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Transaction Costs of the Zakat Institution: An Open Innovation Approach

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Abstract: *This paper examines transaction costs in the institutional zakat system from the open innovation perspective and tries to understand its impact on performance. It attempts to harmonise the concept of transaction costs with the open innovation strategy, especially in the aspect of zakat distribution. A quantitative approach was applied in measuring the performance of zakat distribution, where the data were based on the perspectives of zakat payers in Malaysia. Transaction costs were treated as the mediator, while the property right of zakat was the independent factor towards the performance of zakat. The result showed two critical aspects of the transaction costs, namely the asset specificity and the service measurability, performed positively as mediators in determining the performance of zakat distribution. Institutional arrangements through open innovation strategy are suggested to reduce the transaction costs in delivering the benefits of zakat to the righteous recipients. It can be executed practically by focusing on the asset specificity and service measurability through the open innovation strategy. By reducing transaction costs, the public will be able to understand that the zakat institution developed not only to provide charity to the poor and needy, but its capacity stretches beyond the physical values by nurturing the giving spirituality with love and enhances the values of the transaction.*

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1. Introduction

Muslim scholars often claimed that zakat is better than the conventional system in producing justice and reducing poverty (e.g. Chapra, 1992; Qaradawi, 2011; Sayyid Qutb, 2000). Even though this notion is supported

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theoretically, its practicality has been less clear in real terms. Currently, most Muslim majority countries are struggling to resolve their poverty issues, while their Western counterparts have advanced significantly regarding their management of poverty. With this, questions arise including 'what had been wrong with the Muslim majority countries? And 'where are the Islamic institutions that were claimed as the solution to poverty and could produce justice among the societies? These questions often arise in discussions regarding poverty in the Muslim world.

To begin with, there are two predominant positions on the issue of backwardness in the Muslim world. The first argues that Islam is inappropriate to apply in the modern economy as the Islamic principles are the reasons for the backwardness and Islamic practices stunt development (e.g. Lewis, 2002; Parkinson, 1967; Sutcliffe, 1975). This perspective, however, seems to be too simplistic when attempting to examine the underdevelopment of the Muslim majority countries. They tend to see the failures of the countries as failures in the Islamic principles and practices (Pramanik, 2002) and neglect the basic analysis that needs to be performed before attributing the problems to Islamic principles. The first criterion that needs to be confirmed is 'whether the Muslim majority countries had applied the Islamic principles and Islamic values in their governance and economic system?' If so, the conclusion that Islamic practices have stunted the development can be accepted. Otherwise, the underdevelopment might be caused by other contributing factors. Islamic practices are not to be blamed because they were never fully practised in the countries under analysis.

If the Islamic institutions were indeed implemented, and the countries' performance is still below the development benchmark, certain criteria need to be considered. One may need to analyse whether the institutions have enforced the Islamic principles at the optimum level. If not, there might be mediating factors as obstacles that retard the institutions' performance.

This reasoning forms the second position in discussing the backwardness of the Muslim world. It was not the Islamic principles and practices that impede the development, but the main reason was caused by the partial or incomplete implementation of the Shariah principles in most Muslim majority countries. This phenomenon was highlighted by Rehman and Askari (2010) who showed that Malaysia as a Muslim majority country was ranked 38th out of the 208 countries who applied Islamic principles and practices. Non-Muslim majority countries dominated the first to 37th positions. The study concluded that "Islamic countries are not as Islamic in their practices as one might expect" (Rehman & Askari, 2010). This conclusion indirectly answers the question of why the Western countries outperformed most of the Muslim majority countries in terms of handling the issue of poverty.

In explaining the present failures of the Muslim countries, Chapra (2008a) provides a very interesting argument based on Ibn Khaldun's theory of development. Even though the explanation has been critiqued by Choudhury and Silvia (2008) due to the lack of the tawhidi framework, the overall causality concept of Ibn Khaldun seemed to explain the main issues of the underdevelopment of the Muslim world (Chapra, 2008b, 2008a). One critical factor highlighted by Chapra was due to the roles of the institutions. This institutional aspect was also emphasised by Kuran (2004) and Platteau (2008) as they claimed the Muslim world was in the dilemma of an 'institutional trap'. However, claiming the 'institutional trap' as caused by the inheritance of a classical Islamic system was somehow misleading and not fully supported by empirical evidence (Chapra, 2005). Thus, this paper aims to produce insightful explanations and subjects Chapra's argument to an in-depth analysis. We argue that the institutional trap did not arise from the inheritance of the classical Islamic system, but due to the lack of opportunities given to the institution to perform at its full potential. We study Islamic zakat institutions and the security of property rights and minimising transaction costs through an open innovation strategy.

The purpose is to determine whether transaction costs (using the open innovation approach) are significant mediators to enhance the performance of zakat. In this sense, in the proceeding section, we start the discussion with a brief explanation about the concept of open innovation and later point out how the concept of property rights and transaction costs are measured using the open innovation paradigm. The relationships of the constructs are described, and the hypotheses are developed. In section 3, we review the method applied in this study, while section 4 presents the empirical results of the testing hypotheses and the last section concludes the paper.

2. Literature Review

We applied the theory of institution (North, 1990) as the main framework to analyse the performance of zakat. In this regard, we discuss the 'structure' of the institution, and how the structure determines the zakat 'performance' (North, 1990). By performance, we mean the impact of the zakat institution in achieving the maqasid al-shariah (objectives of shariah). Thus, measuring the performance of zakat must be based on the supreme objectives of zakat which are comprehendible by understanding 'why' we need to pay zakat (Auda, 2008). To answer this question, Qaradawi produced at least 12 explanations of why we must pay zakat (Qaradawi, 2011) which can be summarised into two main themes; the objectives to achieve the socio-economic performance and psychological performance of zakat.

Socio-economic performance is measured based on the socio-economic impact of zakat. Poverty elimination, the creation of egalitarian society, the

reduced gap between the rich and poor, as well as economic stabilisation were the criteria considered in measuring the impact on the socio-economic performance. These criteria help achieve that maqasid al-shariah known as hifz al-mal (to protect wealth) of the people (Chapra, 2008c). This is because the main "purpose of zakat is to help the poor and to serve the public good" (Auda, 2008). From another point of view, zakat also emits a psychological impact on the society that transcends physical performance. It measures the internal feelings of people such as feeling secured with the welfare of zakat, increased faith and spirituality, and solidarity among the Muslim society. It also cultivates harmony and love between the rich and poor within the community.

The objectives of zakat are not just to eliminate poverty but go beyond that to increase the spirituality of the givers. Giving zakat will not elevate the status of the givers higher than the receiver or make them arrogant, but rather help them become modest due to the awareness that all sustenance is from Allah and they need to fulfil their responsibility to give a small portion of their wealth to the poor (Qaradawi, 2011). Therefore, psychological impacts are another aspect of performance that needs to be measured as they contribute to the hifz ad-din (preserves one's faith) and hifz an-nafs (invigorating the human self) (Chapra, 2008c).

The elements of the structure are considered critical factors in order to analyse these aspects of performance (North, 1990). The term 'structure' here means the institutional settings of the zakat institution from the aspect of the security of the property rights of zakat to their recipients, and how the institution executes the zakat transaction. Property right is measured as how the properties are secured and guaranteed for all category of recipients, while the transactions refer to the effort applied by the institutions to reduce the transaction costs for the recipients to obtain the zakat. These two structures were considered the key elements in enhancing the impact of the zakat performance to achieve its supreme objectives. Besides having an impact on the structure, we propose that the open innovation approach be harmonised within the structure of the institution to achieve an innovative zakat distribution structure.

