ENHANCING ZAKAT DISTRIBUTION WITH IOT: ELIMINATING MULTIPLE REGISTRATION BY POOR TO RECEIVE ZAKAT

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The Internet of things (IoT) is described as the network of physical objects— "things" or objects—that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the Internet. Today using IoT it is possible to measure the stress level and the poverty level of a household. As such, there is no reason why zakat distribution to the poor can be enhanced via linking it with IoT. The advantage of this could be that the poor who register with zakat administration authorities will have to register a single time and via the data receive from the household, the zakat administrator can determine whether the household is eligible to receive zakat and can deliver the zakat via a QR Code through the smart gadget with sensor connected to the internet that collects the data from the household or by physical delivery of zakat to them by locating their geographical location through GPS tracking enabled feature that will be embedded in the smart gadget.

The modus operandi of linking IoT with zakat distribution is simple. The zakat authorities will have to invest in a smart gadget with a sensor which could be a watch or a phone or any object with they think will be suitable for the purpose and then will have to provide the object to the zakat recipient who will undertake to use the gadget in the manner agreed with the zakat authority. Not only this, but the zakat recipient will have to sign on a document giving his consent to collect information from the household for subsequent zakat distribution purposes. The nature of the data collected and the use of the data collected shall be fully explained to the zakat recipient when obtaining his/her consent. By doing this, the idea is for the zakat authority to collect information from the households and utilize it to determine whether the respective household is eligible to receive zakat without the zakat recipient physically being present at the zakat office to complete a form for the purpose and submitting the required documents that need to be attached with the form and going through a verification process such as a face to face interview to determine his/her eligibility to receive zakat. When some of the zakat recipients are asked about the registration process to receive zakat, they have expressed that the process is similar to washing their dirty linen in public as the cross-verification process sometimes leads to humiliation and multiple registration processes make them feel shameful as they are required to physically go every time to the zakat authority and do the registration if they wish to receive zakat money again.

There are different types of smart gadgets that could be considered by zakat organizations in this regard. McKinsey & Company (2015) identified 9 settings in which IoT can be used and it is shown in the figure below.

Setting		Description	Examples
	Human	Devices attached to or inside the human body	Devices (wearables and ingestibles) to monitor and maintain human health and wellness; disease management, increased fitness, higher productivity
	Home	Buildings where people live	Home controllers and security systems
	Retail environments	Spaces where consumers engage in commerce	Stores, banks, restaurants, arenas—anywhere consumers consider and buy; self-checkout, in-store offers, inventory optimization
	Offices	Spaces where knowledge workers work	Energy management and security in office buildings; improved productivity, including for mobile employees
	Factories	Standardized production environments	Places with repetitive work routines, including hospitals and farms; operating efficiencies, optimizing equipment use and inventory
	Worksites	Custom production environments	Mining, oil and gas, construction; operating efficiencies, predictive maintenance, health and safety
	Vehicles	Systems inside moving vehicles	Vehicles including cars, trucks, ships, aircraft, and trains; condition-based maintenance, usage-based design, pre-sales analytics
	Cities	Urban environments	Public spaces and infrastructure in urban settings; adaptive traffic control, smart meters, environmental monitoring, resource management
	Outside	Between urban environments (and outside other settings)	Outside uses include railroad tracks, autonomous vehicles (outside urban locations), and flight navigation; real-time routing, connected navigation, shipment tracking

SOURCE: McKinsey Global Institute analysis

IoT has been successfully used by the World Bank in several projects. For instance, it was reported that in India, IoT devices were given to the households to identify homes with toxic levels of air pollution was provided to which intervention was later made with cash incentives to motivate people to move to clean cooking and heating to save lives as it is estimated that indoor pollution from cookstoves kills 4.3 million people globally per year (Kim, 2018). Therefore, if zakat organizations could invest in a smart gadget that could be given to the zakat receivers under the legal category of poor, that would help them to collect the required data from the household with the consent of the zakat receiver and use it to manage the zakat distribution effectively and efficiently.

Zakat is the third pillar of Islam and the legal recipients of it are stated in Quran. As such, zakat organizations need to ensure that they establish processes and mechanisms to ensure that the zakat recipients who deserve zakat most are identified and they are given their rightful portion of zakat fairly without making the processes too difficult or cumbersome. As such, zakat organizations need to conduct further research to find out the possibility of linking zakat with IoT to enhance the zakat distribution process. Via IoT, the idea is to develop an Ihsan based mode for zakat disbursement to the most deserved recipients of zakat.