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BLENDING ISLAMIC FINANCE AND IMPACT INVESTING FOR THE SDGs

Editors:

Sutan Emir Hidayat, Yani Farida Aryani ,Bayu Arie Fianto
Sylva Alif Rusmita, Nisful Laila, Haryadi

4th AIFC
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BLENDING ISLAMIC FINANCE AND IMPACT INVESTING FOR THE SDGs

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Website : https://fiskal.kemenkeu.go.id/aifc2019

Editors:

Sutan Emir Hidayat
Yani Farida Aryani
Bayu Arie Fianto
Sylva Alif Rusmita
Nisful Laila
Haryadi

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WELCOME FOREWORD
MINISTER OF FINANCE, THE REPUBLIC OF INDONESIA

Assalaamu'alaikum Warahmatullahi Wabarakatuh
First and foremost, let us extend our praise to Allah SWT, God Almighty, for all the countless blessings and mercy endowed upon us.

I would like to extend my appreciation and heartiest congratulations on the successful publication of this compendium, aptly titled "Blending Islamic Finance and Impact Investing for the Sustainable Development Goals" –in line with the theme of this year's 4th Annual Islamic Finance Conference (AIFC) in Surabaya, Indonesia. The conference and this ensuing publication was a collaborative initiative between the Ministry of Finance, University of Airlangga, National Committee of Islamic Finance, along with the support of other key partners. I am very pleased to see the depth and breadth of perspectives reflected in this compendium, capturing the best minds in the field of economy and Islamic finance to gather their thoughts into high quality papers that are expected to become seminal references by academicians, policymakers and practitioners.

This year, the committee received more than 70 papers for the event. This indicates an increase in Islamic finance literacy and a growing interest by academicians, policymakers and practitioners in understanding, analyzing, and formulating recommendations on Islamic finance issues, particularly on "Blending Islamic Finance and Impact Investing for the SDGs". This topic is very timely since Islamic finance is an important growth sector waiting to be optimally tapped. The blending between Islamic finance and impact investing could accelerate the achievement of the SDGs, ultimately creating a more prosperous world.

Finally, I would like to congratulate the top 9 papers selected by the committee through careful and thorough reviews, which were presented in the parallel sessions of the 4th AIFC in Surabaya and featured in this publication. It is my hope that the authors could continue expanding and developing the ideas expressed in their papers to become possible alternative solutions to the issues the world is facing today. As stated in the Quranic verses, God Almighty has appointed humankind as vicegerents on earth (Surah Al-Anam, 6:165). Thus, we are all duty bound to be good caretakers of this world. May we all live up to that expectation.
Wassalaamu'alaikum Warahmatullahi Wabarakatuh

Jakarta, September 2019
Minister of Finance, The Republic of Indonesia

Sri Mulyani Indrawati, S.E., M.Sc., Ph.D

FOREWORD MESSAGE

EXECUTIVE DIRECTOR, NATIONAL COMMITTEE OF ISLAMIC FINANCE

Assalamualaikum Warrahmatullahi Wabarakatuh

All praises to God Almighty Allah SWT, the One who always showers us His mercy and blessings so the committee can complete The Edited Book of 4th Annual Islamic Finance Conference (AIFC) Call for Papers. I also would like to extend my appreciation to The Ministry of Finance as the organizer as well as KNKS and Faculty of Economics and Business, University of Airlangga as the supporting partners especially for the Call for Papers program.

I am very pleased to welcome all the readers since the 4th AIFC which was held on 24th July 2019 at JW Marriot Hotel Surabaya was a wonderful and successful event. There is something different in this year's AIFC Call for Papers. The theme "Blending Islamic Finance and Impact Investing for the SDGs" was very interesting and portrayed that Islamic finance itself is in line with Sustainable Development Goals and can support nations to achieve this global agenda. Moreover, the speakers from various backgrounds who have specific expertise related to the field added special nuance of this event.

In line with the implementation of the SDGs agenda, the global awareness has risen towards how the ethical values should manifest onto economic practices. The world has witnessed how the economic and business practices without moral values have resulted in tremendous social gaps and environmental crises. Therefore, several terms of moral practices in the economic life have emerged such as ethical consumerism, fair trade, and socially responsible investment or impact investing. These terms are also marking the shift of paradigm in economic and business practices. The whole concepts mentioned above are naturally contained the Islamic economy and finance values.

The 4th AIFC Call for Papers became very essential by addressing those kinds of issues and connecting it to Islamic finance. The 9 best papers in this book cover various subjects related to blended finance and impact investing for SDGs. Hopefully, this book can be a reference for academicians and policy makers as well as contribute to the development of science especially in the field of Islamic economics and finance.

Wassalamualaikum Warrahmatullahi Wabarakatuh.

Jakarta, September 2019
Executive Director of KNKS

Ventje Rahardjo Soedigno

FOREWORD MESSAGE
RECTOR OF UNIVERSITY OF AIRLANGGA

Assalamualaikum Warrahmatullahi Wabarakatuh

University of Airlangga is strongly committed to significantly contribute to in dealing with various kinds of world-scale problems, as well as national and regional issues that may include poverty, climate change, environmental issue, stunting and health, and certain problems that are related to education. This includes improving our teaching-learning processes, academic mobility, research activities as well as community development. Aligned with this aim, the Ministry of Finance in collaboration with KNKS, and University of Airlangga held the 4th Annual Islamic Finance Conference (AIFC) in Surabaya, with the theme "Blending Islamic Finance and Impact Investing for the SDGs."

We believe that higher education has a role in achieving SDGs, however, it must be ascertained what the input and output of SDGs will be. Improving the quality of life of the underprivileged for example, University of Airlangga supports SDGs in the field of education (Goal 4) and the development of creative industries through Islamic finance. Another example is Goal 8, the challenges are extraordinary in 2025-2030, which includes demographic and geographical challenges. In Indonesia itself, there will be demographic bonuses from 2030 - 2045. University of Airlangga believes that we hold an important role in producing excellence human resources for strengthening SDGs, and University of Airlangga has a high optimism with Indonesia's demographic bonus in 2045 to obtain SDGs achievements until 2030.

We have a high productive young generation, but the impact of industry 4.0 will reduce the level of job vacancies. Concerning economic empowerment, University of Airlangga believes that Industry 4.0 can also drive sustainable development goals, in which civil society or non-government organizations (NGOs) have come to see its economic prospects in Indonesia. The normative side of sustainable development envisions four basic objectives of a good society: economic prosperity; social inclusion and cohesion, environmental sustainability, and good governance by major social actors, including governments and businesses (Sachs, 2015). To achieve SDGs, the United Nations Development Program (UNDP), the agency under the United Nations who became the global coordinator of the SDGs noted that there were several issues related to implementation efforts, particularly in the financing aspect of achieving SDGs. Based on these problems, I believe we need to propose an alternative solution such as blending Islamic finance in which is covered in this edited book of 4th Annual Islamic Finance Conference (AIFC) Call for Papers. The conference itself also discussed the sharia financial literacy and faith-based impact investing, and it is presented in the best 9 papers.

The book offers ideas, thoughts and current research on blending Islamic finance and impact investing for the SDGs, and it is valuable for academics, researchers, and professionals from all over the world. Thank you for the warm support given by our partners and our faculty committee to strengthen academic and research collaboration by organizing a successful event of the 4th Annual Islamic Finance Conference (AIFC). University of Airlangga is hoping that this collaboration will continue to be fruitful for many years ahead, and bring success to you and University of Airlangga. All in all, I hope that this book will not only give insights to all of the parties, but it will also provide us more enlightenment to answer the role of Islamic finance in achieving the SDGs.

Thank you very much for your kind attention.
Wassalamualaikum Warrahmatullahi Wabarakatuh.

Jakarta, September 2019
Rector University of Airlangga

Prof. Dr. Moh. Nasih SE., MT., Ak.

FOREWORD MESSAGE
IsDB REPRESENTATIVE

In many ways, the principles of Islamic finance and impact investing are mutually compatible. The collaboration between these two sectors represents an unprecedented opportunity for putting the world on an inclusive and sustainable course of development. Blending the potential of Islamic finance and impact investing can mobilize additional resources of finance for sustainable development, increase the social, environmental and financial impact of investments through increased coordination, and accelerate progress towards the 2030 Agenda. The principles of Islamic finance and impact investing have many common denominators: First, Islamic Finance and Impact Investing are value-based investment structures. Second, through Islamic Finance and Impact Investing, investors associate themselves with a moral purpose in avoiding harm. Third, the joint force of Islamic Finance and Impact Investing provides access to finance for people who are directly or indirectly kept out of the formal financial sectors. Fourth, they have a common objective which is to promote the wellbeing of all humankind. Although both sectors recognize the need of investors to earn acceptable returns, these returns constitute only one dimension of investment. More importantly, both Islamic and impact investors seek to create positive non- financial value alongside financial returns to support society- and environment-friendly systems.

As the world has signed up to the SDGs, Islamic finance cannot afford to miss the opportunity to prove that it can contribute to achieving some of SDGs in a meaningful manner, such as poverty eradication and reduced inequalities.

It is timely that Edited Book of 4th Annual Islamic Finance Conference (AIFC) Call for Papers provides in-depth insight on blending Islamic finance and impact investing for the SDGs. Thus, I believe this report is valuable for academicians, regulators, policy makers and industry players particularly in Islamic economics and finance sector At last, I would like to compliment all the committee for their great work and full efforts in organizing a successful event of the 4th Annual Islamic Finance Conference (AIFC) and congratulate the best 9 papers presented in this book. Hopefully, this book will considerably contribute to greater knowledge about the role of Islamic finance in achieving the SDGs.

Jakarta, September 2019
IsDB Representative

Dr. Walid Abdelwahab

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PREFACE AND ACKNOWLEDGEMENT

Bismillahirrahmanirrahim

Assalamualaikum Warrahmatullahi Wabarakatuh

Let us express our gratitude to Allah SWT for enabling us to complete the Edited Book of 4th Annual Islamic Finance Conference (AIFC) Call for Paper. This book is the output of Call for Paper from the 4th Annual Islamic Finance Conference, which was held on 24th July 2019, at JW Marriot Hotel, Surabaya. This call for paper was hosted by the Ministry of Finance in collaboration with Faculty of Economics and Business, University of Airlangga and National Committee of Islamic Finance (KNKS).

For more than two decades, Islamic Economics and Finance has been practiced, both at the international and at the national levels, and penetrated in all financial sectors, from banking, capital markets, insurance to mortgages company. The development of this industry encourages the rise of research and education infrastructure in the field of Islamic Economics and Finance. However, the media for publication and references on Islamic Economics and Finance are still relatively limited. Islamic financial literacy in Indonesia is still relatively low as compared to conventional. In addition, scientific research and publications in Islamic Economics and Finance are very important for market education.

With regard to those issues, the edited book is created to add value to the existing literature of Islamic Economics and Finance, improve the quality and quantity of publications for academics and researchers in Islamic Economics and Finance in Indonesia, and promote research-based policies on blending Islamic Finance and impact investing for the SDGs. This Edited Book contains 9 best papers selected from 78 papers submitted which come from various countries. The selection of these 9 best papers consists of three stages of the peer-review processes. The first process was the desk review process where reviewers evaluated 78 full submitted articles based on the assessment criteria that have been set by the committee. The desk review process selected 15 best papers. The second process is the full review process where the reviewers selected 9 best papers. The reviewers provided full comments and each paper was reviewed by 3 reviewers in this process.

The final stage is the conference presentation process, which consisted of 9 participants presented their papers and were assessed by qualified jurists. The nine best papers are divided into three categories namely Islamic Economic

Development, Islamic Financial Instruments and Technology, and Islamic Social Finance.

On this occasion, we would like to express our deepest appreciation to those who were involved in the processes of completing this Edited Book. A special gratitude is dedicated to:

1. Ministry of Finance which has held and provided full support for the 4th AIFC Call for Paper event, in the form of financing and presentation facilities at JW Marriot Hotels Surabaya, as well as giving prizes to the three winners of the Call for Paper.
2. Faculty of Economics and Business, University of Airlangga as the co-Host and strategic partner of the Ministry of Finance to assist the call for paper especially with the contribution of human resources to assist the review processes.
3. National Committee of Islamic Finance (KNKS) as the Coordinator of Publication Call for Paper and also the reviewer of Call for Paper.
4. To all Reviewers: Dr. Nisful Laila, SE., M.Com; Dr. Tika Widiastuti, SE., M.Si; Dr. Imron Mawardi, SP., M.Si; Ilmiawan Auwalin, SE., M.App.Ec., Ph.D; Dr.Achsania Hendratmi, SE., M.Si; Dr. Bayu Arie Fianto, SE., MBA., Ph.D; Sylva Alif Rusmita, SE., CIFP; Puji Sucia Sukmaningrum, SE., CIFP; Noven Suprayogi, SE., M.Si., Ak; Dr. Siti Zulaikha, SE., M.Si; Sulistya Rusgianto, SE., MIF., Ph.D; Lina Nugraha Rani, SE., M.SEI, Dr. Sutan Emir Hidayat, Dr. Ronald Rulindo, and Dr. M. Soleh Nurzaman.
5. To all researchers and academics who have submitted papers to the Call for Paper AIFC.
6. To all staff, students and the Department of Islamic Economics, Faculty of Economics and Business, University of Airlangga who helped us to conduct the review processes.

Finally, thank you for all participants who were involved in the Call for Papers of the 4th AIFC. Hopefully, this edited book can serve its purpose as a reference for academics and policymakers, especially those related to Islamic Economics and Finance.

Wassalamualaikum Warrahmatullahi Wabarakatuh.