2.1 The concept of open innovation

The term 'open innovation' was first coined by Chesbrough concerning how firms shifted from the so-called closed innovation toward more open processes of innovation. It is also known as innovating innovation (Chesbrough, 2003). It is also worthwhile to mention that Chesbrough did not invent open innovation. The concept already existed long and was applied in many production firms before it received a specific academic explanation (Busarovs, 2013). From the emergence of open innovation, this

concept had gained popularity when many scholars used it to explain how the processes of innovation can be more innovative in a myriad of contexts. Thus, the work on open innovation has exponentially grown, and the term has become a significant theme in the study of innovation processes.

To begin with, in the earlier emergence of the concept, the original definition of open innovation is regarded as the paradigm that assumes "that valuable ideas can come from inside and outside of the companies, where this approach places the external ideas and internal paths to market on the same level of importance" (Chesbrough, 2003). In explaining this definition, Chesbrough (2003) compared with the opposite concept of open innovation which is closed innovation. Table 1 indicates the principles distinguishing between closed and open innovation.

Table 1: Contrasting principles of closed and open innovation

Closed Innovation Principles	Open Innovation Principles
The smart people in our field work for us.	Not all the smart people work for us. We need to work with smart people inside and outside our company.
To profit from R&D, we must discover it, develop it, and ship it ourselves.	External R&D can create significant value; internal R&D is needed to claim some portion of that value.
If we discover it ourselves, we will get it to market first.	We don't have to originate the research to profit from it.
The company that gets an innovation to market first will win.	Building a better business model is better than getting to market first.
If we create the most and the best ideas in the industry, we will win.	If we make the best use of internal and external ideas, we will win.
We should control our IP so that our competitors don't profit from our ideas.	We should profit from others' use of our IP, and we should buy others' IP whenever it advances our business model.

Source: (Chesbrough, 2003)

Based on the open innovation principles in Table 1, we observe that this concept has placed the external ideas as the same level of importance as the internal ideas. However, on the ongoing development of the open innovation study, the definition of open innovation emphasises the process of knowledge flows. It is defined as "the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation" (Chesbrough, 2006). From this definition, Busarovs (2013) extended the study of open innovation into the knowledge flows, where he developed the open innovation matrix. Table 2 shows the open innovation matrix proposed by Busarovs (2013).

Table 2: Open innovation matrix

	Inbound Open Innovation	**Outbound Open Innovation**
Pecuniary	Acquiring	Selling
Non-Pecuniary	Sourcing	Revealing

Based on Table 2, Busarovs (2013) provided two directions of knowledge flows which are inbound (outside-in) and outbound (inside-out) of open innovation. There are two types of mechanisms that could be used in the process of inbound and outbound open innovation which are pecuniary and non-pecuniary mechanisms. Pecuniary 'inbound' open innovation is when the firm acquires intellectual property (IP) through buying the IP from others'. While pecuniary 'outbound' open innovation is when the firm sells its IP or licenses others to use the IP and gain profit from it. Acquiring and selling based on the pecuniary mechanisms are in line with the open innovation principles in Table 1 that mentioned, "we should profit from others' use of our IP, and we should buy others' IP whenever it advances our own business model" (Chesbrough, 2003).

On the other hand, for non-pecuniary 'inbound' open innovation, it is "when companies use freely available external knowledge, as a source for the internal innovation" (Busarovs, 2013), while non-pecuniary 'outbound' open innovation is when companies reveal or share their internal resources with others. The strategy of revealing one's technology to others is the pace of technological development. It will accelerate development among competitors and manifests as a new business model (Busarovs, 2013). Hence, the definition of open innovation evolved to comply with a more accurate meaning based on the development of open innovation. Thus, the most recent definition of open innovation is regarded as "a distributed innovation process based on purposively managed knowledge flows across organisational boundaries, using pecuniary and non-pecuniary mechanisms in line with the organisation's business model" (Chesbrough, Vanhaverbeke & West, 2014).

In the context of this study, the concept of open innovation is applied within the concept of transaction costs. The structure of transaction costs in this study is measured using open innovation, instead of the closed innovation paradigm. Table 3 indicates the comparison of how the structure of transaction costs is measured using the closed and open innovation paradigms.

Based on Table 3, using the closed innovation paradigm, the transaction of would be costly and lowers the transaction values, while for the open innovation, the transaction process can be performed with low cost and creates value in the process of transacting. In terms of services measurability, the closed innovation paradigm measures the performance of their services

using the internal evaluation, but for the open innovation, the process is measured and evaluated internally and by the public through transparent reporting. This process could produce value-creation in the transaction services. Furthermore, in order to lower the transaction costs, the open innovation paradigm could be performed through collaboration, sourcing and from external ideas, but for the closed paradigm, the cost of transaction might be higher due to the small scale in assets. To relate the transaction costs with the context of zakat, sub-section 2.3 will provide details on how the open innovation paradigm can be used to reduce the transaction costs in the zakat distribution system.

Table 3: Transaction costs with closed and open paradigms

Structure	Closed Innovation	Open Innovation
Transaction costs	Highly costing and low transaction values	Low cost and value-creation
	Internal services evaluation (close),	Service is measurable and can be evaluated by the public (open)
	Small scale in assets (such as facilities, expertise and technologies capability)	Large scale in assets (via collaboration, open system and external sources)

2.2 Security on the property rights of zakat

What makes zakat interesting and different from the conventional tax system was its guarantees the rights for the eligible beneficiaris of zakat. The Quran mentions eight specific categories of eligible benefactors:

> *"Zakat expenditures are only for the poor and for the needy and for those employed to collect (zakat) and for bringing hearts together (for Islam) and for freeing captives (or slaves) and for those in debt and for the cause of Allah and for the (stranded) traveller - an obligation (imposed) by Allah, and Allah is Knowing and Wise."* [9:60]

This verse establishes the guarantee of zakat for these categories of people. Even though the verse sounds strict and inflexible in term of its categories, the definitions of each category are relatively flexible and allow for several interpretations (Qaradawi, 2011). For example, the 'fi sabilillah' category (for the cause of Allah) originally means "every action intended solely to serve the cause of Allah" (Qaradawi, 2011) and includes broad meanings. According to Qaradawi, the most prioritised action of fi sabilillah today is to rebuild the Islamic society through education and informational

system for the sake of Allah. The priority on education was also stressed by Chapra where he stated that the present Muslim "governments did not pay much attention to science education and research, as they had in earlier centuries" (Chapra, 2016). By this, the priority of 'fi sabilillah' in the Muslim world today may also include the category of people who are pursuing their study to gain knowledge, by which the knowledge can be used to contribute to the Muslim society for the sake of Allah.

Another dynamic definition also applies to al-riqab (liberating slaves) category. As slavery is considered fully eliminated nowadays, new ijtihad is needed to reinterpret the term al-riqab. In Malaysia, the term al-riqab is interpreted as slaves who are trapped with the social problems (such as prostitute) and faith issues (Muhammad Hasbi & Abdul Ghafar, 2016). This new interpretation of slaves is more appropriate with the current Malaysian society. Therefore, reinterpreting the definition of asnaf makes the categorisation of eligible zakat benefactors more dynamic and appropriate with the geography, situation and time.

Another issue related to securing the rights of zakat is whether the zakat can be distributed to non-Muslims. It was understood that zakat is for Muslims. However, the jurists have discussed distributing zakat to non-Muslims. The term 'bringing hearts together (for Islam)' is the dynamic term used in the Quran, in which the definition of the word could be interpreted accordingly with the context. In Caliph Umar's era, he stopped giving the zakat for this category based on his ijtihad that every single person under his rule (Muslim and non-Muslim) had secure rights and welfare and did not require the distribution of zakat to reconcile their hearts towards Islam. For today's society, Qaradawi (2011) suggested that zakat can be distributed to the non-Muslim to reconcile their hearts towards Islam. However, due to the problems within the Muslim world, priority must be given to Muslims.

