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## The Role of Government in Zakat Development in the Era of 4.0 Industrial Revolution

Abdul Ghafar Ismail<sup>1</sup>

### Abstract

In this study, we will be looking at the impact on zakat development, because Baitulmal is not considered fully mainstreamed. Industry 4.0 would create a change on the speed of collection and distributions are made. It means that government as zakat regulator and baitulmal as operator must understand how to develop and implement regulations and strategic growth plans while working with government to create solutions. The study suggests a few of the possible solutions. first, Industry 4.0 brings with it a set of unique tax challenges for both business executives and policymakers. Industry 4.0 scenarios would reflect the magnitude of the challenges ahead: the shift from just-in-time to on-demand manufacturing; the rise of aftermarket support; and the shift from products to data-driven services. Second, blockchain as alternative payment system can be used as money for paying zakat and also a form of savings that should be considered as zakat on property. Third, Industry 4.0 would affect the way the circular economy can be implemented.

*Keywords:* government, zakat, Industry 4.0, Baitulmal, circular economy, payment system

*JEL Classification:* E58, H00, H83, O38, P43,

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## 1. Introduction

The industrial revolution has reached the fourth version. This transition is so compelling that it is being called as Industrial Revolution 4.0 (hereafter Industry 4.0). From the first industrial revolution (mechanization through water and steam power) to the mass production and assembly lines using electricity in the second, the fourth industrial revolution take what was started in the third with the adoption of computers and automation and enhance it with smart and autonomous systems fueled by data and machine learning.

Now, and into the future as Industry 4.0 unfolds, computers are connected and communicate with one another to ultimately make decisions without human involvement. A combination of cyber-physical systems, the Internet of Things and the Internet of Systems make Industry 4.0 possible and the smart system a reality. As a result of the support of smart machines that keep getting smarter as they get access to more data, our economy will become more efficient and productive and less wasteful. Ultimately, it is the network of these machines that are digitally connected with one another and create and share information that results in the true power of Industry 4.0.

For a newly independent country, like Malaysia, it only feels the presence of this revolution only for the third and fourth version. However, each country (for example Hungary (Nagy et al (2018)) and other countries (World Economic Forum (2018))) would expect that the impacts are huge. On the other hand, government tries to adopt a free market approach in dealing with economic activities during the industrial revolution. In Malaysia, zakat is considered as part of public finance matter and the efficiency of the zakat authority (hereafter Baitulmal) who manage the zakat and its ability to target the socioeconomic development would be subject to public scrutiny. The transformation programs such as free market and Industry 4.0 changes the landscape of zakat development. They are two, it acts to preserve the growth of wealth and to protect the rights of asnaf. To accomplish these aims, the government passed laws and created governance. It shows that government has a role in zakat development.

We notice that Industry 4.0 is expected to explode on the back of a range of technologies that are blurring the distinction among physical, digital and biological spaces. Industry 4.0 will also transform the operations, processes, and supply chain management of Baitulmal. At the same time, Baitulmal also need to find the talent or knowledge to know how to best adopt it for their unique use cases, several others are implementing changes today and preparing for a future where smart machines improve their operations.

Malaysia is well-positioned in the readiness to benefits from Industry 4.0. In this study, we will be looking at the impact on zakat development, because it is not considered fully mainstreamed Baitulmal. Industry 4.0 would create a change on the speed of collection and distributions are made. It means that government as zakat regulator and baitulmal as operator must understand how to develop and implement regulations and strategic growth plans while working with government to create solutions. The study will suggest a few of the possible solutions.

The discussion will be organized into several sections. Section 2 discusses the government initiatives in accelerating the zakat development. Section 3 highlights the Malaysia's Industry 4.0 policy document. The proposed solution in line with Industry 4.0 will be discussed in section 4. The way forward will be presented in section 5. Section 6 produces the conclusions.