PART 1

ISLAMIC ECONOMIC DEVELOPMENT

EXPLORATIONS IN AGENT-BASED SIMULATION: ANALYSIS OF GINI INDEX AFTER ZAKAT ENFORCEMENT UNDER INTEREST BASED SYSTEM

Diyah Putriani[a], Gairuzazmi Mat Ghani[b] and Mira Kartiwi[c]

[a]Department of Economics International Islamic University Malaysia and

Universitas Gadjah Mada

[b]Department of Economics International Islamic University Malaysia

[c]Department of Information System International Islamic University Malaysia

ABSTRACT

Voluminous previous studies show that zakah is able to reduce poverty and hence it is expected to minimize income inequality. At this point, there is one question remains, i.e., by how much level of Gini index can be reduced after zakah enforcement? Considering this gap of research, this study is proposed to capture the dynamic changes on Gini index after zakah enforcement. In this regards, zakah enforcement refers to a condition when zakah is received by all recipients. Since the existing economy is under interest-based system, thus there will be two scenarios in this research, i.e. the economy is run without and with zakah. From these two scenarios, it can be explored a potential reduction or increment on Gini index after zakah is disbursed to all recipients under interest-based system. This research fundamentally is an exploratory research; thus, many findings will be examined in the analysis. One of interesting findings is that in the long run only around 1 percent of total population own about 25 percent of total wealth in the economy without zakah. An Agent-based Computational Model (ABM) simulation will be employed to conduct the simulation. The application of ABM in this research is to bring the use of computational study as an alternative methodology to develop research in the area of Islamic economics.

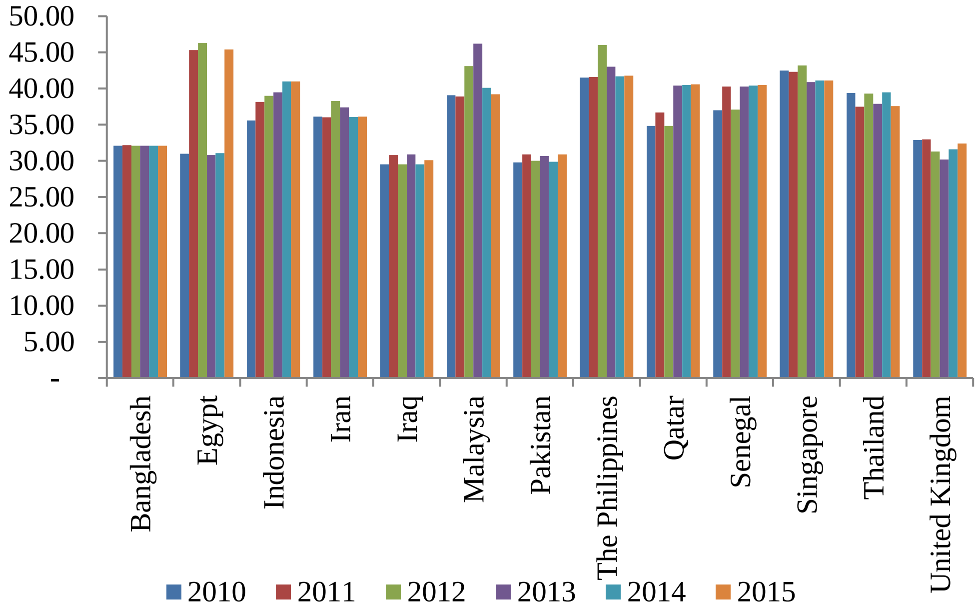
Keywords: Zakah, Gini Index, Interest Based System, Agent-Based Computational Model, Computational Study.

1. INTRODUCTION

A report published by OECD in 2011/2012 documents that Gini index[1] had increased from 0.29 to 0.32 in the middle 1980th to 2011/2012, respectively. Even the poorest 10 percent of total population in OECD earn only nearly one tenth of income earned by the richest 10 percent. Other countries also experience income inequality. Figure (1) shows Gini index accross countries between 2010 and 2015. The lowest income inequality occurs in Iraq, meanwile in 2012 Egypt experienced the highest income inequality, i.e. 46.3 point. Malaysia, The Philippines, Qatar, Senegal and Singapore have similarly high level of Gini index which equals 0.40

[1] Gini index is one of tools to measure income inequality.

point on average. There is also a tendency of an increasing trend of Gini Index in Indonesia from 35.57 point in 2010 to 41.0 in 2015. At this point, it can be considered that all countries around the world experience income inequality.



Sources: World Bank, SWIID, United Nation, OECD, Statistic Bureau each country. Authors'calculation.

Figure 1. Gini Index Cross Countries

Previous research shows that income inequality is considered as the main determinant factor to create economic stability (Berg & Ostry, 2011; Berg, Ostry, & Zettelmeyer, 2012; Kumhof & Rancière, 2010; Ostry, Berg, & Tsangarides, 2014). Even, International Monetary Fund (IMF) Managing Director, Christine Lagarde, in her speech said that income inequality becomes the requirements to maintain economic stability as well as to have inclusive and sustainable economic growth.[2] In other words, high income inequality is possible to lead economic instability.

To minimize income inequality, Islam has its redistributive instrument such as zakah, infaq, sadaqah or waqf in targeting the poor. At this point, zakah even

[2] Christine Lagarde delivered her speech at the Grandes Conferences Catholique on June 17th 2015 in Brussels. "Lifting the Small Boats". Accessed on December 31st 2016 from https://www.imf.org/en/News/Articles/2015/09/28/04/53/sp061715

can be used as a social security system (Ziauddin, 1990). Zakah is an obligation for rich class and paid based on the *nissab* measure. As the Prophet said "*It should be taken from the rich class of society and it should be distributed amongst the poor class of the society"*[3]. Even, during the reign of Caliphate Umar Ibn Khatab, the economy reached surplus and no one has right to receive zakah other than Caliphate himself. The importance of zakah can be traced in Quran which is always associated with 5 times-daily prayers and revealed numerous times in Hadith.

Previous literatures which discuss about zakah also find that zakah is able to reduce poverty and hence will minimize income inequality (Ayuniyyah, et.al. 2017, 2018 and 2019; Kasri, 2017; Hassanain and Ali, 2016, Hoque, et.al, 2015; Jaelani, 2015; Embong and Nor 2013, Nadzri, et.al 2012, Bello, 2009; Ahmed, 2004; and many other). At this point, there is a gap in these previous literatures which has not been discussed, i.e. by how much or in which level of Gini index is reduced after zakah enforcement?

Considering this research gap, this study is aimed at measuring reduction or perhaps increment on Gini index after zakah enforcement. In this context, zakah enforcement refers to a condition when zakah is received by all recipients. Since current economic system is fundamentally run by interest-based system, thus this research will develop an artificial economy which simulates how Gini index differs or similar under economy with and without zakah. By comparing these two systems, it is expected that result of this study is able to examine the difference and similarity on Gini index if an economy is run with and without zakah.

2. SIGNIFICANCE OF STUDY

Unlike previous works which retrieve empirical data and apply fieldwork survey, this study conducts an exploratory research by applying computational method. An Agent-based Computational Model (ABM) simulation is employed to conduct the simulation. The application of ABM in this research is to bring the use of computational study as an alternative methodology to develop research in the

[3]Sahih-Muslim

area of Islamic economics. Therefore, it is expected that this research is able to contribute the development of Islamic economics research.

3. METHODOLOGY

3.1. Agent Based Computational Model

This study employs Agent-based Computational Model (ABM). In the field of economics, ABM is defined as a computational study of artificial economic, modeled as a system that develops from agents which interact autonomously. The artificial economy expands over time as its elements of agents insistently intercommunicate each other and learn from their communications. Under ABM, agents are designed to be heterogen, follow adaptive rules, and have bounded rationality. The term of agent in ABM can be defined as a set of data and behavioral methods denoting an entity which is part of a computationally constructed economy. Agents could comprise institutional, social entities, individuals, and many others (Tesfatsion, 2011).

The use of ABM in the research has two main benefits. First, ABM is able to explore the dynamic changes of a system; thus, ABM can examine certain phenomenon in the real world. And second, the ability of ABM to construct complex interdependent system, for example the ability to build model of multiple layer of market institutions or even construct a combination between heterogeneous agents and markets (Barr, Tassier and Ussher, 2011).

One key departure of ABM modelling from more standard approaches is that events are driven solely by agent interactions once initial conditions have been specified. Thus, rather than focusing on the equilibrium states of a system, the idea is to watch and see if some form of equilibrium develops over time.

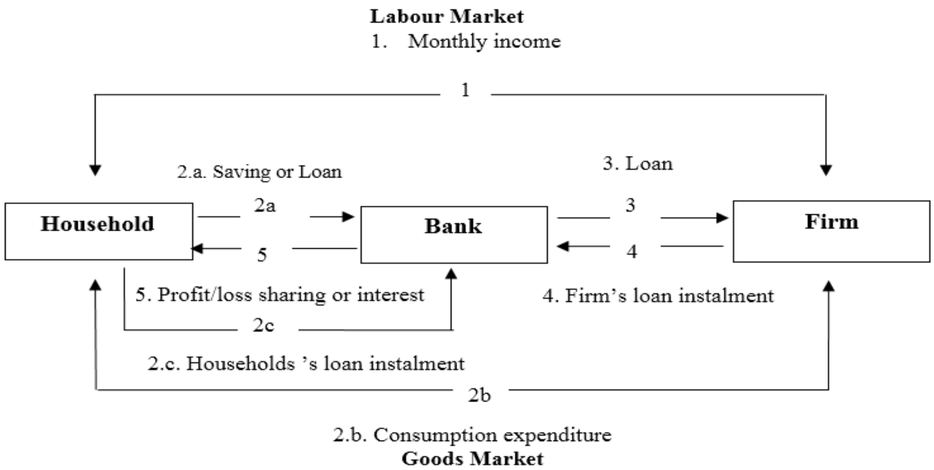
3.2. Software: NetLogo

To construct agent-based environment, this research uses NetLogo©, i.e., a software package developed by Prof. Uri Wilensky at Northwestern University (Wilensky, 2003). NetLogo© is widely used both for research and teaching tool as it includes a modeling environment apt for a simulation complex system and social phenomena (Freeman, 2005).

4. MODEL DEVELOPMENT

4.1. Conceptual Model

This research fundamentally expands the study of Al-Suwailem (2008). Agents start to make a decision at discrete times (t = 1, 2, 3, ...T). There will be three groups of agents such as households (i = 1, 2, 3,..H), firms (f = 1, 2, 3,..., F), and banks (b = 1, 2, 3, ...B). This research will introduce 3 new sectors in the system, i.e. business sector, i.e. firms, goods market and labour market.



Source: Author's own

Figure 2. Circular Flow

At this point, the design of this research can be explained through figure (2) which shows the interconnection amongst households, firms and banks. Following Gaffeo, et.al. (2008) and Lengnick (2013) the economy is structured by the absence of market clearing mechanism. As its consequences, market is allowed to have unemployment and excess of household demands. In addition, the model also allows for the firm to compete each other or even bankrupt. It is possible for the firm to offer different prices depending on the condition of internal firm and demands of the products. Therefore, the market in this research will have similar features with market in the real world. The introduction of bank is to facilitate the agents who have excess money and the agents who needs money.

Based on figure (2), the sequence or process overview and scheduling in each period of circular flow can be explained as follows:

1. In every period, all households are assumed to have consumption plan, meanwhile firms will set up its production. Household who works in a firm will receive income. It implies that household sector supplies labour market. Value of consumption for each household depends on income and saving allocation. If households decide to save certain portion of their income, they will get additional wealth in the form of interest rate. However, if household income and wealth is not enough to purchase products, they can ask credit and hence in the next period, they must pay instalment. In this simulation, one period equals one month, thus it is assumed that all households buy consumption for one month.
2. To simplify the model of economy with zakah, it is assumed that all households are Muslim. In this simulation, zakah is treated as an exogenous variable. Zakah is given to all indebted agents who are not able to payback their loans. All agents who are categorized in that criteria will receive zakah. Amount of zakah equals minimum consumption of respected households. In other words, in an economy without zakah, agents who cannot meet their financial needs will always ask loan from the bank. However, in an economy with zakah, there are two financial sources, i.e. loan from bank and zakah.
3. In every period, firms will decide its targeted number of products and number of workers that will be employed. If firm's financial resources is not enough to finance its production, firm may ask credit from the bank. After firms check their financial ability, they will go to production process. Subsequently, each firm will supply product with different price in the goods market. Firms will earn profit or loss depends on the difference of total production and product sold.
4. The instalment stage begins. Each indebted household and firm will assess whether they can return his debt. If individual household and firms are not able to payback their loan, they will be reset. A new firm or households will be introduced in the system. Thus, number of households and firm will be constant throughout the simulation.

5. If the depositors decide to keep their monthly interest rate (on saving) paid by bank, their total wealth will increase. Recall that saving is considered as wealth. At this point, the link of bank system and Gini index occurs in this stage. Therefore, there will be a change in the distribution of income and wealth amongst the economic agents in the economy.

By conducting these five stages in the simulation, it is expected that the outcome may examine the difference or similarities on wealth distribution under economy without and with zakah.

4.2. Initialization

The model in this research involves 3000 households, 200 entrepreneurs, and 200 consumptions firms, and a conventional bank. In NetLogo platform, there will be 200 grids where one grid will be connected to one entrepreneur with one firm. The initial conditions and parameters for each variable are shown on table (1). Detail of initial condition and parameters in this research refers to the work of Assenza et.al (2015).

Table 1. Initial Condition and Parameters

Parameters	**Initial Condition**
Number of periods	3000
Number of workers	3000
Number of firms	200
Marginal productivity of labour	0.5
Marginal productivity of capital	1/3
Probability of investing	0.25
Wage	1
Liquidity of firm	10
Capital	10
Production	5
Equity of bank	3000
Wealth of households	2
Interest rate on credit	6% p.a
Interest rate on deposit	2% p.a
Dividend payout ratio	0.2
Marginal propensity to consume	0.05

To reach the objective, this research makes changes on some elements of the model, i.e. omitting some variables which are not necessary to be involved in the model[4], changing procedures in credit market, changing procedures in investment mechanism.

5. FINDINGS

5.1. Validation

Validation is a process to ensure whether the simulated model links to and describe some facts in the real world. In other words, validation is not a process to compare the value of empirical and simulated data. Following Assenza, et.al (2015), validation in this research is conducted by calculating standard deviation of four main variables which include GDP, consumption, investment and unemployment rate. The closer value of standard deviation from the simulated data to empirical data means the more valid of the simulated model.

All empirical data is retrieved from website of the FED of St.Luis with time spans from 1947 quarter 1 to 2018 quarter 4. Based on availability, data for unemployment rate starts from 1960 quarter 1 to 2018 quarter 4. Both simulated and empirical data are detrended using Hodrick-Prescott (HP) filter procedures. Result of the simulated data compared to the empirical data is shown in table (2).