This explanation about zakat for the non-Muslim indirectly answers the misleading statement by Müller (2016) where he concluded that zakat is not a humanitarian system because it discriminates the non-Muslim. It must be understood that zakat is an Islamic obligation and Islam considers the general sensitivity by not forcing the non-Muslim to perform the zakat (Qaradawi, 2011). Even though it is an obligation to collect the zakat from the Muslim, zakat still has a flexible portion to be distributed to the non-Muslim. Qardawi (2001) clarified a certain criterion of the non-Muslim who are eligible to receive the zakat. However, in the context of the Muslim world today where the issues of poverty and underdevelopment are high, most Muslim jurists, especially in Malaysia, stated that the priority must go to Muslims because they have more rights to zakat. Because of the priority in distributing the zakat, it is wrong to claim that zakat is not a humanitarian system. Zakat does not discriminate between ethnicity or race. Instead, zakat considers religions sensitivity. Thus, to conclude that zakat is not a humanitarian system because

of its security on the property rights of zakat and priority for Muslim is misleading.

The structure of the zakat institution directly affects its socio-economic performance. This can be seen in the guarantee of zakat to its recipients. The secure distribution of zakat to the asnaf will reduce the gap between the rich and poor, where the poor will receive assistance from zakat. This will then produce an egalitarian society as well as stabilise the economy. Apart from that, guarantees of zakat can produce a psychological impact on the society, where the poor feel secure that they will receive wealth and the rich will perform their obligation to help the poor. This phenomenon will create a harmonious society. From this discussion, it is safe to argue that the structure of the zakat institution through the security of the property rights of zakat can be used to determine the zakat performance. The following two hypotheses are proposed to test this statement:

H_1: *Security on the property rights of zakat will positively affect socio-economic performance*

H_2: *Security on the property rights of zakat will positively affect psychological performance*

2.3 Reducing the transaction costs in the zakat distribution system

Transaction costs is another aspect of the structure in the zakat institution that could determine its performance. By lowering the transaction costs, the delivery system will become more effective and efficient (North, 1990). Although the Quran determines the categories of people eligible to receive the zakat, the distribution and execution of zakat depend on the capabilities of the people responsible for managing the zakat. Islam did not mention the specific methods of giving, but it clarified the principles on how to give:

> *"Kind speech and forgiveness are better than charity followed by injury. And Allah is Free of need and Forbearing".* [2:263]

> *"O you who have believed, spend from the good things which you have earned and from that which We have produced for you from the earth. And do not aim toward the defective therefrom, spending (from that) while you would not take it (yourself) except with closed eyes. And know that Allah is Free of need and Praiseworthy".* [2:267]

From the verse above, it can be understood that only the good part of one's wealth is to be given sincerely. Reducing the transaction costs on zakat recipients can be considered as part of sincere giving. To identify proficient approaches to giving, we harmonised the concept of the institutional

structure of North (1990), the dimensionality of transaction costs from Williamson (1981), as well as the open innovation strategy of Chesbrough (2003) with the transaction costs framework. Two dimensions of transaction costs were highlighted as the key structure in the institutional setting of zakat distribution, which is the asset specificity and service measurability (Williamson, 1981).

Even though this study attempts to harmonise the transaction costs framework with the open innovation strategy, it must be noted that some scholars asserted that transaction costs are not in line with open innovation as the two concepts cannot be harmonised due to opportunistic behaviour and firms tend to prefer transaction values over transaction costs (Remneland-Wikhamn & Knights, 2012; Varhaverbeke & Cloodt, 2014). In this study, however, the context seems to be different as we do not focus on innovation in the production firms per se, but beyond that boundaries. We also include innovation into the welfare institution. As stressed by Jungmann, Baur and Ametowobla (2015), innovation study must not only be confined in the scientific novelties or on the marketable products, but it must play important roles for the contemporary society such as in the political or social innovation. From this point of view, we carried out the innovation study within the welfare governance structure of the zakat institution and believed that opportunistic behaviour is hardly involved in this institutional setting. A welfare institution such as zakat prefers to combine both elements to reduce the transaction costs, while simultaneously enhancing the transaction values. This is where the open innovation strategy is needed to 'kill two birds with one stone'. Reducing the transaction costs and enhancing the transaction value are complementary and not contradictory in order to increase the value of transaction potential (den Butter, 2010; Wei, Zhu & Lin, 2013). The discussion on asset specificity and service measurability elaborate in detail how the open innovation strategy will be harmonised with the transaction costs framework in enhancing the impact on the performance of zakat.

2.3.1 Asset specificity

Asset specificity concerns the aspects of site, physical asset and human asset (Williamson, 1981). These three aspects are critical because they will determine how the transaction of the services and property of zakat will be executed. Asset specificity is considered as an investment in the assets to reduce the transaction costs between two or multiple parties. When the property of zakat is determined for delivery, assets (human and physical asset) are transacted to the recipients. For example, the physical asset such as technological instruments, transportation or the infrastructure is needed to ensure the efficiency of the zakat distribution process. The human assets, on

the other hand, play important roles such as to utilise the technology, use the transportation, and manage the infrastructure in the process of delivering the zakat (Riordan & Williamson, 1985; Williamson, 1981). Asset specificity will be able to reduce the costs for the zakat recipients to receive the zakat and ease the process of transferring the zakat to the recipients. It is crucial to ensure that all categories will efficiently receive zakat. Investment in the asset specificity can improve the efficiency of securing the rights of zakat and guarantee that zakat will be delivered to the right persons effectively. Hence, from this point of view, a preliminary hypothesis can be proposed:

H_3: *Securing the property rights of zakat will positively increase investment in the asset specificity*

However, focusing on the basic structure of asset specificity hardly produces the required optimum level of performance. Thus, this structure requires an open innovation strategy to create an innovative concept of structure and enhance the performance of zakat. Henceforth, the concept of inbound and outbound open innovation can be blended with asset specificity (Michelino, Caputo, Cammarano & Lamberti, 2014). Problems such as inadequate asset or large investment cost on asset specificity could be solved through the inbound open innovation strategy where the collaborative partners can take part in supporting the zakat institution and reduce the cost of investing in the assets. The case study of open innovation in SMEs can be used as an example, where inadequate resources can be solved through collaborating with other firms to support the assets, while other firms benefit from the outbound open innovation through innovative ideas from start-up SMEs (Lee, Park, Yoon & Park, 2010; Usman & Vanhaverbeke, 2017).

In the context of zakat, the institution needs to deal with much bigger problems than SMEs, as it needs to cater to several types of social problems that cause poverty, often known as 'poverty traps' (Sachs, 2005). Thus, investing in assets specificity is necessary in order to counter these problems. Assets such as expertise, infrastructure and technological capability must be blended into a complex system of zakat. A single zakat organisation may not be able to handle various problems (Kahf, 1999). Even though investing in these assets seems to be costly, the zakat institution needs to invest in these assets to increase the value of zakat transactions. To this end, an inbound open innovation strategy is considered as the best approach to support the inadequate resources issue (Michelino et al., 2014).

Collaboration with several public agencies will produce more expertise, technologies and infrastructure that are needed while incurring lower costs. Through a collaborative partnership, the public will see the zakat institution as an accessible and comprehensive system. Apart from that, the zakat institution needs to perform the outbound open innovation strategy to

produce a transparent system. For this, collaborating with partners may also produce a convergent information system. Through this collaborative system, the zakat institution can increase the assets at low transaction costs, while at the same time enhance the transaction value for the zakat recipients.