## 2. Government Initiatives in Relation to Zakat Development

The Government have a wider range of plans and schemes in place to promote and accelerate the zakat development and to ensure that the ambition of being a fully-developed zakat system could be fully realized. Many of the government's initiatives fall under the responsibility of Jabatan Kemajuan Islam Malaysia, which falls under the Prime Minister's Department. Later, Jabatan Wakaf, Zakat dan Haji are responsible for implementing the transformation programs and asses the progress of these initiatives. We will highlight these initiatives.

## (a) Privatization Policy

The public sector is the part of the economic system that is run by government agencies. Privatization involves either sale of government-held assets or removal of restrictions preventing private individuals and businesses from participating in a given industry. The privatization of the public sector has been one of the defining policies of the world economy since the 1970s. State-owned utilities and monopolies have been sold off or transferred to the private sector on the neoliberal theory that “the market” is more rational and better able to manage such enterprises. Under the Pinochet dictatorship, Chile set the stage, moving towards privatizing the state in the 1970s. Under Thatcher, the U.K. began privatizing in the 1980s. Malaysia also adopted the privatization in 1980s under the premiership of Tun Mahathir Mohamad. Since, then it became a trend in many parts of the developed and developing world.

Proponents of privatization maintain that the competition in the private sector fosters more efficient practices, which eventually yield better service and products, lower prices and less corruption. On the other hand, critics of privatization argue that some services - such as health care, utilities, education and law enforcement -- should be in the public sector to enable greater control and ensure more equitable access.

In Malaysia, the privatization of a section of Majlis Agama Islam (hereafter, the religious authority), who is given the authority to manage Islamic Religious Revenues (including zakat), happened in 1990s as the results of the introduction of privatization policy in 1980s. As shown in Table 1, the privatization of zakat collection was initially initiated by Majlis Agama Islam Wilayah Persekutuan with the establishment of Pusat Pungutan Zakat in December 1990. It was followed by the religious authority in other states. The adoption of privatization policy was not fully taken place at the same time and privatization also produced a different organizational structure of the religious authority.

The formation of the privatized subsidiary or by appointing individual amil has produced a new form of governance in managing zakat funds. In addition, the zakat authority inculcates the values of integrity, honesty and transparency that have been accepted by the zakat authority in performing their duties in the management of zakat. They have also improved its excellence as a respectable and revered zakat institution (hereafter Baitulmal) by constantly promoting its work in da’wah to ensure that more people are obligated to perform one of the pillars of Islam. Besides that, the distribution of zakat is greatly improved to the eight groups that are qualified to receive Zakat aid (asnaf) as stipulated in the Qur’an, through its several asnaf development programs such as social development, educational, economic, humanitarian, and Islamic institution development programs. The religious authority has also applied the best management practices in generating and uplifting excellence not only to asnaf groups but also including the general population in principle.

The privatization policy has increased the collection of zakat. As shown in columns four, five and six, it shows that the collection has increased sharply from 1993 to 2015.

Table 1: Zakat Management in Malaysia by State

State	Amil	Year of Establishment	Collection 1993 (RM million)	Collection 2000 (RM million)	Collection 2015 (RM million)
Johor	Individual, agency, corporate and institutional	n.d	9.1	28.0	239.9
Kedah	Individual and agency	n.d	3.7	11.9	134.0
Kelantan	Individual and agency	n.d	6.8	15.7	161.9
Melaka	Individual and special corporate entity (Pusat Zakat Melaka)	n.d	3.3	8.4	66.0
Negeri Sembilan	Individual, institutional and special corporate entity (Pusat Zakat Negeri Sembilan)	n.d	4.1	10.6	95.2
Pahang	Individual, institutional and special corporate entity (Pusat Pungutan Zakat Pahang)	n.d	4.1	14.4	118.1
Perak	Individual and agency	n.d	9.2	16.4	132.6
Perlis	Individual and agency	n.d	2.0	3.3	n.a
Pulau Pinang	Individual, institutional and special corporate entity (Zakat Pulau Pinang)	n.d	3.8	14.8	92.8
Sabah	Individual and agency	n.d	1.5	4.3	61.8
Sarawak	Individual and agency	n.d	2.2	4.9	68.6
Selangor	Individual, institutional amil special corporate entity (Lembaga Zakat Selangor)	1994	10.3	46.3	627.2
Terengganu	Individual and agency	n.d	6.7	20.7	126.6
Wilayah Persekutuan	Individual, institutional amil special corporate entity (Pusat Pungutan Zakat)	1990	26.9	58.9	565.8