Table 2. Standard Deviation of Empirical and Simulation Data

Variables		**St.Deviation**
GDP	Empirical	2.91702
	Simulation	4.98996
Consumption	Empirical	2.54959
	Simulation	3.47209
Investment	Empirical	17.15384
	Simulation	16.43632
Unemployment	Empirical	1.65241
	Simulation	0.56866

Source: Authors' calculation

Based on table (2), it can be shown that standard deviation of data generated from the simulation is relatively similar with the empirical data. In other words, the model in this research is able to examine some important phenomenon in the real world.

[4]The omitted variables include ,bank loss parameter, installment on debt, interest risk free, and wholesale bank.

5.2. Analysis

This sub chapter explores some findings based on data from the simulation. In this case, each model is run for 30 times with time spans 3000 periods. To get rid of transient behaviour of the agents, data in the first 200 periods is discarded; hence total data which is calculated for analysis equals to 2800 periods.

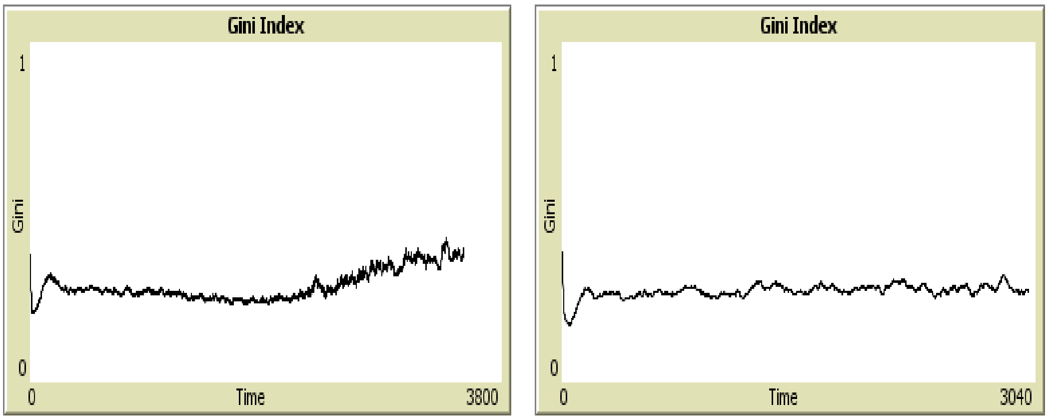
Table 3. Average Values of Main Variables

Variables	**No Zakah**	**Zakah**
GDP	1216.973	1216.544
Consumption	1079.081	1078.363
Investment	458.010	457.226
Unemployment Rate	13.287	13.312
Gini Index	0.288	0.272

Source: Authors' calculation

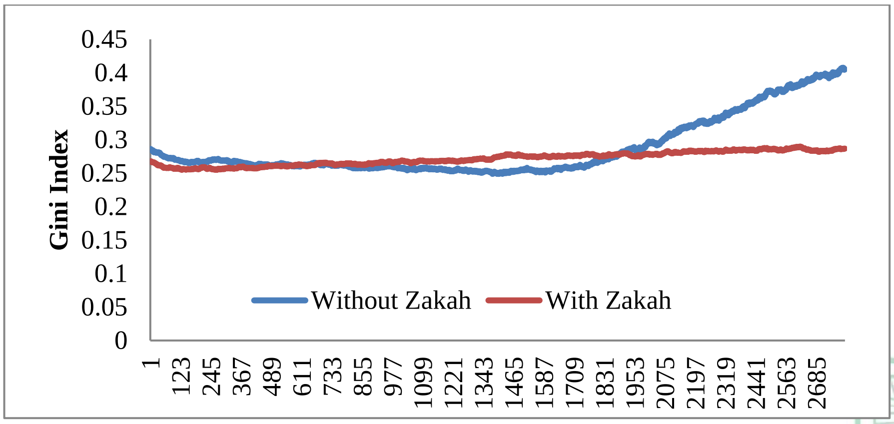
Table (3) shows summary statistics of main variables which includes GDP, consumption, investment, unemployment rate and Gini index. Recall that there are two scenarios where the artificial economy is setup with and without zakah. The economy without zakah is a scenario where the agents who needs financial resources fully access credit (with interest rate) from conventional bank. Meanwhile, the economy with zakah is a scenario where the agents who have difficulty to payback their loan may access zakah for fulfilling their basic needs.

Based on the simulation result on table (3), it can be concluded that the average values of GDP, consumption, investment, and unemployment rate in the economy where zakah does not exist has similar values in the economy with zakah. Even the mean value of Gini index under these two scenarios (0.28 and 0.27) does not have significant difference and the values can be considered as an equitable distribution. Eventhough the mean values have similar result; however, it does not mean that the situation is similar. Therefore, it needs to look deeper on the whole dataset.



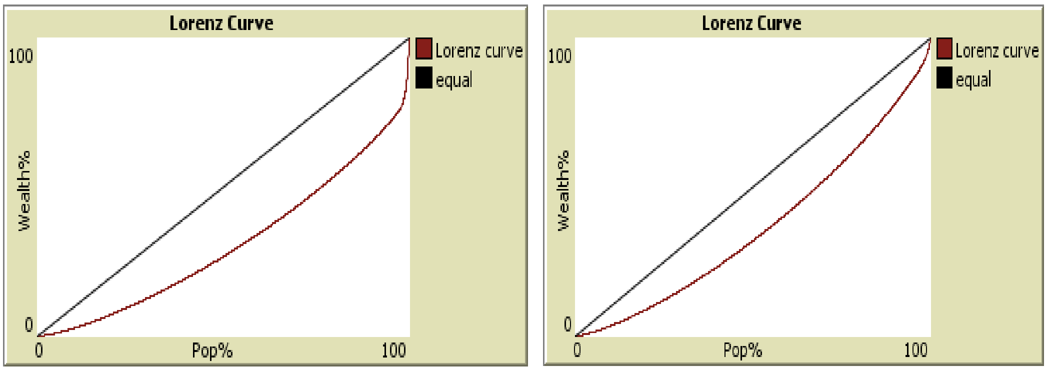
Source: Authors' calculation
Figure 3. Gini Index in an Economy Without Zakah (Left) and With Zakah (Right)

Figure (3) shows the significant difference between two scenarios where zakah does and does not exist in the economy. In the long run, the economy without zakah will experience high inequality where Gini index reaches arround 0.40 (Figure 3). However, when zakah is introduced in the system, the economy does not experience high Gini index, i.e., the values remain stable at approximately 0.25 (Figure 3). Figure (4) shows summary of Gini index movement based on two scenarios where Gini index in an economy without zakah move rapidly in the last 1000 periods. At this point, it can be inferred that in the very long run, it is expected that zakah is able to reduce about 0.15 and stabilize level of Gini index at 0.25 point.



Source: Authors' calculation
Figure 4. Summary Comparison of Gini Index Under Two Scenarios

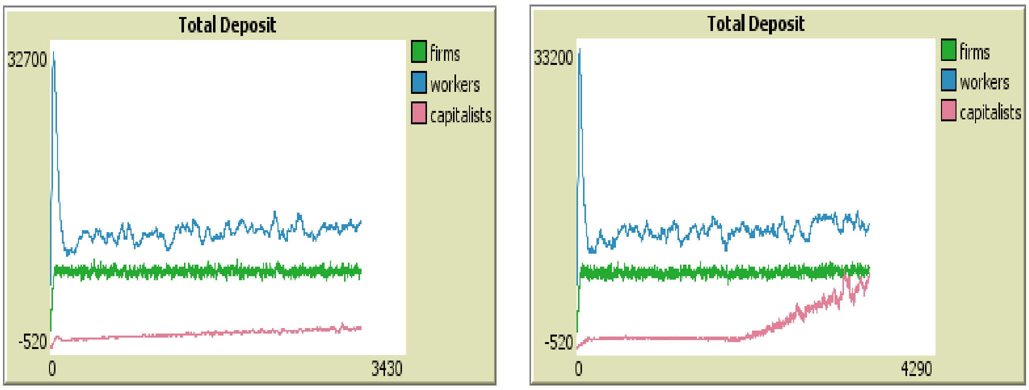
The next question is why the average value of economy without zakah has similar level like in the economy with zakah, however in the long run there is a big gap of Gini index between these two conditions? This is because there is a small number of groups who experience a significant increase in their wealth in the long run. This condition can be proof from the Lorenz curve on figure (5) which shows the economy without zakah (left) show significant difference on wealth distribution in the small number of populations. That is, only around 1 percent of population own about 25 percent of total wealth in the economy. Different situation happens in the economy with zakah which experience equitable wealth distribution along the period of simulation.



Source: Authors' calculation

Figure 5. Lorenz Curve in an Economy Without Zakah (Left) and With Zakah (Right)

Based on figure (5), the next question is which group of agents whose experience a significant increase on his wealth? The answer is those who owns capital, i.e. capital owner or businessman. This situation can be proof from the dynamic changes of total deposit in the economy shown by figure (6). According to figure (6), it can be clearly seen that there is a significant change on the total deposit of capitalist (pink line) in the economy without zakah (left). Terminology of capitalists refers to businessman or firm owner. This significant change on total deposit of capitalist in the economy without zakah proof that full practice of interest-based lending may harm the society in the long run.



Source: Authors' calculation

Figure 6. Total Deposit in an Economy Without Zakah (Left) and With Zakah (Right)

From these two scenarios of simulations, we can doubt that when zakah (or other type of charity) does not exist, the economy will experience high inequality of wealth distribution. In other words, current stability in Gini index under interest based system perhaps is caused by the existence of zakah (in the case of Muslim countries) or other type of charity (in the case of other countries). For instance, in Indonesia level of Gini index in 1984 was about 0.32 point and in 2018 was around 0.38 or increased only 0.06 point for 34 years. Therefore, this research argues that an increase in the level of Gini index in Indonesia is relatively slow due to the existence of Zakah and other types of charity such as *waqf*, *infaq* and *sadaqa*.

Unlike many previous studies[5] which shows that bank lending may reduce income inequality, this study has shown two scenarios of simulatios where zakah is a powerfull instrument to tackle problem of inequality in wealth distribution instead of bank lending (represented by scenario of economy without zakah). Even the simulation shows a contrary situation where conventional bank lending will create high gap in wealth distribution in the long term. Therefore, this research

[5]Many previous studies shows that bank lending and income inequality has negative relationship, e.g. Elmi and Ariani (2011) ; Batuo, Guidi, & Mlambo (2010); Chu & Le (2012); Onofrio & Murro (2013); Shahbaz and Islam (2011); Saitti, et.al (2015) ; Baligh and Piraee (2013); Zhang and Chen (2015) ; Mohieldin et.al (2012) ; Akimov et al., (2006); Kenourgios & Samitas, 2007; Levine (2003);Agnello and Sousa (2011); Ayyagari, Beck, and Hoseini (2013).

further questioning these previous studies, i.e. to what extend bank lending promotes wealth distribution as compared to zakah or other types of charity?

6. CONCLUSION

6.1. Summary

Significant development in technology and information system should be benefited especially in Islamic economics research. The application of Agent-based Computational Model (ABM) in this research is to bring the use of computational study as an alternative methodology to develop research in the area of Islamic economics.

In this research, the use of ABM is to explore and answer a fundamental research problem on zakah which has not been observed in the previous studies, i.e., by how much Gini index can be reduced after zakah enforcement? This study has shown the application of ABM is able to answer a decrease in Gini index after the introduction of zakah in the system. Further, the findings also observe reason of an increase in Gini index where the economy has no zakah and observe a group of population which will dominate total wealth in the economy.

Islamic economics needs to move forward to take many benefits from the advancement of technology in order to answer many research problems which has not been discussed or in order to develop a theory which has been so long undeveloped. The use of ABM is one of alternative ways to do it.

6.2. Policy Recommendations

Indonesia as the biggest Muslim population country in the world needs to have a comprehensive regulation related to zakah. At this point, this research formulates policies recommendation by analyzing result of the simulation, reviewing previous studies and conducting an interview with a zakah expert[6]. In this regard, there are two fundamental dimensions to improve regulations on zakah in Indonesia, i.e. collection and distribution of zakah.

[6] Authors conducted an interview with Dr. Qurroh Ayuniyyah, M.Ec. a senior project manager at Center for Islamic Economics International Islamic University Malaysia (CIE IIUM) on 17th July 2019.

6.2.1. Policies Related to Collection of Zakah

Result of the simulation shows that zakah is able to reduce about 0.15 point and stabilize level of Gini index at 0.25 point. In this regard, the result is able to examine phenomena of Gini index in Indonesia and argue that the existence of zakah, infaq, *sadaqa* and *waqf* decelerate level of Gini index in Indonesia which increase only about 0.06 in the last three decades.

Referring to this fact, this study suggests making zakah as an obligatory for those who are categorized as *muzaki*. If zakah becomes an obligation for all *muzaki,* it means zakah is formally introduced into the system. Indonesia as majority Muslim country has big potential to impose zakah for its citizen. In the long term, it is expected that zakah may support Indonesian government to reach its development goals

Further, Akbar and Kayadibi (2015) analyzes that there are three challenges to formally introduce zakah into the economy. *First*, there will be rejection from private zakah institution. *Second,* there is a tendency of lack of trust towards government whereby people afraid if zakah will be corrupted. *Third*, there is opinion that Muslim who are categorized as *Muzaki* will pay double tax since they also become a taxpayer.

Considering these three challenges, thus this study further proposes three suggestions as follows. *First*, government should empower current private zakah institution to collect zakah and integrate zakah institution as a part of Government agency. This is due to Indonesia is a big country and has many islands, thus it needs new Government agency to collect and manage zakah. In this regard, Government may empower zakah institution to educate society about the urgency to pay zakah through institution. To increase zakah awareness, education can be delivered starting from elementary school. Therefore, there will be more young generations understand and aware about zakah. In the end, it is expected that number of people pay zakah can increase and zakah institution helps government to monitor the usage of zakah in the society.

Second, Zakah institution in Indonesia should improve its good governance. The advancement in technology recently makes all institutions upgrade their infrastructures. Zakah institution also should improve its technology hence people will be much easier to access zakah institution from their home or office. Therefore, accountability and responsibility of zakah institution can be monitored by society and hence people' trust towards zakah institution as well as government increases.

