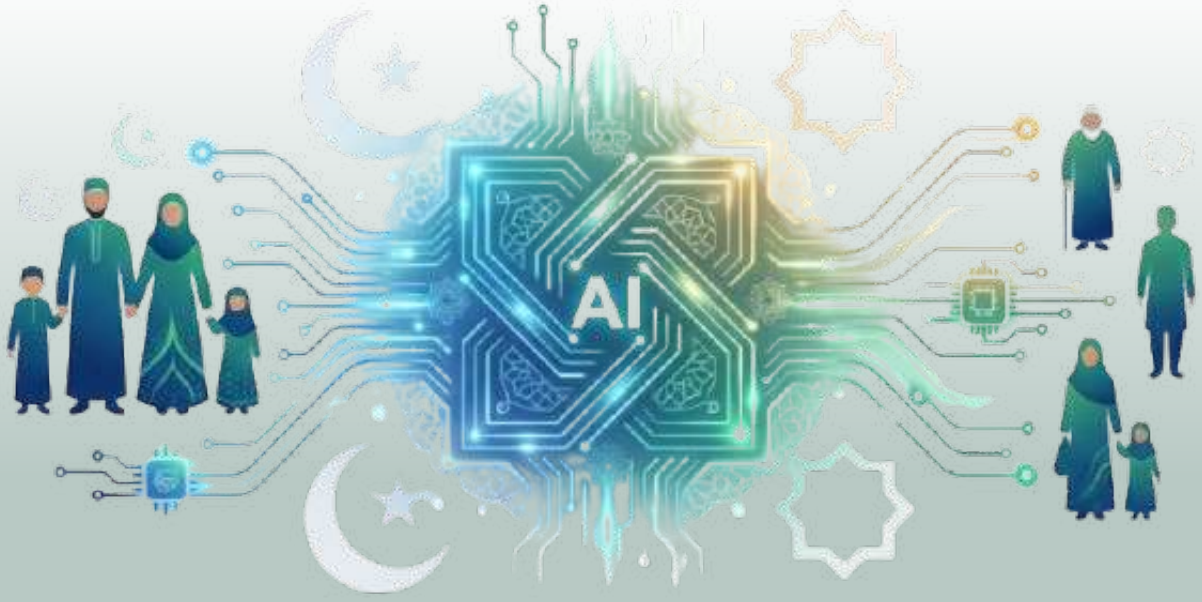

Harnessing AI for Zakat:

Building a Real-Time Needs-Matching System

By: Assoc. Prof. Dr Ismail Nizam
Associate Professor,
INCEIF University

Citation:
Nizam, I. (2026), 'Harnessing AI for Zakat: Building a Real-Time Needs-Matching System', *IF HUB*, Issue 1, January, pp. 6–9.

Introduction

Zakat, as one of the five pillars of Islam, has long served as a divine instrument of social justice, wealth redistribution, and poverty alleviation (Kahf, 1999). This 2.5 per cent obligatory contribution has sustained the poor, empowered communities, and served as a social safety net, deeply rooted in faith and accountability to God.

While technology is drastically improving efficiency in today's rapidly evolving digital world, zakat management systems in many Muslim countries still remain tied to manual, paper-based, or semi-digital processes. Although Muslim-majority nations such as Malaysia's Pusat Pungutan Zakat (PPZ), Indonesia's Badan Amil Zakat Nasional (BAZNAS), and the Gulf states'

zakat funds have established formal authorities, significant challenges persist (Abdullah & Suhaimi, 2018). Issues such as identification of the poor and the needy, delays in disbursement, inefficient matching of resources to needs, lack of transparency, and limited donor engagement weaken the full potential of this vital pillar of Islam.

Today, humanity is entering an age where Artificial Intelligence (AI) and Machine Learning (ML) are transforming the way we manage information, predict human needs, and allocate resources (Russell & Norvig, 2021). AI already drives personalised healthcare, optimises global supply chains, and strengthens humanitarian logistics. If applied thoughtfully, it could leverage these technological advancements to enhance the social, economic, and sustainability impact of zakat.

A modern, AI-driven zakat system in which recipients are identified in real time, their needs are assessed continuously, and funds from zakat payers are matched instantly, without delays, inefficiencies, or opacity, is no longer aspirational but necessary. Such a system could elevate zakat from an annual obligation to a dynamic, continuous engine of social empowerment.

This article explores the potential of AI-driven zakat systems, highlighting existing gaps, the conceptual framework for real-time matching, the associated benefits and risks, and pathways to implementation. The aim is not to replace the spiritual essence of zakat with technology, but rather to enhance its reach, efficiency, and impact in alignment with the higher objectives of Shariah (*maqasid al-Shariah*).

Gaps in the Current Zakat Management Practices

Zakat institutions across Muslim societies have achieved commendable progress in technology and digitalisation. For example, the Lembaga Zakat Negeri Kedah in Malaysia has developed advanced data collection and reporting via real-time dashboards. However, such systems are still highly dependent on human interaction and manual data entry. Despite progress in digitisation, many zakat institutions still face structural inefficiencies. The key challenges can be grouped into four main areas:

Recipient Identification Challenges: Determining who qualifies as a recipient (*mustahiq*) and registering them as recipients is central to zakat's integrity. In most Muslim communities and zakat institutions, this process still relies on community reporting, household surveys, and local mosque committees. However, such highly manual processes are time-consuming, prone to human error, and often fail to capture the dynamic reality of poverty (Wahid *et al.*, 2020).

Misaligned Disbursement: Slow, mismatched disbursements are a common problem in many zakat institutions. Even when funds are collected efficiently, disbursements are often delayed or mismatched due to the lengthy manual approval and payout process. For instance, a family in need of urgent medical treatment may not receive funds in time because zakat authorities release allocations quarterly or annually (Shaikh & Ismail, 2017).