Sources: Ismail and Muji Tahir (2016)

## (b) Entrepreneurship Development Program

The main functions of Baitulmal are to strengthen the management of zakat; smoothen the administration, collection and distribution of zakat; reshape the new image of Baitulmal to be more progressive and proactive; and be an Islamic economic institution. As an Islamic economic institution means that it has to be closely linked with socioeconomic development<sup>2</sup> which is measured with socioeconomic indicators such as GDP, life expectancy, literacy, level of employment and level of prosperity. It means that socioeconomic development incorporates public concerns in developing social policy and economic initiatives. Therefore, the aim to bring about sustained improvement in the well-being of the individual, groups, family, community, and society at large is very paramount. It has been done through the entrepreneurship development program.

One of the recipients of zakat is the poor and needy (asnafs). The entrepreneurship development program was done to help the asnafs to exit from the life of poverty and hardships and finally become successful entrepreneurs. These asnafs might have the basic business knowledge and skills, but lack the capital in starting and working up the business. The empowerment of these asnafs was done by providing with the capital to start their business or even to expand their current business. However, the successful rate was very low, Baitulmal

<sup>2</sup> Socioeconomic development is clearly stated as the main functions of the establishment of the religious authority

has changed the strategy by focusing at the sustainability of their business. The entrepreneurs have to go through five stages - business exposure, education, implementation, marketing and finally monitoring.

The main benefits derived from the entrepreneurship development program, as reported in Haron et al (2010), were to help the poor to change their lifestyle; help them earn more income; help them to be respected socially as they do not have to beg for help and help to generate more household income economically. From these programs, some of the asnafs have successfully exited from poverty, and as such they are no longer receiving the zakat while now are contributing by paying the zakat. It means that the entrepreneurship development program has helped the asnafs to exit from poverty as well.

### **(c) Computer and Automation Revolution**

The system of collecting zakat before 1990s has several disadvantages. The shortcoming was that that the zakat system was poorly organized and deficiencies a detailed description of how to calculate the zakat of property where the focus was only on zakat properties and the lack of payment facilities for payers. Hence, the third industrial revolution has benefited a lot from the use of computers and automation, creating more efficiency in most organizations like Baitulmal.

In line with the third industrial revolution, Baitulmal used the computer for the purpose of collecting zakat. In addition, the supporting system like accounting, administration and marketing has also been computerized. The results were proven in their delivery system. Its becomes more efficiency and effectiveness. The collection of collection of zakat, as shown in columns 4,5 and 6 has increased from year to year. Although, other factors such as aggressive forms of marketing and the creation of various programs and established several social, welfare and educational centers has helped in increasing the awareness of the Muslim community for paying zakat.

### **(d) Good Governance**

A good governance should encompass several concepts such as accountability, transparency, corruption, election, participation, democracy, free media, access to information, human rights and rule of law. Therefore, an improvement in the governance system will help improve an organization like Baitulmal. By having a good governance, it can improve the socioeconomic development of a country. However, a good governance is influenced by many factors like governance characteristics that comprise of board size, proportion of professionals on board, active board of directors, audit committee and organizational structure and other administrative and structural factors. The later also include the privatization policy and the adoption of technology. These administrative and structural reforms would lead to better efficiency of Baitulmal. The government introduced the governance framework via the state law and enactment. The legal governance produces a complex set of processes, rules, tools and systems used by Baitulmal to adopt, implement and monitor an integrated approach to zakat matters.