Third, government should issue new incentive policy where zakah becomes tax deduction instead of income deduction. According to Sudibyo (2018, in Indonesia Zakat Outlook, 2019), total potential zakah from tax deductable equals to 3.14 percent out of total GDP; meanwhile potential zakah from income deductable equals to 1.5 percent out of total GDP. Current collection equals to 1 percent out of total potential zakah from income deductable.

At this point, it is noteworthy to underline that collection of zakah is only 1% out of total potential zakah, however level of Gini index in Indonesia is relatively stable at around 0.35 to 0.38 and increase only 0.06 points in the last 34 years. It implies that if people are required to pay zakah and zakah collection equals to potential zakah, authors believe that level of Gini index will be very much lower than current condition. To apply zakah as tax deduction, database related total zakah payment and total zakah distribution should be firstly build. This database is used to measure tax deductable and to measure performance of zakah institution.

6.2.2. Policies Related to Distribution of Zakah

According to the work of Ayuniyyah, et.al. (2017), there are at least three points of suggestion to improve effectiveness of zakah distribution. *First*, zakah should be more distributed for productive activities rather for consumption. It is expected in the future, zakah recipient (*mustahik*) may become zakah payer. *Second*, zakah institution should have continuous monitoring program to supervise and empower *mustahik.* And the last policy is related on the process of selection of potential *mustahik* in order to ensure zakah is given only for the eligible person. In their study, Ayuniyyah, et.al (2017) finds that there are *mustahik* who are already live above poverty line.

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DOES ACCESS TO FINANCE LEAD TO SUSTAINABLE DEVELOPMENT? AN EMPIRICAL ASSESSMENT OF 18 OIC MEMBER COUNTRIES

Madha Adi Ivantri[a]

[a]Ekonomi Syariah, Universitas Nadhatul Ulama Surakarta, Surakarta, Indonesia

ABSTRACT

This study investigates the relationship between access to finance and the dimensions of sustainable development in OIC countries. This paper uses analysis technique of Fixed Effect Estimation (FE) and Random Effect (RE) dan collects data from the panel data of selected OIC member countries in the period 2006-2014. The result shows that access to finance does not have a significant effect on economic growth and environmental quality but has a positive effect on human development. Based on the result, the OIC countries are suggested to expand the ease of funding for all levels of society. However, it should be noted that this ease of funding should not jeopardize the project related to sustainable development.

Keywords: Access to Finance, Sustainable Development, OIC Member Countries.

1. INTRODUCTION

The OIC countries have major challenges in achieving sustainable development. Konac (2004) argues that the main challenges of sustainable development in OIC countries are environmental problems and the gap of application of technology between OIC countries and developed countries. Meanwhile, Kahf (2002) claims that challenges occur in OIC countries are from the social and economic dimensions. From the social side, the OIC countries face a problem of low life expectancy. Even though according to historical data there are still a lot of countries, 24 countries in 1999 and 16 countries in 2017, with life expectancies below the average of low-income countries in the world. From an economic standpoint of view, most OIC countries have achieved poor results, such as: low improvements in the agricultural sector and low levels of labor force participation, particularly for women. Thus, based on these facts Khaf (2002) suggests the role of entrepreneurship cannot be ignored.

Dhahri & Omri (2018) have investigated the contribution of entrepreneurship to sustainable development in developing countries. According to Hall, Daneke and Lenox (2010), entrepreneurship cannot be simply met sustainable development goals without fulfilling the required conditions. One of the required conditions is dependency on resources, especially capital. Capital can be obtained by employers through adequate financial access. Without sufficient financial access, entrepreneurs will face difficulty in increasing growth and maintaining their business. In addition, another condition is from socio-economic condition in which entreprenur is needed to increase access to finance particularly to low and middle income individuals (Beck, Demirguc-Kunt and Martinez Peria, 2007; Bruhn and Love, 2014).

This study examines the relationship between access to finance and sustainable development in OIC member countries. OIC member countries have been chosen as samples in this paper due to three reasons. First, there are limited research papers on access to finance and sustainable development in Muslim-majority countries. Second, the majority of the Muslims consider religion to play a significant role in their lives (Pew Research Center, 2012), thus, people who live in OIC countries normally would have a strong Islamic teaching in their character. Third, the OIC countries have experienced the diffusion of the Islamic law-based financial system and some OIC countries have implemented a dual financial system, namely the conventional and Islamic financial system. On the second and third reasons above, it indicates that Islam has huge influence on these OIC member counttries.

The structure of the paper is organized as follows: section 2 provides a literature review; section 3 describes the data; the proxy measure of sustainable development and access to finance, and estimation model; setion 4 shows the empirical analysis and results lastly section 5 concludes the paper.

2. LITERATURE REVIEW

2.1. The Concept of Sustainable Development

The World Commission on Environment and Development (1987) defines sustainable development as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. This definition establishes the need for integration of decision making that is able to balance the social and economic needs of the community with the regenerative capacity of the natural environment. It is widely recognized that the definition of sustainable development from WCED links with three dimensions, namely social, economic and environment. These three dimensions are closely interrelated and cannot be separated. This idea was born from the realization that economic growth alone is not enough because the economic, social and environmental aspects of each action are interrelated. Thus, sustainable development aims to create and maintain the prosperity of the economic, social and environmental systems (Folke et al., 2002).

2.2. Concept of Access to Finance

Some literature on access to finance tends to mix the terms of access and use of financial services. Beck, Demirguc-Kunt, & Martinez Peria (2007) clearly show that access to financial services is not synonymous with the use of financial services. Both have different concepts, whereby access to finance means the possibility of using financial services, while the use of financial services means the actual use of financial services. Based on this concept it can be understood that there are economic agents who have an easy access to finance but decide not to use it, for religious, sociocultural reasons, and high opportunity costs.

Access to finance plays an important role in influencing someone in the accumulation of human capital, physical capital and employment choices. For example, in capital accumulation, access to finance greatly determines the opportunity someone can borrow for investment in education or physical capital such as machinery, vehicles, buildings, etc. Whereas in job opportunity, access to finance is very decisive for someone who has entrepreneurial talent to collect external funds and start various projects. Therefore, access to finance provides broad opportunities and influences, not only in the economic sector but also in other sectors such as social and environment. Meanwhile, the theory used in explaining the role of access to finance is broadly knowns as financial inclusion. This is because access to finance is one measure of financial inclusion (Collard, 2007).

The following describes the role of financial access to the economic, social and environmental sectors as a dimension of sustainable development.

2.3. Access to Finance and Economic Growth

According to Swamy (2014), access to financial services that are safe, easy and affordable for the poor and vulnerable groups, disadvantaged areas and disadvantaged sectors is recognized as a pre-requisite for accelerating growth and reducing income and poverty inequalities. Well-functioning financial access means creating equal opportunities, enabling people who are economically and socially marginalized to integrate into the economy and actively contribute to development and protect themselves against economic shocks.

Some literatures have shown the relationship between financial inclusion or broader access to financial services and economic growth. Kim, Yu, & Hassan (2017) show empirical evidence from OIC member countries in which financial inclusion has a positive effect on economic growth and it shows that financial inclusion and growth has a causality relationship. The same results were also found by Yang (2018), financial development has a significant influence on economic growth through the physical capital stock channel and total production factors. Access to finance represented by bank branches has a positive influence on growth and reducing poverty (Burgess and Pande, 2005; Inoue and Hamori, 2016). Meanwhile, Gantman & Dabós (2013) found empirical evidence that indicates financial development was not significant factor for economic growth.

2.4. Access to Finance and Human Development (Social)

There are several indicators of human development in relation to financial inclusion such as life expectancy, health, education, and a decent standard of living. The process of financial inclusion is an effort to bring weak and vulnerable people into the scope of an organized financial system (Kuri and Laha, 2011). In other words, this process allows vulnerable communities to access financial services at affordable prices.

Access to finance has an important role in human development. In theory, the development of the financial sector is as important as human development because both of them contribute significantly to economic growth (Sehrawat and Giri, 2017). Development of financial access can encourage communities or governments to invest in human or physical capital. Investment in human capital such as investing through education and health will increase productivity, which result in increasing economic development dan in the long term it will reduce poverty and increase life expectancy.

Empirically, Sehrawat & Giri (2017) has investigated the relationship between indicators of financial development and human capital in Asian countries using annual data from 1984-2013. The results show that financial development has a positive relationship with human capital. Other findings indicate there is a causal relationship between economic growth, financial development and public spending on education for human capital. A study done by Kuri & Laha (2011) found that financial inclusion has positive correlation with human development in India.

Meanwhile, Nik, Nasab, Salmani, & Shahriari (2013) examined the effect of financial development on human capital in Iran from 1977-2010. The results show that cash flows in Iran have a negative effect on human capital, with the main cause being an increase in inflation. In addition, the facilities provided by the banking system have a negative effect on human resources due to the lack of the best allocation of financial resources.

2.5. Access to Finance and the Environment

It has been previously explained that financial access allows a contribution of production activities to the economic growth. Modern production activities are always related to energy consumption. In developing countries with high economic growth rates are always followed by high energy demand. A study done by Kolstad & Krautkraemer (1993) pointed the fact that there is a dynamic relationship between environment, resource use (especially energy) and economic activity. They argue that energy use produces direct economic benefits, but on the other hand it will have a negative impact on the environment in the long run.

Empirically, the relationship between access to finance and environmental quality has not received much attention. However, recently a lot of literature has discussed the relationship between financial development and environmental quality. The relevant literature is used as a reference in this research assuming access to finance is part of financial development.

Several empirical studies using country-level data and different samples show mixed results. Zhang (2011) shows the findings that financial development can encourage increasing carbon emissions in China. One of the main reasons for that is bank loans provide strong support for Chinese companies to access external finance and expand the scale of investment. This finding also indicates economic growth and shows the increase of carbon emissions in China depending on the expansion of bank assets. Similar findings are shown by Shahbaz, Shahzad, Ahmad, & Alam, (2016) in cases in Pakistan. These studies found that most bank financing is allocated to low-cost companies and households to purchase household goods. However, loose environmental regulations cause investor companies to use technology to increase their production, which leads to more energy consumption and increased environmental degradation.

Meanwhile, Shahbaz, Solarin, Mahmood, & Arouri (2013) showed findings that financial development has reduced CO2 emissions in Malaysia. According to them, this finding implies that financial development can play a positive and significant role in combating environmental degradation because the development of a larger financial sector can facilitate more low-cost financing to various projects including investment in environmental projects. Tamazian, Chousa, & Vadlamannati (2009) show the same findings in the sample of BRIC countries, where capital markets and the development of the banking sector along with higher levels of FDI help to achieve lower CO2 emissions per capita.

3. DATA AND METHODOLOGY

3.1. Data

This study uses a collection of data from selected OIC member countries. Data have been collected from the World Development Indicator (WDI) published by the World Bank. The data used in this study were collected based on annual data from 2006 to 2014. The choice of range of periods is limited by the availability of sufficient data for all variables. Based on consideration of data availability, this study uses a sample of 18 countries from 57 OIC member countries. Selected countries are distributed in five geographical regions, namely: East Asia and Pacific region which has three countries, Europe and Central Asia which have six countries, the Middle East and North Africa which have six countries, South Asia which has three countries, and Sub-Saharan Africa which has four countries. In addition, the countries included in this study have different levels of economic development. Table 3.1 shows a list of countries used in the World Bank's research and these countries were classified based on geographical area and income group.

3.2. Operational Definitions and Measurement of Variables

The variables in this study consist of two main variables namely sustainable development and access to finance. Each variable is explained as follows:

a) Sustainable Development Variables

The concept of sustainable development has three dimensions, namely social, economic and environment. The proxy and size of each dimension are explained as follows:

1) The economic dimension is proxied by the growth of the Gross Domestic Product (GDP) per capita. Per capita GDP growth is considered as the original measure of economic growth and has been widely used. The GDP growth value tells an increase in a country's production (total economic added value). Per capita GDP growth data is obtained from WDI in units of percent.

Table 3.1 Selected OIC Countries

Geographic region	Name of country	Income group
East Asia & Pacific	Brunei	High income
	Indonesia	Lower middle income
	Malaysia	Upper middle income
Europe & Central Asia	Albania	Upper middle income
	Kazakhstan	Upper middle income
	Kyrgyz Republic	Low income
	Tajikistan	Low income
	Turkey	Upper middle income

Middle East & North Africa	Algeria	Upper middle income
	Jordan	Upper middle income
	Moroco	Lower middle income
	Qatar	High income
	Saudi Arabia	High income
	Tunisia	Upper middle income
South Asia	Bangladesh	Low income
	Pakistan	Lower middle income
Sub-Saharan Africa	Senegal	Lower middle income
	Togo	Low income

2) The social dimension is proxied by the Modified Human Development Index (MHDI). MHDI is a measure of the achievement of a country in the dimension of human development. The difference between HDI (Human Development Index) and MHDI is in the use of dimensions. HDI consists of three dimensions, namely: income, education, and health while MHDI consists of two dimensions, namely: education and health. MHDI was built based on the research of Dhahri & Omri, 2018) as follows:

i. The education dimension uses a combination of gross school enrollment ratios (primary, secondary and tertiary). The education dimension is calculated by the following equation:

$$\text{Education} = \text{school enrollment (primary)} + \text{school enrollment (secondary)} + \text{school enrollment(tertiary} \ \ldots \quad (1)$$

ii. The health dimension uses life expectancy, to measure the achievement of the number of years a newborn baby will live.