Closely related to this point, several studies have shown that having an increase in asset specificity will enhance on the different kinds of performance (Ahamed, Stump & Skallerud, 2015; Espino-Rodríguez, Chun-Lai & Gil-Padilla, 2017). For example, Ahamed et al. (2015) showed that having more asset specificity positively increases export performance, while Espino-Rodríguez et al. (2017) found that asset specificity increased non-financial performance. Hence, from the discussion above, it is safe to propose the hypothesis that an increase in the asset specificity can enhance the socio-economic and psychological performance of zakat.

H_4: *Increase in asset specificity will positively enhance socio-economic performance*

H_5: *Increase in asset specificity will positively enhance psychological performance*

2.3.2 Services measurability

Uncertainty will increase the cost of transacting services. To reduce uncertainty, the provided services must be measurable. Thus, service measurability could be defined as how the provided services are measured and monitored (Brown & Potoski, 2003). While some services are easy to measure, certain services are difficult to measure. For example, cleaning services are easier to measure when we can see the outcomes in the form of cleanliness. However, it is difficult to measure poverty due to the operationalisation of the measurement. As asserted by Kwadzo (2015), three different types of well-known poverty measurements are still inadequate indicators of well-being. Hence, when a service is difficult to measure, uncertainty will occur, and people are confused about the status of poverty.

In the context of zakat, several aspects need to be measured to reduce uncertainty, especially for the eligible receiver of zakat. Each category of asnaf must have a clear operational definition that is suitable and flexible depending on the context or situation. This is to ensure each asnaf could be measured comprehensively based on their different problems. Through this, it may lead to securing the rights to zakat for its recipients and will be easier to monitor even by the public. Thus, a preliminary hypothesis on the service measurability is:

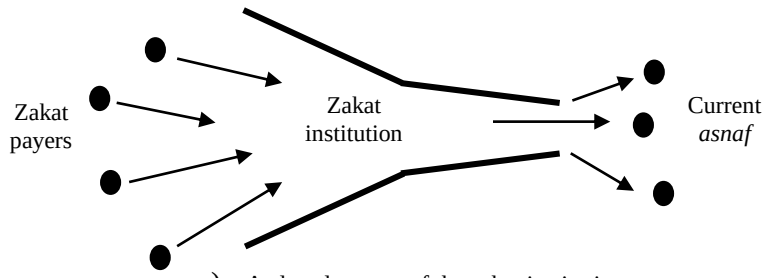
H_6: *Securing the property rights of zakat will positively increase service measurability.*

Uncertainty is present not only during the ascertaining the asnaf categories but also constitutes a challenge in the future. For example, the middle-class may feel vulnerable for their future condition. They may think if one day they encounter financial problems, critical disease or become handicapped, and became one of the asnaf, at that time, could they rely on zakat? Alternatively, they may be blamed for not investing in protecting their future when they were able to do so. This uncertainty prompts the majority of middle-class to psychologically prefer taking up takaful schemes which they regard as a better social security system than zakat.

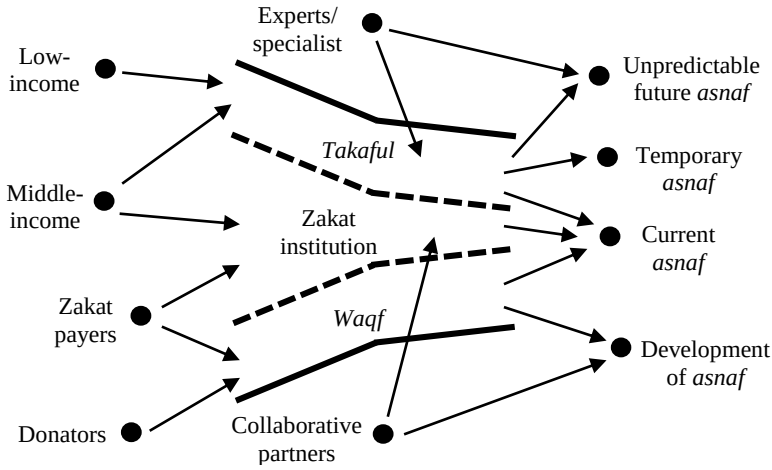
Such a perception starts to spread when various scholars who studied about social security and zakat supported the micro-takaful schemes to protect the future risk, not only for the middle-class but even for the poor (Htay, Sadzali, & Amin, 2015; Mohamad Hasim, 2014; Mohd Rom & Rahman, 2012). On the other hand, this phenomenon illustrates that our current zakat system is incapable of providing security on the rights of zakat, where the zakat institution requires takaful to cover the future security of the asnaf.

On the other hand, takaful could be seen as an innovative idea for empowering the zakat fiscal system or for the baitulmal system at large. Kahf (1999) argued that a single institution of zakat per se is not be able to handle all social security issues. Thus, institutionalising the zakat institution through an open innovation strategy could be applied to increase the service measurability. Figure 1 shows how the current close zakat system was compared with the open innovation zakat system.

Figure 1: Comparing the closed system of zakat with the open innovation system of zakat



a) A closed system of the zakat institution



b) An open innovation system of the zakat institution

Through open innovation strategy, service measurability of the zakat institution must be expanded. Zakat services must not be seen as only for the current asnaf, but it must also be able to reduce uncertainty for the future potential ansaf. This is where takaful could be one of the wings of zakat to support the allocation of future unpredictable asnaf (Mohd Rom & Rahman, 2012). Such an integrated waqf system proposed by Ashraf and Hassan (2013) is already in the earlier stage of implementation as one of the wings of zakat (Mahamood & Rahman, 2015; Noordin, Haron & Kassim, 2017).

Furthermore, Mikail, Ahmad and Adekunle (2017) asserted that the disintegration between zakat, waqf and micro-takaful might make the Islamic social security system unsustainable and less effective. Thus, integrating an open innovation strategy in service measurability could be applied through the establishment of a takaful system within the zakat institution. Establishing the department of takaful or micro-takaful under zakat could reduce the uncertainty for the low-income or middle-income people regarding their doubt on zakat to protect their future risk.

The closed system of zakat could only measure the current context of asnaf and will only protect a small portion of the current asnaf under the zakat institution. More asnaf with various kinds of problems may not be able to be protected by this closed system. However, the open innovation system that integrates takaful and waqf systems could further expand the roles of the zakat institution. The scope of services will be extended to better measure different contexts of asnaf such as future unexpected asnaf, developing asnaf, or assist the temporary asnaf instead of only focusing on the current asnaf. These processes will reduce uncertainty and make the services provided by the zakat institution more measurable.

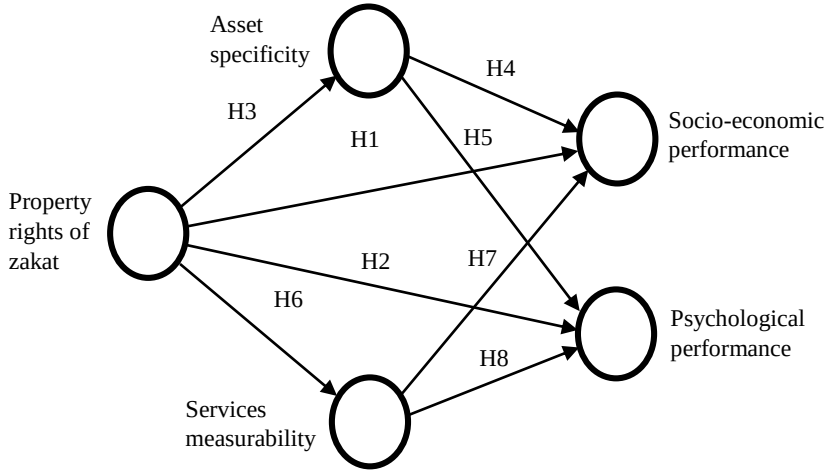
Several studies have found that services measurability produces a positive impact on performance, or where uncertainty produces a negative effect on performance (Ahamed et al., 2015; Brown, Potoski, & Van Slyke, 2008; Selviaridis & Norrman, 2014). For instance, Brown et al. (2008) showed that services measurability produces a significant effect on the performance of several organisations, such as in public, private, joint and non-profit organisations. While Ahamed et al. (2015) found that uncertainty resulted in a negative significant effect on performance. Hence, from the discussion, it is natural to insist that increasing services measurability could provide a positive effect on the performance of the zakat institution. Thus, the following two hypotheses related to services measurability and performance are proposed:

H_7: *Increase in service measurability will positively enhance socio-economic performance.*

H_8: *Increase in the service measurability will positively enhance psychological performance.*

In order to have a better understanding of the research framework and the hypotheses of this study, Figure 2 shows the developed research model that will be tested.