### **(e) Government regulation in easing of the payment system**

The third industrial revolution has created a new wave of payment system. In line with this development, Baitulmal joined the payment system that resulted in several new mechanism in paying and distributing the zakat:

- (i) E-zakat payment – This payment system allows the payer to visit the e-zakat portal at Baitulmal's website and click on the E-Zakat Pay payment to pay zakat. The payer only needs to have a bank account, ID and password to make online payment at the preferred bank.
- (ii) Internet Banking - payments via this method are open to payer who has Savings or Current Accounts with appointed Collection Agent and register as users of the internet banking facility.

- (iii) Post Office Branches - payment of property zakat can also be made via Pos Malaysia counter. The payer may keep the copy of applicant Payment Zakat Slip for reference purposes
- (iv) Bank Counter - payment of property zakat can be made through bank appointed by Baitulmal using Zakat Payment Slip provided at bank counters.
- (v) Debit cards – this card can also be used at Baitulmal counters. The appointed banks accept zakat payment at their counter.
- (vi) Credit Card - credit card payments are an approach taken by the Lembaga Zakat Selangor (MAIS), to provide alternate channels to zakat payers.
- (vii) Salary Deduction - the latest innovation in providing the convenience of paying for zakat payers through salary deductions. Adjusting Tax With Zakat - According to Government Gazette dated 1st January 2004, every zakat payment can be deducted from Monthly Tax Deductions.
- (viii) Phone Banking – a service provided by Islamic financial institution, that enables customers to perform over the telephone a range of financial transactions which do not involve cash or Financial instruments (such as cheques), without the need to visit a bank branch or ATM.
- (ix) SMS – by using bank SMS facilities, it makes a complete and comprehensive banking payment system alternative. The payer can access the zakat payment service provided through any cell phone service network

### 3. Malaysia's Industrial Revolution 4.0 Policy

Malaysia is now slowly moving past the third industrial revolution and are advancing into Industry 4.0.<sup>3</sup> Unlike the more drastic changes from between the previous industrial revolutions, however, Industry 4.0 simply takes the automation and machinery from the third and makes it better. How?

In 2018, Malaysia issued a policy document related to Industrial Revolution 4.0 ([https://www.miti.gov.my/miti/resources/National%20Policy%20on%20Industry%204.0/Industry4WRD\\_Final.pdf](https://www.miti.gov.my/miti/resources/National%20Policy%20on%20Industry%204.0/Industry4WRD_Final.pdf)). The trust of this policy document is to strengthen the on-going structural reforms to become a developed nation that is equitable, sustainable and inclusive by 2025. Basically, the aim of this policy is to support all sectors in the economy. Nations, industries and organizations that embrace Industry 4.0 technologies and processes are expected to gain a lot of benefits from this policy framework.

The policy framework has identified the following key drivers: (a) Technology adoption and diffusion are particularly important for SMEs and underscore the importance of creating production networks and collaborations with MNCs and large companies; (b) Human capital focus is key to creating an accelerated shift in productivity, especially as Malaysia has been relying on low labor cost in the past, with a declining share of skilled labor; (c) Strengthening institutional frameworks underpins the role of Government in creating the right ecosystem and facilitating collaborative platforms; and (d) On global trade and investment, Malaysia is already well-integrated into regional value chains and exhibits a very good trade infrastructure, which is reflected in its strong global ranking (7th).

The policy framework has also identified five themes that drive the development of an end-to-end Industry 4.0 ecosystem in Malaysia: (a) upskilling and reskilling existing and future labor pool need to be at the heart of Malaysia's transformation; (b) Inclusive involvement of SMEs is critical to power a holistic step up in labor

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<sup>3</sup> Malaysia is among the 25 countries who is well-positioned to benefit from Industry 4.0 according to World Economic Forum report [http://www3.weforum.org/docs/FOP\\_Readiness\\_Report\\_2018.pdf](http://www3.weforum.org/docs/FOP_Readiness_Report_2018.pdf)

productivity across the economy; (c) significant evolution in innovation capabilities and collaborative platforms is essential to foster the development of, and access to, cost-effective technologies that address specific sector needs; (d) focused funding support is needed to kickstart the adoption and complement private sector investments; and € good digital infrastructure is required to enable reliable and secure Industry 4.0 operations.