The index value is calculated on a scale of 0 - 1, where 0 represents the minimum value and 1 indicates the maximum value. The individual index for a country is calculated by the following general formula:

$$Dimension\ Index = \frac{Current\ Value - Minimum\ Value}{Maximum\ Value - Minimum\ Value} \quad \dots (2)$$

Finally, MHDI is calculated by the following equation:

$$MHDI = \frac{1}{2}\ \text{Education Index} + \frac{1}{2}\ \text{Life Expectancy Index} \qquad \dots (3)$$

Data on all the components of MHDI in the form of gross school enrollment ratios (primary, secondary and tertiary) and life expectancy levels were obtained from WDI. The unit of MHDI is a score.

iii. The environmental dimension is proxied by per capita CO2 emissions. CO2 emissions are the release of carbon into the atmosphere. This indicator is used to measure environmental degradation. Per capita CO2 emissions data is obtained from WDI with a ton of matrix units.

b) Access to Finance Variables

Access to finance is proxied by the intensity of the bank branch demographically. This indicator shows the possibility of higher access and opportunities to use financial services by households and companies (Beck, Demirguc-Kunt and Martinez Peria, 2007). This indicator is a ratio of the number of branches of the bank and the population. Bank branch intensity data is obtained from WDI with bank branch units per 100,000 populations.

c) Control Variables

This study applies several control variables, such as entrepreneurship proxied by the new business density ratio (ENT), economic development represented by GDP per capita (GDPC), demographic transition represented by fertility rates (FERT), economic integration represented by international trade (TRADE), use and the construction of financial institutions represented by credit (CREDIT), the accumulation of human capital is represented by primary school registrants (EDU), inflation (INF), and urbanization (UR). All control variables are sourced from the World Bank's WDI, FERT (births per woman), TRADE (exports and imports as a percentage of GDP), CREDIT (domestic credit to the private sector as a percentage of GDP), EDU (gross participation of primary school applicants as a percentage of population appropriate age group), INF (change in percentage of the consumer price index), UR (urban population as a percentage of the total population). The variable is selected based on the determinants of each dimension of sustainable development.

3.3. Regression Model

This regression model was built based on the research of Dhahri & Omri (2018) which investigates entrepreneurial relations and sustainable development. In this research, the access to finance variable is added to the regression model and is followed by several control variables. Control variables were obtained from several studies that have explored the factors of economic growth, human development, and environmental quality (Chen and Feng, 2000; Hafner and Mayer-Foulkes, 2013; Omri et al., 2015). The regression models in this study are as follows:

a) Economic dimension as a Variable Dependent

$$GROWTH_{it} = \alpha + \beta_1 AF_{it} + \beta_2 GDPC_{it} + \beta_3 FERT_{it} + \beta_4 TRADE_{it} + \beta_5 EDU_{it} + \beta_6 INF_{it} + \varepsilon_{Ir} \quad \ldots (4)$$

$$GROWTH_{it} = \alpha + \beta_1 ENT_{it} + \beta_2 AF_{it} + \beta_3 GDPC_{it} + \beta_4 FERT_{it} + \beta_5 TRADE_{it} + \beta_6 EDU_{it} + \beta_7 INF_{it} + \varepsilon_{it} \quad \ldots (5)$$

b) Dimensions of Human Development (Social) as Dependent of Variables

$$MHDI_{it} = \alpha + \beta_1 AF_{it} + \beta_2 GDPC_{it} + \beta_3 FERT_{it} + \beta_4 CREDIT_{it} + \beta_5 TRADE_{it} + \varepsilon_{it} \quad \ldots (6)$$

$$MHDI_{it} = \alpha + \beta_1 ENT_{it} + \beta_2 AF_{it} + \beta_3 GDPC_{it} + \beta_4 FERT_{it} + \beta_5 CREDIT_{it} + \beta_6 TRADE_{it} + \varepsilon_{it} \quad \ldots (7)$$

c) Environmental Dimensions as Variable Dependents

$$C_{it} = \alpha + \beta_1 AF_{it} + \beta_2 GROWTH_{it} + {}_3 TRADE_{it} + \beta_4 CREDIT_{it} + \beta_5 UR_{it} + \varepsilon_{ir} \quad \ldots (8)$$

$$C_{it} = \alpha + \beta_1 ENT_{it} + \beta_2 AF_{it} + \beta_3 GROWTH_{it} + \beta_4 TRADE_{it} + \beta_5 CREDIT_{it} + \beta_6 UR_{it} + \varepsilon_{ir} \quad \ldots (9)$$

Where, i show the country, t shows the year, GDPC is the Percapita Gross Domestic Produc acronym, C is the CO2 emissions acronym, MHDI is the acronym for the Modified Human Development Index, and AF is an acronym for Access to Finance, EDU is acronym Education, INF is the Inflation acronym , GROWTH is an acronym for Growth GDP Percapita, CREDIT is an acronym for Domestic

Private Credit, TRADE is an International Trade acronym, and UR is an Urbanization acronym.

3.4. Analysis Techniques

The analysis technique of this study uses estimation panel data models Fixed Effect (FE) and Random Effect (RE).

4. RESULT AND DISCUSSION

4.1. Descriptive statistics

Descriptive statistics of research variables from 18 OIC member countries are shown in Table 4.1. The results show that the access to finance variable (AF) has a value range of 1.58 to 24.13 and an average of 11.43. The standard deviation AF value of was at 6.61 , indicating it is lower than the average value which means there is no extreme data inequality.

Focusing on sustainable development variables, inequality among samples of Islamic OIC member countries can be seen in the dimensions of economic growth and environmental quality. Economic growth is measured by per capita GDP growth (GROWTH) ranges from -5.91 to 9.54 and an average of 2.94. On the other hand, GDPC shows a value range of 478.36 to 72,670.96 and an average of 10,055.13. Environmental quality with carbon emission proxies shows a range of values between 0.21 to 62.82 and an average of 7.2. It was recognized that the sample of OIC countries differs in the level of economic development, in which countries in various economic categories (low income, middle-low, middle-upper, and high income) were observed. However, the human development index (MHDI) shows a range of values between 0.36 to 0.93 and an average of 0.71. The standard deviation of MHDI was estimated at 0.13. This is lower than the average value which means there is no extreme data inequality. Meanwhile the average MHDI value was estimated at 0.71 and this indicates that Islamic countries in the sample have a moderate level in human development. Similar observations can be done on other variables that determine the dimensions of sustainable development.

Table 4.1. Descriptive statistics

Variabel	Mean	St.Dev	Min	Max
GROWTH	2,38	2,94	-5,91	9,54
AF	11,43	6,61	1,58	24,13
ENT	1,32	1,96	0,01	10,90
GDPC	10055,13	16613,63	478,36	72670,96
MHDI	0.71	0.13	0.36	0.93
C	7,20	11,49	0,21	62,82
FERT	2,87	0,95	1,65	5,13
CREDIT	41,31	24,95	6,35	120,58
TRADE	85,56	33,54	30,90	202,58
EDU	103,47	9,69	78,83	128,71
INF	5,51	4,64	-4,86	24,52
UR	57,91	20,22	26,51	98,87

4.2. Effects of Access to Finance on the Dimensions of Sustainable Development

This study applies two types of panel data estimation models to determine the effect of access to finance to the dimensions of sustainable development. These models are Fixed Effect Model (FE) and Random Effect Model (RE). The results of each model are shown in Table 4.2 for the economic dimension; Table 4.3 for social dimensions; and Table 4.4 for environmental dimensions.

The interpretation of the results in this study was carried out on the right model through the Hausman test. Based on the Hausman test on the model of the relationship between access to finance and the sustainable development dimension, it can be concluded that FE is the right model for the equality of economic and environmental dimensions, while RE is the right model for social dimension equality. A summary of the exact model selection test is presented in Appendix 1.

In addition, the result of the multicollinearity test shows that all correlation coefficients in the selected models in equations 4, 6 and 8 have a correlation coefficient of less than 0.75. Judging from the Variance Inflation Factor (VIF) shows that each equation has an average value of less than 10. Thus, the model used is free from the problem of multicollinearity or does not reveal any violations to regress. However, for equations using the FE model, it shows the problem of Heteroscedasticity and Autocorrelation, thus this model is done with robust tests. All the results of the multicollinearity test are shown in Appendix 2 and the results of the Heteroscedasticity and Autocorrelation test for the FE model are shown in Appendix 3.

4.3. Effect of Access to Finance on Economic Growth

Table 4.2 in column 1 shows the estimation results of equation 4 and the use of FE estimator, where access to finance (AF) does not significantly influence per capita GDP growth (GROWTH). The same results when entrepreneurship variables are included in the model as shown in Table 4.2 column 2. The RE estimator shows AF has a negative and significant effect on per capita GDP growth at a 5% significance level, as shown in Table 4.2 column 3. AF coefficient value as much as -0,111 shows that increasing access to finance by 1 unit bank branch per one hundred thousand residents will reduce CO2 emissions per capita by 0.111 metric tons, assuming other variables remain. The same result is derived when entrepreneurship variables are included in the model with different levels of significance as shown in Table 4.2 column 4. Between FE and RE estimators show different results, but based on the Hausman test suggest the FE model is the right model explaining the relationship of access to finance and economic growth.

Empirical results show that access to finance has no significant effect on economic growth in the 18 selected OIC countries. This finding is contradictory to the theory built but in line with the findings of Gantman and Dabós (2013). This result indicates that access to finance in the sample countries does not provide equal opportunities in all levels of society. This condition is very likely due to the burdensome requirements and high borrowing costs. Another indication is the low level of business feasibility of new entrepreneurs, so banks are not interested in providing financing.

4.4. Effects of Access to Finance on Human Development (Social)

Table 4.3 in column 1 shows the estimation results of equation 6 and uses the FE estimator, where access to finance (AF) has a positive effect on the human development index (MHDI) at the 1% significance level. AF coefficient value of 0.004 implies that an increase in access to finance of 1 unit bank branch per one hundred thousand residents will increase the human development index by 0.004. However, the effect of access to finance on the human development index is not significant when added entrepreneurial variables in the model, as shown in Table 4.3 in column 2. In Table 4.3 column 3 through the RE estimator shows access to finance has a positive effect on the human development index (MHDI) at the significance level 1%. AF coefficient value of 0.005 implies that an increase in access to finance of 1 unit bank branch per one hundred thousand residents will increase the human development index by 0.005. In Table 4.3 column 4 shows the effect of access to finance remains consistent by adding entrepreneurial variables in the model. The FE and RE estimator results show consistent results, but based on the Hausman test suggesting the RE model is the right model to explain the relationship of access to finance and the human development index.

Table 4.2 Results of Estimates of the Effect of Access to Finance on Economic Growth

Variable	GROWTH	GROWTH	GROWTH	GROWTH
Estimation Model	FE	FE	RE	RE
Column	(1)	(2)	(3)	(4)
ENT		-1.168*		0.007
		(0.59)		(0.20)
AF	-0.108	-0.068	-0.111**	-0.108*
	(0.12)	(0.12)	(0.05)	(0.06)
GDPC	0.001**	0.001***	-0.000***	-0.000**
	(0.00)	(0.00)	(0.00)	(0.00)
FERT	-2.839	-2.914	-1.472***	-1.469***
	(2.14)	(2.29)	(0.41)	(0.45)
EDU	0.007	0.048	0.015	0.016
	(0.07)	(0.08)	(0.03)	(0.03)
INF	0.080	0.087	0.093*	0.096*
	(0.07)	(0.07)	(0.05)	(0.05)
TRADE	0.045	0.048	-0.002	-0.001
	(0.03)	(0.03)	(0.01)	(0.01)
Observations	156	149	156	149
R-squared	0.123	0.153		
Number of id	18	18	18	18

Table 4.3 Estimation Results: Effects of Access to Finance on Human Development (Social)

Variable	MHDI	MHDI	MHDI	MHDI
Estimation Model	FE	FE	RE	RE
Column	(1)	(2)	(3)	(4)
ENT		0.032***		0.029***
		(0.00)		(0.01)
AF	0.004***	0.002	0.005***	0.003**

	(0.00)	(0.00)	(0.00)	(0.00)
GDPC	0.000	0.000**	0.000	0.000*
	(0.00)	(0.00)	(0.00)	(0.00)
FERT	-0.038	-0.050	-0.064***	-0.056***
	(0.06)	(0.06)	(0.02)	(0.02)
CREDIT	0.002***	0.002***	0.002***	0.002***
	(0.00)	(0.00)	(0.00)	(0.00)
TRADE	-0.000	0.000	-0.000	-0.000
	(0.00)	(0.00)	(0.00)	(0.00)
Observations	121	115	121	115
R-squared	0.477	0.665		
Number of id	18	18	18	18

Table 4.4 Estimation Results: Effects of Access to Finance on Environmental Quality

Variable	C	C	C	C
Estimation Model	FE	FE	RE	RE
Column	(1)	(2)	(3)	(4)
ENT		0.939		0.250
		(0.88)		(0.43)
AF	0.278	0.286	0.217**	0.225***
	(0.25)	(0.21)	(0.09)	(0.09)
GROWTH	0.117	0.171*	0.135**	0.185***
	(0.09)	(0.09)	(0.07)	(0.06)
TRADE	-0.008	-0.029*	0.009	-0.001
	(0.02)	(0.02)	(0.02)	(0.02)
CREDIT	-0.052	-0.034	-0.070**	-0.061**
	(0.05)	(0.04)	(0.03)	(0.03)
UR	-0.019	-0.239	0.242***	0.180**
	(0.12)	(0.21)	(0.08)	(0.09)
Observations	161	153	161	153
R-squared	0.086	0.157		
Number of id	18	18	18	18

Empirical results show that access to finance has a positive and significant effect on human development. This finding is in line with the theories that have been built and previous studies done by Kuri and Laha (2011) and Sehrawat and Giri (2017). The finding suggests that access to finance increases the opportunity for the community to utilize financing in the fields of education and health.

4.5. Effect of Access to Finance on Environmental Quality

Table 4.4 column 1 shows the estimation results of equation 8 and the of FE estimator, where access to finance (AF) does not have a significant effect on the CO2 emissions (C). The same results come out when entrepreneurial variables added in the model, as shown in Table 4.4 column 2. Meanwhile, the RE estimator as shown in Table 4.4 column 3 shows access to finance (AF) has a positive effect on CO2 emission (C) at the 5% significance level. The coefficient of 0.217 implies that an increase in access to finance by 1 unit bank branch per one hundred thousand population will increase per capita carbon emissions by 0.217 tons matrix. In other words, an increase in access to finance has a negative effect on environmental quality. When an entrepreneurial variable is added in the model, access to finance has a positive effect on CO2 emissions at a 1% significance level, as shown in Table 4.4 column 4. Both FE and RE estimators show consistent results. However, the Hausman test suggests the FE model is the right model relationship between access to finance and CO2 emission (C).