Figure 2: Research Model



3. Research Method

3.1 Measures

This study developed a survey instrument to measure the impact of property rights and transaction costs on zakat performance. The reason for developing the instrument was to ensure that the employed instrument was appropriate with the respondents' situation and applicable with the context of the study (Hair, Sarstedt, Ringle & Gudergan, 2018). We followed the procedure of developing the instrument suggested by Hinkin (1998, 2005) and Hinkin, Tracey and Enz (1997) to ensure a rigorous process is observed. To begin with, we performed a pre-test and pilot test before the instrument is used in the actual study.

Table 4: Final version of the survey instrument after the pilot study

Codes	Variables and Items	Factor Loadings
	Property rights of zakat	
PR1	All eight categories of *asnaf* are eligible for zakat.	0.664
PR2	Zakat was distributed comprehensively to all *asnaf.*	0.760
PR3	No *asnaf* are denied their rights from zakat.	0.813
PR4	Amount or assistant of zakat is sufficient for the *asnaf.*	0.684
PR5	Assistant of zakat are suitable with the *asnaf* problems.	0.712
PR6	High integrity in ensuring all *asnaf* received the zakat.	0.777
PR7	There is no corruption in zakat institution.	0.646
	Asset specificity	
AS1	Zakat institution utilise advanced technology.	0.837
AS2	Take an immediate action with advance tools.	0.859
AS3	Zakat institution collaborate with others' agency.	0.769
AS4	Zakat institution have a systematic database system.	0.595
	Service measurability	
SM1	Open for the society to evaluate their service quality.	0.702
SM2	Zakat institution are open to hearing any critics.	0.786
SM3	Monitored public perspectives on the services provided.	0.951
SM4	Poverty measurement is in line with the living cost.	0.909
SM5	Have supported department to expand their services.	0.822
	Socio-economic performance	
SEP1	Zakat increase the *asnaf* living standard.	0.543
SEP2	Zakat reduce poverty in the country.	0.931
SEP3	Zakat reduce the gap between the rich and the poor.	0.885
SEP4	Productivity of *asnaf* generate income for country.	0.938
SEP5	Zakat stabilising the economy.	0.899
	Psychological performance	
PP1	Zakat make me feel secure with my future conditions.	0.698
PP2	Zakat creating harmonise within the society.	0.774
PP3	Zakat produce solidarity among the ummah.	0.841
PP4	I feel responsible to pay zakat.	0.916
PP5	I feel confident to pay zakat to the zakat institution.	0.860

The pre-test was conducted by distributing the instrument to experts in the field and a small group of people to confirm whether they could understand the questionnaire items. After some modifications, we ran a pilot test to test the construct validity of the instrument among 137 respondents. Through exploratory factor analysis (EFA), items that did not load appropriately were deleted. The final instruments consisted of 26 items that corresponded to six variables (see Table 4). All items were measured with a 5-point Likert-scale ranging from 1 'strongly disagree' to 5 'strongly agree'.

3.2 Sample and data collection procedures

Self-administered questionnaires were distributed to the zakat payers in three states in Malaysia, which were Perlis, Perak and Kelantan. These three states were selected through a cluster area sampling on the states that experienced fiscal surplus and deficit of zakat in 2014. Perlis has the highest surplus of zakat, while Perak and Kelantan have the highest deficit of zakat (Jawhar, 2014). We used multi-stage cluster sampling to collect the data because the population of zakat payers is extremely large and it is difficult to get the exact number of the population. As stated by Creswell (2012) "the researcher chooses a sample in two or more stages because either the researchers cannot easily identify the population or the population is extremely large" (p. 145). We the cluster the three states into three specific districts which are Arau (Perlis), Kerian (Perak) and Machang (Kelantan).

Table 5: Profile of respondents

Characteristics	Frequency	Percentage
Gender		
Male	278	64.95
Female	136	31.78
Age (Years)		
21 – 30	58	13.55
31 – 40	69	16.12
41 – 50	111	25.93
51 – 60	91	21.26
61 and above	99	23.13
Level of education		
Secondary school	130	30.37
Certificate/Diploma	150	35.05
Bachelor's Degree	132	30.84
Master's Degree	13	3.04
Level of income		
MYR 1,000 – 2,000	70	16.36
MYR 2,001 – 3,000	179	41.82
MYR 3,001 – 4,000	92	21.49
MYR 4,001 – 5,000	48	11.21
MYR 5,001 and above	15	3.50

We distributed 500 questionnaires in these three districts with 100 at Arau, and 200 each at Kerian and Machang respectively. In order to ensure the target respondents are among the zakat payers who pay zakat to the zakat institution, we selected respondents randomly at strategic areas such as mosque, and asked them directly whether they have paid zakat to the zakat institution for their zakatable assets (income, savings, gold, agriculture, etc.) excluding zakat al-fitr. If they said yes, then we gave the questionnaire sheet and asked them to put it in the box that provided at the mosque after they answered the questionnaire. From the 500 distributed questionnaires, 457 were returned (91.4% responses rate). After the data screening, only 428 questionnaires were usable for the data analysis. As this study used partial least squares structural equation modelling (PLS-SEM), a sample size of 428 is adequate due to the "ten times rule" for sampling (Hair, Hult, Ringle, & Sarstedt, 2017). Table 5 shows the descriptive profiles of the respondents in this study.

3.3 Analytical method

Data were analysed using the PLS-SEM method with SmartPLS 3.0 (Ringle, Wende, & Becker, 2015). Two stages of assessment were conducted to analyse the research model. The first stage was the assessment of the measurement model. In this stage, we assessed the convergent validity, discriminant validity and the reliability of the indicators of the research model. After the model was confirmed as valid and reliable, we proceeded to the second stage assessment of the structural model. In this stage, we tested the hypotheses by evaluating the significant relationship of the path model among the constructs (Hair et al., 2017).

4. Analysis of Result

4.1 Assessment of measurement model

For the assessment of the measurement model, we first examined the indicator loadings. For the recommended threshold, loadings above 0.70 were considered acceptable. However, loadings below 0.70, which were between 0.40 and 0.70, should be considered for removal only if the deletion increased the internal consistency reliability and validity above the threshold value (Hair et al., 2017). In our study, all the indicators loadings were higher than 0.70 except for PR1 which loaded at 0.657 (see Table 6). Hence, this indicator was considered for removal if it lowered the internal consistency reliability and validity below the threshold.

In the next step, we examined the constructs' internal consistency reliability. In PLS-SEM, internal consistency reliability was typically

assessed through composite reliability (Hair et al., 2017; Sarstedt, Ringle, Smith, Reams, & Hair, 2014). For the composite reliability, values between 0.60 and 0.70 were considered acceptable, while values above 0.70 to 0.95 were considered as "satisfactory to good". Result in Table 6 indicates that the values of composite reliability of the measurement model ranged between 0.906 to 0.950, specifying the model had reliable internal consistency.