By having the key drivers and ecosystem, the policy framework focuses on the following areas: vision, goals, shift factors and enablers. Malaysia's vision for the manufacturing sector in the next 10 years – (i) strategic partner for smart manufacturing and related services in Asia Pacific; (ii) primary destination for high-tech industry; (iii) total solutions provider for advanced technology.

The goals are to guide and measure the progress of transformation via labor productivity growth, manufacturing contribution to economy, innovation capacity and high-skilled jobs.

The policy framework also suggest a set of shift factors that need to be optimized in a balanced manner: people, process and technology. Finally, the enabling factors that determine the strategies, policies and action plans are: (i) funding – funding and outcome based initiatives; (ii) infrastructure - enabling ecosystem and efficient digital infrastructure; (iii) regulation – regulatory framework and industry adoption; (iv) skill and talent - upskilling existing and producing future talents; and (v) technology - access to smart technologies.

This policy framework shows that the Government will act as the enabler in enhancing the ecosystem for Industry 4.0. The industries and organizations should step up and speed up its adoption of Industry 4.0 by leveraging on this Policy.

#### **4. The Solutions**

Industry 4.0 will bring both promises and challenges. Essentially, the substance of this revolution lies in the application of available new technologies. We have seen how application of information technology and the Internet of Things have opened up market supply chains, easing access to products from the most remote areas, bringing wealth and prosperity to even the rural areas.

Many organizations might still be in denial about how Industry 4.0 could impact their business or struggling to find the talent or knowledge to know how to best adopt it for their unique use cases, several others are implementing changes today and preparing for a future where smart machines improve their business. In relation to zakat, Industry 4.0 would create a change on the speed of collection and distributions are made. It means that government as zakat regulator and Baitulmal as operator must understand how to develop and implement regulations and strategic growth plans while working with government to create solutions. Here are a few main example of the possible solutions.

##### **Solutions 1 – The Necessity of an Updated Zakat System.**

Industry 4.0 has rapidly become a priority for enterprises and governments alike due to multiple benefits: It can enable developed nations to reindustrialize, and it can lower the barriers to entry for developing nations. Realizing these benefits, however, necessitates a profound transformation in business models: from economies of scale to on-demand manufacturing; from standardization to mass customization; from a linear, reactive supply chain to an agile, connected organization that can anticipate and respond to changes in the market.

While we are beginning to understand the economic, business, and social impacts of these changes, the impact of Industry 4.0 on tax policies is still largely ignored. Hence, due to tax deduction, it will affect the zakat system. The foundations of the current international tax system were built a century ago to address the changes of the Industry 2.0, and have been updated only slightly to address the changes brought forth by Industry 3.0. Historically, tax systems have been developed to reflect the cost optimization strategies defining industries during the 20th century. Examples vary, from tax incentives for investment, to transfer pricing regulations targeting complex supply chains and tax deduction.

However, Industry 4.0, brings with it profound change. New industrial strategies are based on revenue, not cost. And that revenue comes from multiple sources, with supply chains growing leaner, more customized,

and flexible in the face of an on-demand economy. Our international tax system is simply no longer fit for an age where predictive maintenance, artificial intelligence (AI), and smart factories rule the day.

How can an international tax system built around the traditional model of manufacturing cost-saving strategies deal with a data-driven, connected, and self-adaptive network? It can be challenging for regulators to adapt the tax system to adjust to and foster the growth of Industry 4.0. This gap between what the new industrial model needs and the ability of tax policymakers to keep pace with change triggers substantial risks of multiple taxation that will be detrimental to industrial companies.

There are three different Industry 4.0 scenarios that reflect the magnitude of the challenges ahead: the shift from just-in-time to on-demand manufacturing; the rise of aftermarket support; and the shift from products to data-driven services.