Based on empirical test using the FE model, it was shown that access to finance does not significantly influence the quality of the environment. This finding contradicts to the previous theory in which increasing access to finance will stimulate the increase in energy demand and then increase CO2 emissions. It is assumed that access to finance is considered as an intermediary which will make easier for consumers to borrow money to buy household goods such as cars, refrigerators, air conditioners, washing machines and subsequently increase CO2 emissions (Sadorsky 2010).

5. CONCLUSION

This study aims to discuss the relationship of access to finance and the dimensions of sustainable development. 18 elected OIC member countries for the period 2006-2014 was selected as a sample used in this study. The result of the study shows access to finance does not significanlly affect the economic growth and environmental quality, but has a positive influence on human development. Access to finance has large impact on the dimensions of sustainable development in OIC member countries, therefore the government in the OIC-state needs special programs to expand and facilitate access to finance at all levels of society. In addition careful funding is needed to avoid projects that endanger sustainable development. The author provides some suggestions for further research. First, to analyze the role of access to finance on sustainable development based on the level of economic development of the country. Second, access to finance proxies should be separated between Islamic and conventional banks if data is available. Third, it is important to observe the role of Islam in the relationship between access to finance and sustainable development, considering that each OIC member country has a different Muslim population.

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APPENDIX

APPENDIX 1

Hausman Test Eq 4

	Test Summary	**P-Value**	**Result**	
Husman	Cross-section random	0,0150	H_0 rejected H_1 accepted	FE

Hausman Test Eq 6

	Test Summary	**P-Value**	**Result**	
Husman	Cross-section random	0,5197	H_0 accepted H_1 rejected	RE

Hausman Test Eq 8

	Test Summary	**P-Value**	**Result**	
Husman	Cross-section random	0,0301	H_0 rejected H_1 accepted	FE

APPENDIX 2
Multicollinearity Test Eq. 4
Matrix of correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) GROWTH	1.000						
(2) AF	-0.120	1.000					
(3) GDPC	-0.258	0.343	1.000				
(4) FERT	-0.182	-0.608	-0.391	1.000			
(5) EDU	0.070	0.110	0.071	-0.267	1.000		
(6) INF	0.257	-0.298	-0.207	0.108	-0.169	1.000	
(7) TRADE	-0.110	0.095	0.133	-0.078	0.057	-0.180	1.000

Variance Inflation Factor

Variable	VIF	1/VIF
EDU	27.92	0.035821
FERT	11.67	0.085716
TRADE	7.65	0.130778
AF	5.76	0.173498
INF	2.52	0.396781
GDPC	1.67	0.599575
Mean VIF	9.53	

Multicollinearity Test Eq. 6
Matrix of correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) MHDI	1.000					
(2) AF	0.575	1.000				
(3) GDPC	0.374	0.405	1.000			
(4) FERT	-0.754	-0.625	-0.379	1.000		
(5) CREDIT	0.309	0.355	0.081	-0.305	1.000	
(6) TRADE	0.304	0.092	0.120	-0.111	0.570	1.000

Variance Inflation Factor

Variable	VIF	1/VIF
TRADE	9.51	0.105119
CREDIT	6.25	0.160126
AF	4.81	0.207990
FERT	4.36	0.229548
GDPC	1.78	0.562907
Mean VIF	5.34	

Multicollinearity Test Eq. 8
Matrix of correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) C	1.000					
(2) AF	0.241	1.000				
(3) GROWTH	-0.171	-0.109	1.000			
(4) TRADE	0.165	0.107	-0.120	1.000		
(5) CREDIT	0.073	0.404	-0.021	0.529	1.000	
(6) UR	0.680	0.491	-0.305	0.332	0.485	1.000

Variance Inflation Factor

Variable	VIF	1/VIF
UR	11.09	0.090207
TRADE	8.41	0.118924
CREDIT	6.46	0.154738
AF	5.60	0.178470
GROWTH	1.46	0.684606
Mean VIF	6.60	

Heteroscedasticity Test Eq. 4

Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model
H0: sigma(i)^2 = sigma^2 for all i

chi2 (18) = 1904.00
Prob>chi2 = 0.0000

The results of heteroscedasticity test showed (prob> chi2) <alpha (0.05), thus H1 was accepted or a heteroscedasticity problem occurred.

Autocorrelation Test Eq. 4

Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation

F(1, 17) = 7.178
Prob > F = 0.0158

The autocorrelation test results show (prob> chi2) <alpha (0.05), thus H1 is accepted or there is an autocorrelation problem.

Heteroscedasticity Test Eq. 8

Modified Wald test for groupwise heteroskedasticity

in fixed effect regression model

H0: sigma(i)^2 = sigma^2 for all i

chi2 (18) = 1.1e+05

Prob>chi2 = 0.0000

The results of heteroscedasticity test showed (prob> chi2) <alpha (0.05), thus H1 was accepted or a heteroscedasticity problem occurred.

Autocorrelation Test Eq. 8

Wooldridge test for autocorrelation in panel data

H0: no first-order autocorrelation

F(1, 17) = 90.383

Prob > F = 0.0000

The autocorrelation test results show (prob> chi2) <alpha (0.05), thus H1 is accepted or there is an autocorrelation problem.

DOES BLENDING ISLAMIC FINANCE AND IMPACT INVESTING NEED A SPECIALLY TAILORED MANAGEMENT FRAMEWORK?

Muhamad Rizky Rizaldy[a], Vita Arumsari[b] and Putri Syifa Amalia[c]

[a]Gunadarma University, Indonesia
[b]Politeknik Negeri Semarang, Indonesia
[c] STEI Tazkia, Indonesia

ABSTRACT

The discourse in integrating social and financial functions of Islamic financial institution has emerged as an intellectual critique since the practice of Islamic finance has arguably deviated from the moral expectation of Islamic economy. This argument is further supported by the advent of the interest of combining Islamic finance with impact investing, which should have been in the endogenous facet if Islamic finance since its very beginning. We found several of research papers with theories that Islamic financial and economic institutions, as distinct organisations, require a distinct management framework to be able to achieve their multidimensional purposes. This paper argues that a hybrid organisational management framework could be the most appropriate existing framework to be utilized regarding mission drifts and dysfunctional effects that might happen within such organisations. Hence, this paper provides notions for leaders to develop hybrid organisation culture in terms of time needed for leaders to develop selective criterion in hiring, different types of organisational structures, and the need of a new set of parameters.

Keyword: Islamic Management, Islamic Financial Institution, Social Impact, Hybrid, Organisation, Impact Investing.

INTRODUCTION

1.2 billion people are still living in extreme poverty and the Muslims are the most significant contributor to this agony (Noland, 2005; The World Bank, 2012; Anthony Heath, 2015). That reality urged the Muslim scholars to engineer so-called the contemporary Islamic Economics and Finance (IEF) since the late 1960s. It emerged as the establishment of the first Islamic banks within those years. This initiated the confidence amongst Muslims that they could revive from poverty yet still embracing their faith while facing the complexity of the modern capitalistic world (Tripp, 2006).

IEF draws international intentions due to its resiliency while facing crises and its unique features that make it distinct to the mainstream economy. The hope also comes from outside the Muslims world, they perceive Islamic economics hold promises for the future while witnessing the inability of neoclassical economics to analyse the present economic problems (Akram Khan, 1991). As a result, this emerging industry has experienced vast growth and expanded its form into diverse typical modern financial institutions.

However, recent studies show the critiques from the Islamic social and economic developmentalists due to the social failures which is considered as the deviation of Islamic finance practices from the initial moral expectation and aspiration of the Islamic economy. Islamic banking and financial institutions have transformed its core business to become more commercial banking and finance, mimicking the behavior of their conventional counterparts. The financial performance becomes its prime objective instead of meeting the moral expectation of Islamic economy (Asutay, 2012).

Tackling the poverty problem is no longer discussed within the sphere of Islamic banking, this issue has been marginalised, transferred, constrained and become the responsibility of Islamic philanthropies solely. Some Islamic financial institutions confidently proclaimed themselves as Islamic enough only by not practising *ribawi* (interest-based) financial products and managing their internally collected zakat (the obligatory Islamic alms). They also excessively more interested to practice consumer-debt based products instead of productive profit-loss sharing based products which are considered as the main feature lionized by the advocates of Islamic finance (Ahmed, 2011; Asutay, 2012).

The problems mentioned above create demands of revisiting the genuine Islamic financial institutions. In the first stage, by utilising the second-best solution, Islamic microfinance is proposed to be the best model in this 're-orienting' project (Mehmet Asutay, 2007) since it is evident that this engineering is barely possible to be conducted within the framework of strictly regulated mainstream financial institutions such as commercial banking. Microfinance has that flexibility that is required and evidently provides solutions to the economic and social problems of the society especially in alleviating poverty (Epstein and Crane, 2005; Imai *et al.*, 2012; Adnan and Ajija, 2015; Agbola, Acupan and Mahmood, 2017).

In the context of Indonesia, *Baitul Maal wat Tamwil* (BMT), literally translated from Arabic terminology as ‘the house of social and commercial’, has emerged as the typical Indonesian Islamic microfinance since it has successfully embedded the Islamic moral economic values and local values while achieving its multi-goal; social, commercial, and it named Islamic goals (narrowly referring to the Islamic legal compliance). Initially introduced in the late 1980s, currently, it is expected to be more than four thousand BMTs (Adnan and Ajija, 2015) with more than two million beneficiaries (Saat Suharto, 2014) in Indonesia.

The ability and features of BMTs in meeting the socio-economic goals of Islamic moral economy have been highlighted in IEF discourses. BMTs have been evidently able to be the socio-economic agent of change by being a multipurpose institution within their local communities, improving the quality of life of the poor. Their presence increases the income of the poor, builds their capacity, and provides social networks (Rusydiana and Devi, 2013; Riwajanti, 2014; Saat Suharto, 2014; Adnan and Ajija, 2015; Nazirwan, 2015; Wulandari, 2016). However, in the second stage, this expectation is getting wider. All kind of IEF institutions, not only the BMTs, are expected to realign their direction to be in line with the holistic objectives of Islamic economy. This could be seen as the advent of seminars and conferences organised by governments and non-governmental organisations which discourse the interest as well as the urgency to blend and re-engage the social logics into the very core of Islamic finance, including the concept of impact investing and the SDGs agenda (IRTI, 2017).

Consequently, as hybrid organisations, differing from traditional companies by combining different institutional logics (Haigh and Hoffman, 2012; Pache and Santos, 2013; Battilana, 2018), IEF institutions face challenges of keeping their eyes on their hybrid purposes (Ebrahim, Battilana and Mair, 2014; D’Espallier *et al.*, 2017). IEF institutions are also challenged to face distinct technical problems such as the tensions between aims on a daily basis regularly which has direct implications in resource allocations. Tackling those issues while pursuing their multi-purposes would be a notably arduous task to do in an environment and by a leadership which is not set as a hybrid institution (Battilana, 2018). Thus, it is argued that IEF institutions might need a specially tailored management and leadership framework.

Locating IEF Orientation

Islamic economy as a system is built above its own moral value, derived from the revealed knowledge, the *Quran* and *Sunnah*, and devoted to achieving social justice in human society (Chapra, 2000). Accordingly, the establishment of IEF carries on the ultimate ideal of Muslim in the whole world. As previously stated, in the early stage, IEF institutions had been experiencing a remarkable performance and became famous for its resilience amidst the global financial crisis that made some of the conventional institutions suffered a significant loss (Asutay, 2012). Along the journey, the practice of IEF, however, has shifted away from its central ideal and failed to achieve its social goals (Siddiqi, 2004). Most Islamic banking and financial institutions were, unfortunately, mimicking the practice of their conventional counterparts, particularly in its mode of financing which offers more debt-based financing instead of equity-based financing (Ahmed *et al.*, 2015) solely to pursue income gained as a trade off to their costly operational costs and to satisfy the investors. This value shifting remarked the social failure of IEF that remains until now.

The social failure is attributed by some factors, among them are the shifting paradigm of IEF by moving towards the neo-classical economy framework (Asutay, 2012). Furthermore, Islamic financial institutions nowadays put their focus more on efficiency and profit maximization instead of equity or social aspects (Sairally, 2013). It has been long known that the goals of the enterprise are ultimately to maximize its profit. Besides, it is also common that social-oriented organisations are established separately with the commercial ones, since there has been a view that the commercial and social logic are two different units. This orientation, turned out, not only apply in the mainstream economy but also the so-called Islamic economic and financial institutions. Since the establishment of Islamic economic and financial institution in late 1960, the institutions have been naturally distinguished based on its objectives. IEF institutions are either commercial finance or social finance, not both (Ascarya, 2018)

Classifying IEF institutions based on its social or commercial orientation basically against the genuine value of Islamic moral economy. Whilst according to Asutay (2007), Islamic Moral Economy (IME) is an ideal system which aims to achieve socio-economic justice by encouraging the individual to achieve *Falah* (salvation) through maximizing *Ihsan* (beneficence). IME's philosophical foundations itself are derived from the *Quran* and *Hadits* (the tradition of the Prophet), two sources of knowledge, which distinguishes it from conventional systems (Mehmet Asutay, 2007). One of the ultimate values in IME is *Tawhid* or oneness of God. It represents the vertical relationship between individuals and God, where each person is seen as equal to each other. According to *tawhid* concept, in regards to economic and business activities, individuals should not only focus on the worldly result but also considering the hereafter consequences.

In the Islamic framework, individuals and businesses are accountable to God on the judgment day for their actions during their lives, as stated in the Qur'an (4: 86): "God takes careful account of everything". Moreover, Prophet Muhammad *sallallahu alaihi wasallam* has taught his followers that the commercial and social dealings in our daily activities should never be dichotomized (Ascarya, 2018). In this regard, the IEF's orientation should not be separated between social and commercial, rather it should incorporate them in every activity.

With its ideal to achieve the socio-economic justice, IEF's main objectives fit the Agenda for Sustainable Development, widely known as SDGs, which was launched to address today's world challenges of poverty, social inequality and environmental adversities that should be handled seriously (IRTI, 2017). Having known the potential of the IEF, the Islamic Development Bank Group (IDBG) and the United Nations Development Programme (UNDP) took an initiative to form a partnership and establish the Global Islamic Finance and Impact Investing Platform (GIFIIP).