Next, we assessed the convergent validity of the reflective construct. Convergent validity was typically evaluated by the average variance extracted (AVE). The acceptable threshold for convergent validity was achieved when the value of AVE was above 0.50 (Hair et al., 2017; Hair, Ringle, & Sarstedt, 2011). Our research model indicated the AVE result (see Table 6) was above the recommended threshold, which ranged between 0.581 and 0.827. This confirmed the constructed model had a good convergent validity. Once the convergent validity was successfully established, the next step involved assessment on the discriminant validity.

The traditional approach in assessing this validity was through the Fornell-Larcker criterion and the examination of the cross-loadings. However, Henseler, Ringle and Sarstedt (2015) found these approaches were not reliable to detect the lack of discriminant validity and suggested the heterotrait-monotrait ratio of correlations (HTMT) as the alternative approach to assess the discriminant validity. The acceptable discriminant validity threshold was achieved when the HTMT value fell below 0.85 (Hair et al., 2017; Henseler et al., 2015). As can be seen in Table 7, all HTMT values were below 0.85, and the constructs were considered as providing evidence of discriminant validity.

Table 6: Assessment of measurement model

Variables	Indicators	Loadings	CR	AVE
Property rights of zakat (PR)	PR1	0.657	0.906	0.580
	PR2	0.778		
	PR3	0.831		
	PR4	0.744		
	PR5	0.761		
	PR6	0.825		
	PR7	0.724		
Asset specificity (AS)	AS1	0.883	0.931	0.771
	AS2	0.891		
	AS3	0.904		
	AS4	0.832		
Services measurability (SM)	SM1	0.833	0.941	0.790
	SM2	0.885		
	SM3	0.899		
	SM4	0.919		
	SM5	0.859		

Table 6: (Continue)

Variables	Indicators	Loadings	CR	AVE
Socio-economic performance (SEP)	SEP1	0.866		
	SEP2	0.928		
	SEP3	0.914	0.950	0.826
	SEP4	0.922		
	SEP5	0.915		
Psychological performance (PP)	PP1	0.918		
	PP2	0.933		
	PP3	0.926	0.947	0.807
	PP4	0.813		
	PP5	0.896		

Table 7: Heterotrait-Monotrait ratio of correlations (HTMT)

Variables	PR	AS	SM	SEP	PP
Property rights of zakat					
Asset specificity	0.642				
Service measurability	0.805	0.787			
Socio-economic performance	0.739	0.728	0.810		
Psychological performance	0.769	0.740	0.801	0.805	

From the result, the measurement model was confirmed to have good internal consistency reliability, convergent and discriminant validity. Thus, the PR1 indicator was retained because it did not lower the reliability and validity of the constructed model. After establishing the measurement model, the next stage was to assess the structural model.

4.2 Assessment of structural model

After the measurement model was confirmed as valid and reliable, we then proceeded with the assessment of the structural model. In this stage, we tested the significance of all structural model relationships. However, prior to examining the significance of the relationships, we made sure there was no collinearity issue among the predictor constructs. In our research model, three constructs were established as the predictor constructs, which were the property rights of zakat, asset specificity and services measurability. Variance inflation factor (VIF) was used to measure the collinearity. VIF values above 5 indicated the constructs had high collinearity and should be considered for elimination (Hair et al., 2017). The result of collinearity analysis of the model indicated no collinearity issue as all VIF values for all predictor constructs were below 5. The VIF values for property rights of zakat (2.205), asset specificity (2.108) and services measurability (3.089) provided confident that the structural model was not affected by collinearity.

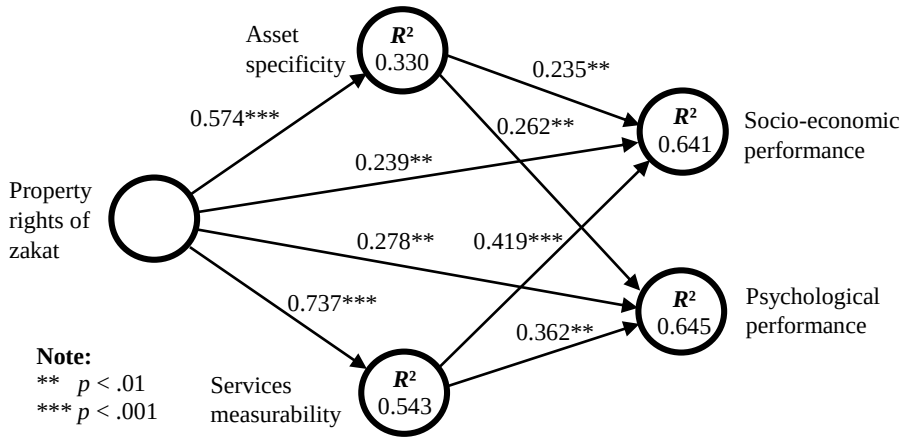
Next, we analysed the significance of the structural model relationships. The result from the bootstrapping procedure (428 cases, 5000 samples) revealed that all the eight direct relationships were significant at the level of ($p < 0.05$). Table 8 and Figure 3 indicate the result of the hypotheses testing. After gaining the result of the direct effect, we then analysed the mediation effect of the model.

Table 8: Hypothesis testing for the direct effect

Hypotheses	Path	Coefficients	*p*-value	Supported?
H1	PR → SEP	0.239	0.006**	Yes
H2	PR → PP	0.278	0.008**	Yes
H3	PR → AS	0.574	0.000***	Yes
H4	AS → SEP	0.235	0.001**	Yes
H5	AS → PP	0.262	0.001**	Yes
H6	PR → SM	0.737	0.000***	Yes
H7	SM → SEP	0.419	0.000***	Yes
H8	SM → PP	0.362	0.003**	Yes

Note: ** p < .01, *** p < .001

Figure 3: Result of PLS analysis



Results from the mediation analysis indicated asset specificity and services measurability significantly performed as mediators in predicting the performance (see Table 9). These variables partially mediated the socio-economic performance and psychological performance. The total effect of property rights of zakat on socio-economic performance via asset specificity and services measurability yielded 0.683, while the total effect of property

rights of zakat on psychological performance via asset specificity and services measurability yielded 0.695.

Table 9: Significance testing for indirect effect - mediation analysis

Path	Indirect Effect	*p* value	VAF	Type of Mediation
PR → AS → SEP	0.135	0.003**	65.0 %	Complementary partial mediation
PR → SM → SEP	0.309	0.000***		
PR → AS →PP	0.150	0.004**	60.0 %	Complementary partial mediation
PR → SM → PP	0.267	0.005**		

Note: ** $p < .01$, *** $p < .001$

As the model consists of two mediators as dimensions of transaction costs (asset specificity and services measurability), hence multiple mediator analysis was performed. We calculated the variance account for (VAF) of the mediators for each endogenous construct. The socio-economic performance and psychological performance have the VAF value of 65.0% and 60.0% respectively. This indicates that both VAF values were in the range of 0.20 to 0.79, which implies that the transaction costs are performed as the complementary partial mediation for both endogenous constructs (Nitzl, Roldan, & Cepeda, 2016). This result indicated that transaction costs (using the open innovation approach) performed as a significant mediator in enhancing the zakat institution's performance.

It was also interesting to measure the endogenous constructs' predictive power through the coefficient of determination (R^2). The coefficient represented the amount of variance of the endogenous constructs explained by the exogenous constructs (Hair et al., 2017). The outcome of the model (see Figure 3) indicated asset specificity and services measurability had moderate R^2 values of 0.330 and 0.543, while socio-economic performance and psychological performance had substantial R^2 values of 0.641 and 0.645, respectively. Next, we evaluated the model's predictive relevant (Q^2) for each endogenous construct. By performing the blindfolding with omission distance of seven, all the values of the endogenous construct were above zero; asset specificity (0.241), services measurability (0.406), socio-economic performance (0.500), and psychological performance (0.489). These values support the model's predictive relevance.