While each Industry 4.0 scenario described in this study brings with it a set of unique tax challenges for both business executives and policymakers, certain policy questions remain consistent across all, as described below:

**(a) Direct tax**

Historically, current transfer pricing regulations and approaches have been developed to address traditional linear supply chains, with clearly defined roles for entities and the sale of goods between them. As supply networks become less centralized and more interconnected, it will be vital to consider where value is generated in a supply chain, how or where the value should be taxed, and which entity should be liable for the tax.

An owner of a business operate in more flexible and interconnected supply networks. Business owner and policymakers (government) should consider the following questions: How will both adapt their tax and transfer pricing rules to deal with situations where the supply chain changes are needed? As supply networks become less centralized, and data is harvested from across various entities, where is the value to be taxed? Is the value in the data itself, the monetizing of the data, or the technology that creates the data? If many parts of the group contribute to collecting and analyzing data, what method should be used to allocate profits between them? Will this even be practical when the nature, amount, and value of data changes daily? How much is direct tax affect the collection of zakat?

**(b) Indirect tax**

Business entity must consider whether new establishments (i.e., fixed places of business) will be created globally, the nature of what is being supplied (i.e., goods or services), and what this means for their global value-added tax (VAT) compliance. For VAT purposes, most services are treated as supplied where the recipient is located, which can be a challenge where data generation and data analysis are performed in separate locations. Similarly, the rules regarding the supply of both goods and services create different compliance and reporting obligations.

Specifically with direct-to-consumer supply chains, manufacturers may be transacting in countries where they are not established, exposing them to VAT-related interest and penalties. For additive manufacturing, is there a digital good crossing border or should one only consider the tangible product location once printed? The process for determining the correct tax treatment can become significantly more complex when a tax team is dealing with a fluid pool of suppliers, in additional jurisdictions with differing rules. On-demand manufacturing also results in the need for manufacturers to make faster decisions regarding the appropriate tax treatment which finally affect the collection of zakat.

### (c) **Employment tax**

As workers find new roles and new ways of working in an Industry 4.0 ecosystem, tax considerations will vary by use case. Tax regulation will adapt, eventually. The shift will likely be slow and inconsistent from one region to another. But by understanding the specific ways in which Industry 4.0 technologies shift the way businesses operate, policymakers and executives alike can begin to consider ways tax policy will need to adapt to Industry 4.0.

Finding the right talent with the skills to use advanced technologies may be difficult, so the selection of future supply chain locations may be driven increasingly by the availability of talent. At the same time, virtual and/or augmented reality technologies may facilitate remote interaction, reducing the need for staff mobility across regions and so easing associated employment tax reporting requirements. Staffs are not subject to any particular organization that are subject to salary deduction and hence on the payment of zakat.

### **Solution 2: Blockchain as Alternative Payment System**

In traditional payment systems, there is an authority like a bank that is able to control all your actions through their system. They have all your information and without any warnings, they can share this information with anyone they like. This creates sincere trust issues in the customer. However, the introduction of blockchain payment systems is expected to provide a more secure and transparent for the customers. Since all transactions can be seen publicly and cannot be altered once they are coded into the system, blockchain, as argued by Bech and Garratt (2018), helps customers to utilize their digital moneys (cryptocurrencies such as privately issued bitcoins and ether) much easier. That leads to the reduction of cash usage.

Traditional systems like banks also have to use a high security in their organization in order to protect the customer data. For that, they build servers, security teams and control teams which have a high effect in their budget management. Blockchain, by its' nature, is secure once it is in the system. Therefore, there are not any extra protections are necessary for the system. Banks require a settlement time in order to cash-out your revenue. It approximately takes 30 days to turn your revenue into cash which is really long and exhausting.

Blockchain payment systems provide an easier and faster cash-out process without any settlement rate. In addition, banks require a lot of commissions since they have such a big operation going on. Also, since they are central authorities, the service they provide could cost a lot more than a decentralized system. In blockchain payment systems, there are not any bosses. The community, all together, rules the platform. Therefore, costs are more reduced which leads to a lot lower commission fees.