Impact investment is defined by Global Impact Investing Network (GIIN) as "the deployment of funds with the aim to generate social and environmental impact as well as a financial return". IEF and impact investment share the same values, such as applying value-based investment; linked their activities to the moral objectives; offer financial inclusion to those who have been alienated from the conventional investment platform and offer a broader connection between business and society. It can be inferred that IEF plays a very important role to embody the Agenda of SDG. Through the GIFIIP, it is expected that Islamic financiers and impact investors can be well connected to help address the global development challenges (IRTI, 2017).

Knowing that Islamic financial institutions should operate based on the moral values by incorporating commercial and social orientation in its activities, it is crucial for the existing IEF institutions to go back to its genuine paradigm, which emphasis on the realization of goals which are imbued in the *maqashid shariah* (Siddiqi, 2004; Chapra, 2001). Furthermore, the critical role of IEF institutions to the realisation of the SDG reinforces its position in the global world. This should be an excellent motivation for the IEF institutions practitioners to realign their orientation, from the traditional profit or non-profit orientation to the combination of them.

Identifying the Hybrid Organisation and the Implication to the Management Framework

Presently, all businesses and organisations are inevitably facing increasing societal demand. It stems from the rise of social awareness in light of the organisations' activities and their impact on the society and environment (Santos, Pache and Birkholz, 2015). The demand comes from several interested parties, namely, the government who enforce the law; customers who become more critical to the entity's product; the environmental activist who campaigned for the nature protection; and employee who asked for the good corporate governance.

Responding to this growing expectation, in the past decade, we have been witnessing the incredible growth of a new form of organisation that has been established to accommodate the various demand from many stakeholders (Haigh and Hoffman, 2012; Battilana *et al.*, 2015). These organisations incorporate the commercial and social mission in their operation (Battilana *et al.*, 2015), also compete for producing the high-quality products and services while actively involved in the social movement. This hybrid organisation aims to answer challenge pertaining to the social and environmental problem that cannot be addressed by mainstream commercial and nonprofit models (Haigh and Hoffman, 2012). In fact, more and more companies in many countries (e.g. UK, USA, Italy, South Korea) fit the hybrid characteristics.

There have been so many terms to call such an organisation, namely social enterprises, social entrepreneurship, blended value, a benefit corporation, or by a term that we use, hybrid organisation. Regardless of the name, these organisations bring the same principle, and they hold multiple institutional logics which blur the line between the social mission and commercial activities (Besharov and Smith, 2014). Battilana (2015) formulates 4 (four) factors behind the sustainability of a hybrid organisation; they are the way organisations set their goals; structure activities; recruitment process (whom to hire); and socialisation.

Santos, *et al.*, (2015) study shows that hybrid organisations may exist in many areas, such as education (e.g. Khan Academy which offered low-cost online education), microfinance (e.g. Grameen Bank which promote financial inclusion for the poor), and the environment (e.g. South Pole Carbon Ltd., which committed in the emission-reduction projects). It also has been proven that these organisations successfully improved the society's welfare, for instance, microfinance institutions have made million people under the poverty line access the capital or small loan easily.

By studying the characteristics of the hybrid organisation, it can be inferred that the fundamental values of which are resembling the notion of IEF. As hybrid organisation pursuing the equality between social and commercial goals, Ascarya (2018) argued that Islamic economic system's objective to achieve *Falah* (prosperity both in the world and the hereafter) could be realised by balancing the commercial and social motives. Likewise, the economic objectives are supposed to be imbued with Islamic values as it is the part of revealed knowledge (Asutay 2007). Having seen resemblance between the hybrid organisation and IEF, we could then confidently say that IEF is supposed to be categorised as a hybrid organisation. Both carry on the same objectives and seeing the social and commercial goals inseparably.

In understanding the Islamic values, there is no segregation between the secular and religious value, or in the economic term, social and commercial orientation; these values should be in one unity (Speech *et al.,* 2007). All human activities are supposed to be *ibadah* (good deeds) so long they are following with Allah's order. With respect to Islamic management, the organisational objectives are both social and commercial, it is to achieve the holistic objectives of Islamic economy. Unlike the mainstream economy, which also has a commercial and social objective, the Islamic management put the goals under their obedience to Allah's order instead of organisational interest (Abdul Hamid, 2007).

If the hybrid organisation possesses a distinct characteristic as compared to the traditional profit and non-profit organisation, does it need a specially tailored management framework? With regard to this question, Santos *et al.,* (2015) argued that the different nature of organisation led to a different management type as well. Likewise, Besharov and Smith (2014) argued that the implication of blended value (social and commercial) rests on how it is applied in the organisation. Furthermore, to be sustainable, the hybrid organisation needs to create a common organisational identity. This can be achieved by selecting the organisation member selectively since the recruitment process and optimising the socialisation process of the values to the organisation member (Battilana and Dorado, 2010).

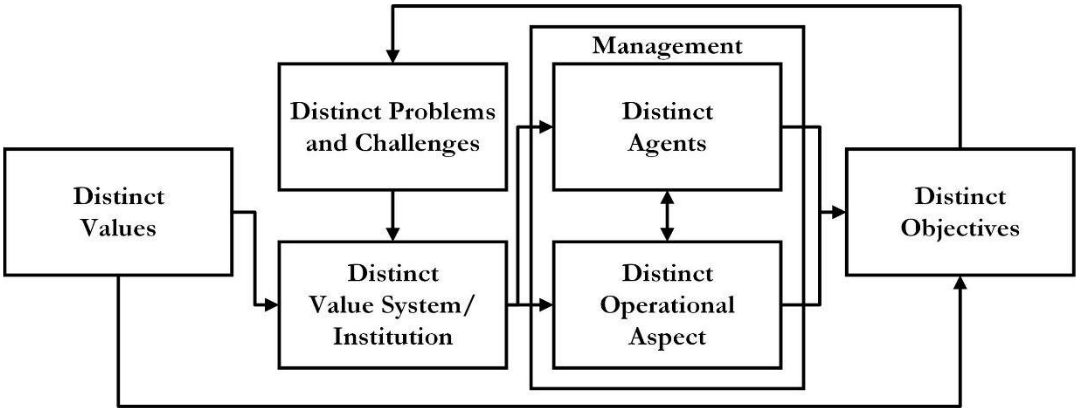

Figure 1. Rationale

Figure 1 explains that some organisations are different compared to others due to their different source of values, which then articulated into different value system, different objectives, and different operational aspects, including individuals and institutions within that value system (Haruna, no date; Wright, 1981; Cheng *et al.*, 2004; M. Asutay, 2007; Hilary and Hui, 2009; Dickson *et al.*, 2012; Smith, Besharov and Wessels, 2012). Therefore, as the IEF institutions have different values and objectives compared to other institutions, it is expected to have different operational aspects, including a different management framework.

Problems Faced by Hybrid Organisations

Mission Drift

Mission drift (Battilana and Dorado, 2010) or logic shifting impact the way organisations run, where it leads to less systematic focus on how the individual of the organisations experience and respond to the complexity that arises (Greenwood *et al.*, 2011). When institutions experience mission drift, they tend to change their direction from impact investing to financial orientation for the sake of saving sustainability in terms of financial point of view (Pedrini and Ferri, 2016). It has been proved by analysing 38 Microfinance Institutions that by staying on their mission, it able to increase their financial performance (Fernando, 2004).

In the midst of social enterprises emerging market with potential investment exceed $500 billion in this current decade (Freireich and Fulton, 2009), it opens wider path to help more people by using philanthropic actions and businesses at the same time. Therefore, it is urgently needed to build strong fundamental organisational processes and systems to sustain without sacrificing their mission as a social enterprise. Instead, the need to fulfill the business target lead them to shift the purpose, where mostly the social purpose[VA1], or even the object of their business by choosing the less risky business model or mechanism (Pedrini and Ferri, 2016).

It reveals the importance of organisational governance and the role of governing boards in anchoring the potential of perplexing the objectives, hence, it able to avoid mission drift. Besides, it is necessary to keep the organisational hybridity steady (Ebrahim, Battilana and Mair, 2014), particularly in social enterprises as pursuing financial objectives is inevitable to happen.

It is a fact that in one institution, there will be employees with various backgrounds and logics. These multiple logics attached to everyone somehow are clashing to each individual; thus, it may trigger conflict and challenge within the institutions. As discussed by Greenwood et al., (2011) by bringing up examples about hospitals, accounting firms, and academic science departments, it is inevitable that having competent human resources with various backgrounds to fulfil the roles gaps are needed to reach the highest potential an institution can achieve, to maximize the benefit it contributes and the return it can earn. To be more specific, taking an example in Islamic Economics and Finance institutions which has been explored in Battilana and Dorado's (2010) research about commercial microfinance organisations, BancoSol and Los Andes.

BancoSol recruited employees with two different logical backgrounds, development and banking logics, as BancoSol would like to have employees who can deal with the poor and can-do banking matters, respectively. Different logics are needed to deal with different matters. To acknowledge new employees with their values and organisation objectives, BancoSol does socialisation. These two logics, development and banking logics are indeed contradicting to each other. Specifically, development logics complained about the complexity of the administrative process done by banking logics, whilst employees with banking logics tend to think to fulfill their financial goals along with the risk entail, thus the risk awareness is quite high. Even though socialisation has been done, they will always be two sides. Finally, this situation resulted in the declining number of active borrowers by 30%, followed by the plummeting growth of the annual gross of 9%, BancoSol then was urged to replace most of its staff because of its poor performance.

On the contrary, Los Andes uses different approach compared to BancoSol. If BancoSol preferred to select the employees based on their background, and previous experiences, Los Andes chooses those who do not have any experience at all, fresh graduates, as it is easier to shape their character based on the institutional culture. In short, they focus on social stability. They choose the employees based on a long screening process from CVs, an exam, a training course, and a test period in the field while it is indeed, time-consuming and rather expensive.

It is found that mission drift might be caused by a misunderstanding of the delivered message. Problems in the domain of values lead to exclusion, alienation, disrespect, cultural misunderstanding, domination or dependency, and disengagement. On the other hand, problems in the domain of structure lead to structure task mismatch, role confusion, secrecy, unnecessary bureaucracy, lack of resources, no timeline or milestones. Leaders need to pay attention and correct when the problem arises. On the contrary, when the problem is solved, leaders need to retreat (Bendell and Little, 2015).

To keep track, the employees focus on the institutional objectives; incentive system has been applied in Los Andes. It succeeds to keep the employees get motivated with their jobs. For instance, employees' starting wages ware $150 in 1992; in 1998, they will earn $1500 (Battilana and Dorado, 2010). Besides the challenge coming internally, externally for multi-logics institutions, there are different expectations emerge from the external party that is potentially adding conflict and confuse the mission (Elsbach and Sutton, 1992).

Aligning strong environmental beliefs and rules are complex for some organisations as each group and organisations have their best demands according to their needs in which are not integrated to each other (D'Aunno, Sutton and Price, 1991).

Somehow, the mission drift is not about the change from financial purposes to social purposes and vice versa. But also about the impact received by the targeted object from the organisational activity. For instance, the mission drift case of microfinance might be about the tenet who is no longer inclusive for the poor as they put priority to keep the organisation sustains by applying business model that able to generate more money. Nevertheless, this is also about the way organisations deliver its value to the targeted objects, capturing causality received by the objects (Battilana *et al.*, 2007). Specifically, as have been delivered by Gilberto about giving aid in the form of millions of computers for the poor children. We might aim positive impacts for them, but instead, the impact received might be against the initial aim as the poor children will stare at the screen for long hours which resulted in sore eyes. Instead of gaining benefit from the computer, they gain sore eyes.

To keep track of the investee firm activities whether they already achieve both their financial and social objectives in detail, Vox Capital has one partner as a board member to trace it. Even, it hired a full-time impact officer starting from 2016. Another mind-blowing thoughtful thing from Vox is they questioning their role in an evolving sector when they are about to deliver above market-rate returns, whether they support wider gap of inequality or reducing the gap.

Dysfunctional effect

As it lacks blended value, entrepreneurs tend to put aside impact investment and environmental aspects. Instead, they focus on financial aspect solely, hence, it produces dysfunctional that impacting the individual, family, community, and society. Specifically, the dysfunctional effects are in the form of ignorance, uncertainty, and diverging interests. Ignorance itself is because the individual does not realize if there are purposes beyond financial purpose, namely impact investment and environmental purposes. Further, some individuals have the willingness to embrace blended value but have no knowledge that social and environmental purposes are part of the actions. Lastly, some individuals know social and environmental purposes exist, but they choose to ignore it. In conclusion, they have diverging interests (McMullen and Warnick, 2016).

To cope with this phenomenon, McMullen and Warnick (2016) contend three primary mechanisms for executing blended value. They are by doing self-regulation, social regulation, and governmental regulation. For self-regulation, leaders can self-assessed their institution whether they comply with the rule or not. Not because they want to stay in line according to impact investment value but because they realize that this is the right thing to do. For instance, it is believed that applying *Murabaha* contract save the struggle compared to *Mudharaba* contract in terms of the certainty of gain because we use margin in *Murabaha* and profit-sharing in *Mudharib*. But, speaking of the need of the customer, we cannot impose customer to use *murabaha* contract when all they need is *mudharaba*. On the other hand, if this is the right thing to do, there is no way to neglect what is already complied. Applying social regulation itself is a control coming from the customer or stakeholders who have been affected by the institution's activity. For the governmental regulation, application is by punishing those who disobey the law where it is showed in the absence of compliance or less complied with the law.

What to Expect to Develop the Hybridity of Organisation

Comprehend hybridity of organisation is, indeed, hard work. Apply it correctly is another hard work, thus, below are things that need to be understood about organisation hybridity. Understand that it takes time to evolve the characteristics of the leader. According to (Wood, 2005) and Gergen (1994), leadership is about characteristics that socially constructed through a process which embedded personally (Bendell and Little, 2015), in addition to past experiences, assumptions, beliefs, rules, and values being held by an individual (Thornton and Ocasio, 1999). Besides, it is important to understand that leadership is not about heroic leadership but rather transformational development leadership. We are no longer controlling people but walk with them, celebrate and teach others, the teams, to evolve. Leadership is more about sharing in the social process, transforming where everyone can be better together (Bendell and Little, 2015).

