup>43</sup> Aishat Abubakar Sahban and Fuadah Johari, "Intention to Patronise Zakat Institution at Kwara State, Nigeria: An Application of the Decompose Theory of Planned Behaviour," *Falah Jurnal Ekonomi Syariah* 6, no. 1 (2021): 1–16, <https://doi.org/10.22219/jes.v6i1.15234>.

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