In cross-border transactions, traditional payment systems fail in giving a fast service. Despite of being unpredictable, they are also taking a lot longer than blockchain payment systems. Blockchain, with its' strong infrastructure, helps customers to make a lot faster transactions between peers and international payments. Since it is secured and transparent, transactions take a lot shorter due to the quickness of approval processes.

The above benefits of blockchain would lead towards a new alternative payment system. It would be able to solve the long-standing interest such as banking and payment system efficiency, payments security and resilience, and financial inclusion. Therefore, blockchain would be considered as a new alternative payment system. In the future, some experts believe we may see forms of central bank digital currency facilitate alternative systems that operate outside current dominant systems. Hence, a blockchain-based state currency could operate outside the SWIFT messaging system that facilitates payments. The result could potentially include a greater diversification in payment processes and monetary systems away from the US dollar and other major currencies and away from a limited set of institutions. States and financial actors may, as a result, have greater independence and autonomy over payments they conduct in the international sphere. For example, zakat can be used for humanitarian aid in a country outside the host country.

Is the government agency (Central Bank) ready to introduce the central bank digital currency (CBDC)? If CBDC has a potential application of blockchain and distributed ledger technology (DLT) where the central bank issues new money equivalent to - and redeemable for - its domestic currency, often simultaneously removing

the equivalent amount of currency from the money supply. CBDC can also be issued for general use (“retail” CBDC) for peer-to-peer payments and payments from consumers to merchants for use by commercial banks and clearing houses (“wholesale” CBDC) for more efficient interbank payments that occur outside traditional correspondent banking and other payment systems. Therefore, CBDC can also be considered as other forms of money. It can be used as money for paying zakat and also a form of savings that should be considered as zakat on property.

### **Solution 3: Circular Economy**

As discussed in section 2, entrepreneur in manufacturing sector takes raw materials from the environment and turns them into new products, which are then disposed after use. In a system of linear processes raw materials might eventually run out while waste is being accumulated. Multi-dimensional supply chains with new flows and formats, service networks, recovery loops for products and materials are needed. Their value needs to be protected, to design them to be ready for resale, repair, remanufacturing or recycling.

Currently, there is a growing need for material, water and energy because of both population growth and increased demand by infrastructure, industry and consumers in our economy. According to Marc de Wit et al (2018), circular economy activities have the potential to address a significant share of this need – dampening or possibly, reversing the raise in resource use and in turn reducing resource depletion, climate change and the pollution of natural resources.

In an effort to empower the entrepreneur in relation to reduce dependency on primary materials and energy, while at the same time becoming an economically viable alternative to the linear economy. Therefore, a circular economy is introduced. Products are designed for durability, reuse and recyclability, and materials for new products come from old products. As much as possible, everything is reused, remanufactured, recycled back into a raw material, used as a source of energy, or as a last resort, disposed of. Consequently, this would lead to the emergence of more sustainable production and consumption patterns, and could thus provide opportunities for Malaysia to achieve economic growth and inclusive and sustainable industrial development in line with the 2030 Agenda for Sustainable Development.

The transition towards a circular economy requires systematic innovations including new innovative financing models, partnerships, business models and close integration of industry 4.0 principles.

Industry 4.0 creates enormous opportunities to enable circular economy in which end of life products are reused, remanufactured and recycled. Industry 4.0 helps the entrepreneur in using the paradigm shift from centralized to decentralized smart manufacturing and production and refers to the computerization of manufacturing. Entrepreneur can increasingly apply an innovative solutions including through the “Internet of Things” (IoT), cloud computing, miniaturization, and 3D printing that will enable more interoperability and flexible industrial processes and autonomous and intelligent manufacturing.