4.3 Summary of findings

The objective of this analysis was to measure the effect of securing the property rights of zakat for its recipients and how a reduction in the transaction costs through open innovation strategy would affect the zakat

performance from zakat payers' perspective. Measuring the performance of zakat based on zakat payers' perspectives is vital because zakat payers are the foundation of the zakat institution. Their perspectives should be taken into account, so that they trust more in the zakat institution as the trustee for their payment of zakat, and as the authority responsible for distributing their zakat to the right asnaf. If the zakat payers are not confident in the institution of zakat, it will cause the institution to malfunction or function ineffectively. Hence, from the findings, zakat payers are mostly confident that reducing the transaction costs (using the open innovation approach) will enhance the zakat institution's performance.

As the results have shown, securing the property rights of zakat had a significant impact on socio-economic performance and psychological performance (see Figure 3). However, when the relationship of securing the property rights on the performance where analysed via the elements of the transaction costs (asset specificity and services measurability), the total effect on the performance increased significantly, and the VAF values showed that transaction costs performed as complementary partial mediation in the model. These findings provide evidence that the transaction costs substantially affect zakat performance and prove that the open innovation strategy could perform as a vital driver in enhancing the impact of zakat performance.

5. Discussion and Conclusion

Institutional theory explains that an institution's structure affects its performance. Thus, in this study, we used property rights and transaction costs as structural elements to measure zakat performance. The idea to examine the effect of institution structure on performance came when scholars such as Chapra, Kuran and Platteau agreed that the institution was the main problem for the backwardness of the Muslim world. However, they disputed what elements of the institution produced the problems. Chapra explained that the inefficient institutional structural was the main problem that stunted the development, while Kuran and Platteau focused on the inheritance of Islamic principals as the causes of the problem. Our findings supported the argument by Chapra as we were able to clarify the elements of the structure as the problem that affected the zakat performance from the zakat payers' perspectives.

Another insightful aspect that needs to be highlighted in this study is the substantial element within the institutional structure. An innovative strategy is needed to secure the property rights of zakat and manage the transaction costs efficiently. For the innovation strategy, we applied the

concept of open innovation as a substantial element within the institutional setting. Open innovation produced an innovative approach to reduce the transaction costs in delivering zakat to its recipients. Furthermore, open innovation did not only produce an efficient zakat distribution system to the current *asnaf* but also produced an effective distribution method by expanding their roles for the potential *asnaf* in the future. From this strategy, zakat will be close to the heart of the broader public, and the public would regard zakat as always there to protect them (through zakat, waqf and takaful) if they happen to become an *asnaf* themselves.

Consequently, people will understand that the role of zakat is not restricted to giving the property of zakat to its recipients. As the third pillar of Islam, its roles are beyond the distribution concept, but encapsulates the senses of spirituality and giving with love. This could produce a harmonious society, solidarity among the ummah, and ultimately achieve the higher objectives of the shariah.

To conclude our research, we sincerely call for the transformation of zakat. It could practically be done through concise arrangements of the zakat institutions. The critical aspects such as innovation in the asset specificity and services measurability must be taken into account when enhancing the transaction values of zakat.

References

Ahamed, A. F. M. J., Stump, R. L., & Skallerud, K. (2015). The mediating effect of relationship quality on the transaction cost–export performance link: Bangladeshi exporters' perspectives. *Journal of Relationship Marketing*, *14*(2), 152–169. https://doi.org/10.1080/15 332667.2015.104 2345.

Ashraf, A., & Hassan, M. K. (2013). An integrated islamic poverty alleviation model. In K. Hunt-Ahmed (Ed.), *Contemporary Islamic Finance* (pp. 223–244). New Jersey: John Wiley & Son, Inc.

Auda, J. (2008). *Maqasid al-shariah: a beginner's guide*. London, England: The International Institute of Islamic Thought.

Brown, T. L., & Potoski, M. (2003). Transaction costs and institutional explanations for government service production decisions. *Journal of Public Administration Research and Theory*, *13*(4), 441–468. https://doi.org/10.1093/jopart/mug030.

Brown, T. L., Potoski, M., & Van Slyke, D. M. (2008). Changing modes of service delivery: How past choices structure future choices. *Environment and Planning C: Government and Policy*, *26*(1), 127–143. https://doi.

org/10.1068/c0633.

Busarovs, A. (2013). Open innovation: Current trends and future perspectives. *Humanities and Social Sciences: Latvia*, *21*(2), 103–119.

Chapra, M. U. (1992). *Islam and the economic challenge*. Kano, Nigeria: The Islamic Foundation.

Chapra, M. U. (2005). Review: Islam and mammon: The economic predicaments of islamism. *Journal of Islamic Studies*, *16*(2), 232–239. https://doi.org/10.1086/519054.

Chapra, M. U. (2008a). Ibn Khaldun's theory of development: Does it help explain the low performance of the present-day muslim world? *Journal of Socio-Economics*, *37*(2), 836–863. https://doi.org/10.1016/j.socec. 2006.12.051.

Chapra, M. U. (2008b). *Muslim civilization: The causes of decline and the need for reform*. Kano,Nigeria: The Islamic Foundation.

Chapra, M. U. (2008c). *The Islamic Vision of Development in the Light of Maqasid al-Shariah*. London, England: The International Institute of Islamic Thought.

Chapra, M. U. (2016). *The future of economics: An islamic perspective*. Kano,Nigeria: The Islamic Foundation.

Chesbrough, H. (2003). *Open innovation: The new imperative for creating and profiting from technology*. Boston,MA: Harvard Business School Press.

Chesbrough, H. (2006). Open innovation: A new paradigm for understanding industrial innovation. In H. Chesbrough, W. Vanhaverbeke, & J. West (Eds.), *Open Innovation: Researching a new paradigm*. New York: Oxford University Press.

Chesbrough, H., Vanhaverbeke, W., & West, J. (2014). *New frontiers in open innovation*. United Kingdom: Oxford University Press.

Choudhury, M. A., & Silvia, B. (2008). A critique of Ibn Khaldun's causality concept. *Journal of King Abdulaziz University-Islamic Economics*, *21*(1), 49–70. https://doi.org/10.4197/islec.21-1.3.

Creswell, J. W. (2012). *Educational research: planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Boston,MA: Pearson.

den Butter, F. A. G. (2010, May 10). *Transaction management: value creation by reducing transaction costs*. Tinbergen Institute Discussion Paper 10–051/3. Available at SSRN: https://ssrn.com/abstract=161009 6. Retrieved from Social Science Research Network (SSRN) Database.

Espino-Rodríguez, T. F., Chun-Lai, P., & Gil-Padilla, A. M. (2017). Does outsourcing moderate the effects of asset specificity on performance? an application in Taiwanese hotels. *Journal of Hospitality and Tourism Management*, *31*(2), 13–27. https://doi.org/10.1016/j.jhtm.2016.10.0 03.

Hair, J. F. J., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)*. United Kingdom: Sage Publications.

Hair, J. F. J., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *The Journal of Marketing Theory and Practice*, *19*(2), 139–152. https://doi.org/10.2753/MTP1069-6679190202.

Hair, J. F. J., Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2018). *Advanced issues in partial least squares structural equation modeling*. London,England: Sage Publications.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8.

Hinkin, T. R. (1998). A brief tutorial on the develoment of measures for use in survey questionnaires. *Organizational Research Methods*, *1*(1), 104–121. https://doi.org/10.1177/1094428198 00100106.

Hinkin, T. R. (2005). Scale development: Principles and practices. In R. A. Swanson & E. F. Holton III (Eds.), *Research in organizations* (pp. 161–179). San Francisco: Berrett-Koehler Publisher.