> *The aim is not to replace the spiritual essence of zakat with technology, but rather to enhance its reach, efficiency, and impact in alignment with the higher objectives of Shariah (maqasid al-Shariah).*

AI-Driven Zakat Management: How Does It Work?

Steps	Process	Features
1	Real-Time Data Collection	Integration with national ID databases, social welfare registries, and health/education systems; mobile apps and SMS platforms; IoT sensors for poverty-related indicators.
2	Smart Recipient Profiling	Machine Learning models assess eligibility under Quranic *asnaf* categories, generating a vulnerability index that updates continuously (Obaidullah, 2016).
3	Automated Fund Matching	Funds are matched and disbursed in real-time via digital wallets, Islamic fintech platforms, or blockchain-secured transfers (Mohieldin *et al*., 2012).
4	Donor Transparency	Donors receive immediate feedback from the recipients on how their zakat was used, strengthening trust.
5	Continuous Monitoring	Dashboards track progress over time in real time, showing outcomes such as poverty reduction or improved access to education. These dashboard indicators can be aligned to *maqasid al-Shariah* and sustainability goals.

Donor Trust Deficit: Donors' trust in the zakat system is crucial to its success. Due to excessive manual paperwork and processes, there are loopholes in the systems that reduce the donor's trust. Gen Z donors, such as younger, tech-savvy Muslims, demand transparency. Modern donors want to know not just that their zakat was collected, but how their contribution has impacted lives. Traditional systems often provide generic reports, leaving a gap between donor expectations and institutional reporting (Budiman, 2019).

Operational Inefficiency: Problems such as administrative costs, duplicate claims, and fraud risks drain resources from reaching the poor. In many Muslim countries, governance issues in zakat management are not uncommon (Mohamad & Muhamad Sori, 2023).

Countries like Malaysia and Indonesia have taken steps to digitise payments and improve reporting, but real-time intelligence remains limited. The opportunity for AI lies in addressing these systemic weaknesses by shifting zakat management from reactive to proactive, from static to dynamic.

Existing social finance models offer useful benchmarks. For example, the mobile money platform (M-Pesa) in Kenya demonstrates low-cost, efficient financial flows (Jack & Suri, 2011). The UN World Food Programme's 'Building Blocks' project uses blockchain to deliver aid securely to refugees (WFP, 2019).

Implementing an AI-driven zakat management system requires five key strategic activities. The first activity is piloting the program, which can be initiated by institutions such as PPZ (Malaysia) and BAZNAS (Indonesia) in sectors such as healthcare. The second strategic activity is a fintech partnership. This implementation activity requires Islamic fintech start-ups and AI firms collaborate to build platforms. The third strategic activity is establishing a regulatory framework in which governments set standards for data, security, and reporting. The fourth is international collaboration, where zakat funds could be pooled internationally via the OIC or IsDB for cross-border poverty reduction and community-building initiatives, such as post-conflict reconstruction in Muslim countries (e.g., Gaza, Sudan, Yemen).

The final strategic implementation activity is ethical oversight. Rigorous Shariah advisory boards and AI ethics boards should be established at the international, national, and institutional levels to monitor compliance and fairness.

Conclusion

Zakat is not merely a ritual, but it is a divine mechanism to uplift the poor and rebalance society. In an age of AI and ML, Muslims must harness these technologies to ensure zakat fulfils its purpose with greater precision, speed, and transparency.

If implemented with proper planning and care, AI-driven systems can transform zakat into a real-time social safety net for the Ummah, powered by technology but guided by Islamic values and principles. Muslim nations could lead globally in demonstrating how faith-based social finance can combine Shariah principles with innovation to reduce poverty and promote justice.

REFERENCES

Abdullah, N. & Suhaimi, N. (2018), 'The efficiency of zakat institutions in Malaysia: a comparative study, *Journal of Islamic Accounting and Business Research*, Vol. 9 No. 4, pp. 626–645.

Budiman, M.A. (2019), 'The role of zakat in poverty alleviation: evidence from Indonesia, *International Journal of Islamic Economics and Finance Studies*, Vol. 5 No. 2, pp. 1–15.

Jack, W. & Suri, T. (2011), 'Mobile money: the economics of M-Pesa', *NBER Working Paper No. 16721*.

Kahf, M. (1999), 'The principle of socio-economic justice in Islam: with special reference to zakah', Islamic Research and Training Institute.

Mohieldin, M., Iqbal, Z., Rostom, A. & Fu, X. (2012), 'The role of Islamic finance in enhancing financial inclusion in OIC countries', *World Bank Policy Research Working Paper No. 5920*.

Obaidullah, M. (2016), *Introduction to Islamic Microfinance*, IBF Net (P) Limited, India.

Russell, S.J. & Norvig, P. (2021), *Artificial Intelligence: A Modern Approach*, 4th Edn., Pearson.

Shaikh, S.A. & Ismail, A.G. (2017), 'Role of zakat in sustainable development goals', *International Journal of Zakat*, Vol. 2 No. 2, pp. 1–12.

Mohamad, S. & Muhamad Sori, Z. (2023), 'Governance issues in managing zakat funds: the experience of selected zakat management institutions in Malaysia', *I-ICONS e-Proceeding*, Vol. 10 No. 1, Universiti Sains Islam Malaysia (USIM).

Wahid, H., Ahmad, S. & Kader, R.A. (2020), 'Factors influencing zakat compliance behavior: evidence from Malaysia', *Journal of Islamic Accounting and Business Research*, Vol. 11 No. 3, pp. 573–588.

World Food Programme (WFP) (2019), 'Building blocks: blockchain for humanitarian assistance – graduated project', available at: https://innovation.wfp.org/project/building-blocks