While supporting the manufacturing industry and increasing its competitiveness, circular economy brings innovations need innovative financing mechanisms such as impact zakat financing. All investments have consequences for individuals as well as for whole communities and for the economy. In addition to generating financial returns, investments can create jobs and thus have positive impact on the society and also on the environment. Impact investment goes beyond avoiding harm and managing risk and aims to generate a positive social or environmental impact alongside a financial return.

## **5. Way Forward**

The policy framework for Industry 4.0 could be used as a clear strategic direction for Malaysia since these technologies apply across the board. Smart industry will eventually lead to the emergence of Smart Cities, Smart Grids, and Smart Services.

By having this policy, how could we attract the high-tech industry to be located in Malaysia. The high-tech industry will bring in the innovation that will rank Malaysia among the top 30 nations in the Global Innovation Index.

The next challenge is that the success of any public policy will be measured in turn by the effectiveness of its implementation. Through the policy framework, the government will act as the enabler in enhancing the ecosystem for Industry 4.0. The industry should step up and speed up its adoption of Industry 4.0 by leveraging on this Policy. What is the Government's commitment in ensuring the success of this policy?

The government-zakat payers/asnaf's engagements should be continued and intensified in making this policy a success. How could a better engagement be created among stakeholders? How could five key areas – i.e., accessibility, governance, problem resolution, collaboration and application be used to improve the standard and achieve the success of engagement? Why we ask "how"? Slightly selfish perhaps, but as an obligation, the government (via Baitulmal) has a 2.5% stake in every cent of wealth that you make. Therefore it is the government role to make sure that you do not fail in paying your due.

One important premise for policy design should be that the success of any one program will depend at least in part on other programs. Poverty eradication programs will not work effectively if the people joining the programs are illiterate in information technology knowledge or if the people are lack of business skills because of inadequate financial management training. Therefore, we need to consider how to coordinate policies and to get them to work together.

## 6. Conclusions

The Government have a wider range of initiatives in place to promote and accelerate the zakat development and to ensure that the ambition of being a fully-developed zakat system could be fully realized. The privatization policy, good governance, entrepreneurship development program and Industry 3.0 Policy Framework are among the main initiatives. In 2018, the government released the policy framework for Industry 4.0. This policy framework can produce a set of solution to zakat development in three areas: first, Industry 4.0 brings with it a set of unique tax challenges for both business executives and policymakers. Industry 4.0 scenarios would reflect the magnitude of the challenges ahead: the shift from just-in-time to on-demand manufacturing; the rise of aftermarket support; and the shift from products to data-driven services. Second, blockchain as alternative payment system can be used as money for paying zakat and also a form of savings that should be considered as zakat on property. Third, Industry 4.0 would affect the way the circular economy can be implemented.

## References

- Bech, M. and R Garratt (2018) "Central bank cryptocurrencies", BIS Quarterly Review, September 2017, pp 55-70.
- Ismail, A.G and H., Muji Tahir (2016) Zakat: Pensyariatan, Perekonomian dan Perundangan. Bangi: Penerbit UKM.
- Judit Nagy , Judit Oláh, Edina Erdei, Domicián Máté, and József Popp (2018) The Role and Impact of Industry 4.0 and the Internet of Things on the Business Strategy of the Value Chain—The Case of Hungary. Sustainability 10: 1-25. doi:10.3390/su10103491
- Marc de Wit, Jelmer Hoogzaad, Shyaam Ramkumar, Harald Friedl and Annerieke Douma (2018) Circularity Gap Report. Circle Economy
- Nurul Husna Haron, Hazlina Hassan, Nur Syuhada Jasni and Rashidah Abdul Rahman (2010) Zakat for Asnaf's Business by Lembaga Zakat Selangor. Malaysian Accounting Review (Special Issue), 9(No. 2): 123-138.
- World Economic Forum (2018) Readiness for the Future of Production Report 2018. Retrieved from [http://www3.weforum.org/docs/FOP\\_Readiness\\_Report\\_2018.pdf](http://www3.weforum.org/docs/FOP_Readiness_Report_2018.pdf) on 23rd September 2019