Hinkin, T. R., Tracey, J. B., & Enz, C. A. (1997). Scale construction: Developing reliable and valid measurement instruments. *Journal of Hospitality and Tourism Research*, *21*(1), 100–120. https://doi.org/10.1177/109634809702100108.

Htay, S. N. N., Sadzali, N. S., & Amin, H. (2015). An analysis of the viability of micro health takaful in Malaysia. *Qualitative Research in Financial Markets*, *7*(1), 37–71. https://doi.org/10.1108/ara.2010.34118aaa.002.

Jawhar. (2014). Jabatan Wakaf, Zakat dan Haji. Retrieved from http://intranet.jawhar.gov.my/spmj/public/zkt_agihan_stat.php.

Jungmann, R., Baur, N., & Ametowobla, D. (2015). Grasping process of innovation empirically: A call for expanding the methodological toolkit. an introduction. *Historical Social Research*, *40*(3), 7–29. https://doi.org/10.12759/hsr.40.2015. 3.7-29.

Kahf, M. (1999, April). *The performance of the institution of zakah in theory and practice*. Paper presented at International Conference on Islamic Economics Towards the 21st Century, Kuala Lumpur. Retrieved from http://www.iefpedia.com/ english/wp-content/uploads/2009/11/ The-Performance-of-the-Institution-of-Zakah-in-Theory-and-Practice.pdf.

Kuran, T. (2004). *Islam and mammon: the economic predicaments of islamism*. United Kingdom: Princeton University Press.

Kwadzo, M. (2015). Choosing concepts and measurements of poverty: A comparison of three major poverty approaches. *Journal of Poverty*, *19*(4), 409–423. https://doi.org/ 10.1080/10875549.2015.1015067

Lee, S., Park, G., Yoon, B., & Park, J. (2010). Open innovation in SMEs: An intermediated network model. *Research Policy*, *39*(2), 290–300. https://doi.org/10.1016/j.respol.2009.12.009.

Lewis, B. (2002). *What went wrong? western impact and middle eastern response*. New York,NY: Oxford University Press.

Mahamood, S. M., & Rahman, A. A. (2015). Financing universities through waqf, pious endowment: Is it possible? *Humanomics*, *31*(3), 430–453. https://doi.org/10.1108/H-04-2014-0037.

Michelino, F., Caputo, M., Cammarano, A., & Lamberti, E. (2014). Inbound and outbound open innovation: Organization and performances. *Journal of Technology Management and Innovation*, *9*(3), 65–82. https://doi.org/10.4067/S0718-27242014000300005.

Mikail, S. A., Ahmad, M. A. J., & Adekunle, S. S. (2017). Utilisation of zakāh and waqf fund in micro-takāful models in Malaysia: An exploratory study. *ISRA International Journal of Islamic Finance*, *9*(1), 100–105. https://doi.org/10.1108/IJIF-07-2017-010.

Mohamad Hasim, H. (2014). Developing a conceptual framework of microtakaful as a strategy towards poverty alleviation. *Journal of Economics and Sustainable Development*, *5*(28), 1–8.

Mohd Rom, N. A., & Rahman, Z. A. (2012). Financial protection for the poor in Malaysia: Role of zakah and micro-takaful. *Journal of King Abdulaziz University, Islamic Economics*, *25*(1), 119–140. https://doi. org/10.419 7/Islec.25-1.5.

Muhammad Hasbi, Z., & Abdul Ghafar, I. (2016. January 13). Slavery - a mere "commodity" or a human dignity: classical view and solution. Available at SSRN: https://ssrn.com/abstract=.Retrieved from Social Science Research Network (SSRN) Database.

Müller, D. M. (2016). From consultancy to critique: The 'success story' of globalized zakat management in malaysia and its normative ambiguities. *Globalizations*, *14*(1), 1–18. https://doi.org/10.1080/14747731.2016 .120 0309.

Nitzl, C., Roldan, J. L., & Cepeda, G. (2016). Mediation analysis in partial least squares path modeling: Helping researchers discuss more sophisticated models. *Industrial Management & Data Systems*, *116*(9), 1849–1864. https://doi.org/10.1108/ 02635570910939399.

Noordin, N. H., Haron, S. N., & Kassim, S. (2017). Developing a comprehensive performance measurement system for waqf institutions. *International Journal of Social Economics*, *44*(7), 921–936. https://doi. org/10.1108/IJSE-09-2015-0257.

North, D. C. (1990). *Institutions, institutional change and economic performance*. New York,NY: Cambridge University Press.

Parkinson, B. K. (1967). Non-economic factors in the economic retardation

of the rural malays. *Modern Asian Studies, 1*(1), 31–46. https://doi.org/10.1017/S0026749X00000056.

Platteau, J.-P. (2008). Religion, politics, and development: Lessons from the lands of islam. *Journal of Economic Behavior & Organization*, *68*(2), 329–351. https://doi.org/10.1016/j.jebo. 2008.06.003.

Pramanik, A. H. (2002). Islam and development revisited with evidences from malaysia. *Islamic Economic Studies*, *10*(1), 39–74.

Qaradawi, Y. (2011). *Fiqh al-zakāh: A comprehensive study of zakāh regulations and philosophy in the light of the qur'an and sunnah*. Selangor,Malaysia: Islamic Book Trust.

Rehman, S. S., & Askari, H. (2010). How islamic are islamic countries? *Global Economy Journal*, *10*(2), 1–37. https://doi.org/10.2202/1524-5861.1614

Remneland-Wikhamn, B., & Knights, D. (2012). Transaction cost economics and open innovation: Implications for theory and practice. *Creativity and Innovation Management*, *21*(3), 277–289. https://doi.org/10.1111/j.1467-8691.2012.00639.x

Ringle, C. M., Wende, S., & Becker, J.M. (2015). SmartPLS 3. Bönningstedt: SmartPLS. Retrieved from http://www.smartpls. com.

Riordan, M. H., & Williamson, O. E. (1985). Asset specificity and economic organization. *International Journal of Industrial Organization*, *3*(4), 365–378. https://doi.org/10.1016/0167-7187(85)90030-X.

Sachs, J. (2005). *The end of poverty: How we can make it Happen in our Lifetime*. New York: Peguin Books.

Sarstedt, M., Ringle, C. M., Smith, D., Reams, R., & Hair, J. F. J. (2014). Partial least squares structural equation modeling (PLS-SEM): A useful tool for family business researchers. *Journal of Family Business Strategy*, *5*(1), 105–115. https://doi.org/ 10.1016/j.jfbs.2014.01.002.

Sayyid Qutb. (2000). *Social Justice in Islam*. New York: Islamic Publications International.

Selviaridis, K., & Norrman, A. (2014). Performance-based contracting in service supply chains: A service provider risk perspective. *Supply Chain Management*, *19*(2), 153–172. https://doi.org/10.1108/SCM-06-2013-0216.

Sutcliffe, C. R. (1975). Is islam an obstacle to development? ideal patterns of belief versus actual patterns of behavior. *The Journal of Developing Areas*, *10*(1), 77–82.

Usman, M., & Vanhaverbeke, W. (2017). How start-ups successfully organize and manage open innovation with large companies. *European Journal of Innovation Management*, *20*(1), 171–186. https://doi.org /10.1108/EJIM-07-2016-0066.

Varhaverbeke, W., & Cloodt, M. (2014). Theories of the firm and open

innovation. In H. Chesbrough, W. Vanhaverbeke, & J. West (Eds.), *New frontiers in open innovation* (pp. 256–278). United Kingdom: Oxford University Press.

Wei, W., Zhu, W., & Lin, G. (2013). *Approaching business models from an economic perspective*. (New York, Ed.). Springer-Verlag Berlin Heidelberg.

Williamson, O. E. (1981). The economics of organization: The transaction cost approach. *American Journal of Sociology*, *87*(3), 548–577. https://doi.org/10.1086/227496.