Resources	Description
(Bendell and Little, 2015)	● Time needed to develop the leader's characteristics ● Transformational development leadership
(Besharov and Smith, 2014)	Applying a selective criterion in hiring process
(Santos, Pache and Birkholz, 2015)	Aware of two types of organisational structures, differentiated and integrated
(Speech *et al.*, 2007)	It needs special parameter

Table 1. Becoming Hybrid Organisations 101

As the institutional values are influenced by the logic possessed by the candidates in the first place, thus, choosing candidates who have the same value as the institutions' cultures are urgently needed. Thus, applying the selective criterion in the hiring process helps to reduce the burden. Further, an individual's logic is influenced by the nature of their intra and extra organisational relationships (Besharov and Smith, 2014).

Moreover, there are two types of organisational structures, differentiated and integrated, in which they have different human resources characteristics, (Santos, Pache and Birkholz, 2015). In other words, the institution should know the cost they want to pay as a trade-off to the sustainable human resources they want. For differentiated types, the institution will have experts but not in one package. It is one person with expertise in business, and another person with expertise in social.

An integrated type, the institution has two choices, whether they want to recruit those who have combination skill both in business and social expertise or those who have no experience but institution ready to train them to by hybrid individuals (Ebrahim, Battilana and Mair, 2014). This might sound overwhelming, but to make sure that the human resources recruited have developed from blank state to expert state, performance monitoring is needed. Hence, the institution knows how far the progress is. Whether it has a long-term impact or solely short-term impact (Santos, Pache and Birkholz, 2015; Arogyaswamy, 2017). The monitoring itself is not limited to the impact generated by the human resources works, but also on the daily operational by applying Key Performance Indicators (KPIs) to both operational and impact aspect.

Adopting a mix-and-match, where it focuses on choosing an individual's ability in which we can see the potential of adapting with the company's culture, and tabula-rasa approaches, where it highlights the social disability where the candidate has no experience previously.

Hiring an experienced candidate is indeed save time as we do not need to train from the basic, institution needs to invite them to adapt through socialization. But, in the end, there is a risk where there will be different logics meet and trigger tensions between subgroup. On the other hand, hiring inexperienced candidates are indeed time-consuming and expensive as there is a long process of hiring, training, and testing their abilities, but it saves trouble in the long run.

As the hybrid organisation has a special characteristic, it is not surprising if it needs special standard as well. This means that the quality management of hybrid organisations should not be assessed by using the existing mainstream standard or measurement. For instance, The Institute of Islamic Understanding, Malaysia (IKIM) and the Standards, and Industrial Research Institute of Malaysia (SIRIM) under the Ministry of Science Technology, and Innovation have launched a national standard named MS ISO 1900:2005 Quality Management System (QMS) - Requirements from Islamic Perspective. This standard is the modification of internationally used standards named MS ISO 9001:2000 which was established to ensure quality management system in many institutions. By instilled the Islamic values to the standard, IKIM and SIRIM aim to highlight the importance of sharia requirement to be implemented in the management activities, also to promote the value-based management (Abdul Hamid, 2007).

CONCLUSION AND RECOMENDATION

The social impact is expected to be the endogenous part of Islamic economic and financial institutions. The inability of realizing that expectation leads to the revival of critiques and discourses of realigning this industry by strengthening the social function. However, this root cause of this inability has been much explored, most of the research in this sphere is much more within the financial and legal discussion. This paper induces the possibility of tackling the issue from the organisational perspective. It is argued that Islamic economic and financial institutions need a specially tailored management framework by considering the well-established theory of hybrid organisation in order to be able to achieve the multidimensional purposes of these distinct institutions.

Apparently, this thought coming from the fact that the hybrid organisations and IEF have the same fundamental value, which is the pursuit of social and commercial goals. But for IEF, there is a religious value in replace of social value. As the principal of hybrid might be quite hard to live with, thus the employee of hybrid organisation should be a group of people who have the same values, the same organisational identity. Beside internal demand, it is also supported by societal demand. It comes from customers who have additional care or concern toward the organisations. This demand coming from society sometimes is overwhelming and possible to lead to mission drift.

It is crucial for leaders of the hybrid organisation that even though mission drift is inevitable to happen, after all, it depends on how organisational governance and the role of governing boards being maximally applied. The root is coming from candidate diversity and it is important that impact investing must tight screening before choosing employees to keep the hybridity steady. It is also supported by incentive system as the motivation for employees to evolve goes along with their ability to earn more. Additionally, self-control, social control, and regulation control is needed depends on what level the urgency is needed. Surely, self-control is a good initiation whilst it does not involve other parties where it will benefit the organisations when a mistake happened. After all, the leaders are not born in a blink, it is a socially constructed process, it does take time. With the uniqueness posed by IEF as hybrid organisations, special parameters that involve religious values, in particular Islamic values, is in demand.

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PART 2

ISLAMIC FINANCIAL INSTRUMENTS AND TECHNOLOGY

BOUNDARY OBJECTS: SUSTAINING IMPACT OF GREEN SUKUK LIFE CYCLE TO ADDRESS CLIMATE CHANGE ISSUE

Raeni[a], Ian Thomson[b] and Andreas Sundström[c]

aDoctoral researcher, University of Birmingham, United Kingdom, r.raeni@pgr.bham.ac.uk
[b] Lead-Supervisor, Professor of Accounting and Sustainability, Director Lloyds Centre for Responsible Business, University of Birmingham, United Kingdom
[c] Co-Supervisor, Lecturer, Business School, University of Birmingham, United Kingdom

ABSTRACT

This research explores the development and accountability of green financial instruments for addressing climate change in order to improve our understanding of potential behavioural changes by key related institutions. This green finance initiative is known as green sukuk, which is a hybrid of conventional government bonds, Islamic finance principles and climate change concern, issued by Indonesian government. In particular, we explore how the flow of funds, from the capital markets to the Indonesian state budget, is tracked and its impact measured. By understanding the behavioural changes, this study proposes to contribute to the debate on sustaining impact in addressing climate change issues. Furthermore, it fills gaps within negotiated boundaries of this hypothecated finance by internalising Islamic principles and green framework. This research obtained data across the life cycle of green sukuk from both state and non-state actors. Drawing upon a theoretical framework on boundary objects, it enables to develop a design of 'common' goal within a mixture of respective capabilities, through calculative boundaries, to understand potential changes of institutional behaviour in sustaining its impact. This study provides implication to state and non-state actors who articulate green sukuk to develop scopes of externalities in maintaining a sustainable transition of climate finance.

Keyword: Climate Change, Green Sukuk, Sustaining Impact, Boundary Objects.

1. INTRODUCTION

The emergence of green bonds has been highlighted by prior studies such as Ng and Tao (2016) Flaherty et al. (2017) and Bowen et al. (2017) as alternative financing sources from capital markets to fill infrastructure gaps and climate change issues. This financial innovation is not merely attract significant investments at a low cost (Byrne et al., 2017), reduce global coal consumption (Glomsrod and Wei, 2018), but also an instrument for a strategic coordination to meet intended nationally determined contribution as ratified in Paris Agreement (Climate Bonds Initiative, 2018). However, tapping up to green market does not mean could create an impact as accountability requires capacity for changes within multiple stakeholders related to green bonds.

Green bonds are argued for having various positive impact, but this type of bonds faces numerous criticisms. After seven years developed, in 2014, the German wind farm group went to bankruptcy due to its ‘green mismanagement’ (Schäfer, 2018). This financial innovation is seen to legitimate the commitment of a particular institution towards a sustainable planet. When a lack of legitimacy and accountability are emphasised, it turns a sceptical label of green into greenwashing views (Park, 2018). Even though green framework has been developed, the impact of ‘green’ label on bond markets is poorly understood (Karpf and Mandel, 2018) as the meaning of ‘greening’ bond markets situated in a weak governance framework (Christophers, 2018).

Despite widespread awareness, the absence of actions to the climate mitigation and adaptation commitments, becomes social barriers when enabling initiatives put in place (Alfsen et al., 2018). This type of green initiatives may lead to reverse impact in which is likely to undervalue the importance of social and environmental impacts within situated green programmes or projects undertaken. Moreover, capacity to monetise and address the different understanding of values, beliefs and actions within the diversity of a sector, a society, state and non-state actors, may lead to paralysis of climate actions (Alijani and Karyotis, 2019). The failure to achieve a targeted goal may lead to contradictory outcomes.

To achieve the impact of a specific green financial instrument in which shift the focus to outcome-based may lead to lower quality compared to the general scheme when a contract incentives determined from outcome-based performance ah1 Even though the outcome becomes a central concern in climate finance, it is necessary to identify the process in determining outcomes. Dufour (2019) argued in accomplishing a particular outcome; it is necessary to identify the root of causes the outcome would be achieved. This approach will allow evaluating any potential downsides that occurred in pursuing outcomes. By identifying the root cause of a problem, it also promotes societal changes can be contributed in every process to create impacts.

Theoretically, this study drawn upon a body of work on boundary objects developed by Star and Griesemer (1989), Star (2010) who represented the work from Latour (1987) concerning actor network theory. This concept argued that the account of numbers formulated a consequence of the interaction between humans and constituted objects within a network (Espeland and Stevens, 2008). In Star's study, to determine an object as a boundary within a network, the object is standardised in individual characteristics while it varies to meet a collective goal. Furthermore, in Latour's study, it implies the network contribute to meet the demand for quantification of social and environmental phenomena, including climate change issues.

Measuring the impact of social, environmental, governance elements mediated through financial instruments have been investigated by a number of researchers. For example, Cooper et al. (2016), who assessed the trade-off between outcomes and incentives in social impact bonds. The implication of using hybrids is seen as an alternative way to integrate sustainability issues to the local level (Thomson et al., 2014). This kind of hybrids is argued having influences on belief systems which can be seen in setting up pre-target and implementation of unfettered budgets in product innovations (Frow et al., 2010). However, giving account to a complex contracting institution within different interests may lead to failure without an appropriate means of delivery (Almquist et al., 2013). Also, measuring 'other elements' such as climate change impact tend to have a likelihood to alter the existing programmatic form. Therefore, having a wide range of interests such as in the issuance of green bonds as a means to address financing gaps in transitioning to low carbon development, these means have different functions within a diverse range of actors.

Based on the empirical and theoretical consideration above, this study will focus on a unique case of green bonds, which have a mix structure, and interconnection between networks, particularly a case of green sukuk issued by the Indonesian government (Lai, 2018), as the first sovereign green sukuk globally. Green sukuk, in this case of the study, is equivalent to green bonds but structured from a hybrid between conventional government bonds, concern to take leadership on climate action and internalise sharia principles. This study proposes to develop a conceptual model in which it is applicable to mobilise capital from financial markets while ensuring the sustainability of its tracking and measuring impacts to meet collective targets in climate mitigation and adaptation. In achieving these research objectives, it will draw from the following research question on "*how can we mobilise private capital to help in addressing climate change issues?*"

2. LITERATURE REVIEW

2.1. Green Sukuk: Harmonising Meanings

A blended finance, which is structured from a mixture of distinguish financial instruments is not an entirely 'new' product. As in Emerson (2003) argued that integration of different type of social capital has been developing as the interaction between social and nature evolve. However, the modification of financial products does not simply combine existing conventional products. This development needs to align with Islamic principles and other purposes of capitalist systems (Zulkhibri, 2015). In understanding the concept of green sukuk, this study elaborates the notion of green bonds and sukuk imply in sovereign bonds.

In the growing concern of movements towards lower carbon economy and infrastructure gaps, a financial innovation evolves to the emergence of green bonds as an instrument to mobilise finance from the capital market. The terminology of green bonds, referred interchangeably with climate bonds, as debt security with fixed-income and explicitly dedicated to supporting projects, assets, business activities which are considered environmentally-friendly (ICMA, 2018). Definition of green bonds also stated by World Bank (2015) as a debt instrument issued in capital market with specific intention to support environmental or climate-related projects. OECD (2015) emphasised "self-labelled' intended to "green" distinct the purpose of green bonds. Furthermore, Climate Bonds Initiative (2018) named green bonds as equivalent to any other conventional bonds with a distinguishing attribute of environmental benefits in the allocation of proceeds.

Build upon the following definition; this study defines green bonds as fixed-income security issued from capital markets, which is dedicated to finance or refinance to support a low carbon, climate-resilient, and environmental related projects. The hypothecated funds in green bonds can be seen as another type of general sovereign bonds, which tend to hold a status quo. Bratton (2004) identified that having fettered flow of funds to serve diverse interests may lead to encounter a risk of reputation in a lack of ability to meet a particular target. While, within growing concern of asset managers engaged in the Principle of Responsible Investments, Drut (2010) indicated that this phenomenon brings demand toward financial products which align with social, environmental, and governance concerns. Climate Bonds Initiative (2019) marked the rising issuance of sovereign green bonds while Walker (2019) reported the reluctant of a country such as the UK to issue green bonds amid facing calls from several investments groups.

The nature of dedicated funds in this green bond is similar to the notion of sukuk. Numerous countries adopt the emergence of green bonds in various ways, and one of them reconfigure in a combination of green bonds and sukuk and known as green sukuk. The terminology of sukuk was originated from an Arabic word, *sakk*, which means financial instrument structured accordance with Islam principles or known as *Sharia* in which align with *Maqasid al-Shari'ah* or objectives in pursuing welfare (Zulkhibri, 2015). In modern concept, this concept defined as financial security that carries with specific properties, right and obligation including some forms of asset ownership (Adam and Thomas, 2004). As a consequence, it needs to align with ethical investing both in financial and Islamic principle screening, added by Adam and Thomas (2004). Other scholars argued that sukuk tends to be known as Islamic bonds with fixed-income as a return as well as comply with sharia principles (Al-Jarhi, 2013). It can be seen that Islamic principles are attached to each definition to pursue noble goals. However, it indicates flexibilities within the adoption of Islamic principles and a possibility to develop innovative products from the sukuk.

As the context of the study refers to a specific instrument associated with green bonds, this study drawn upon the meaning of green in a source of Islamic principles, namely Qur'an. By identifying translated Qur'an from Abdel Haleem (2005), this study identifies the literal presence of green presence in various ways. The presence includes a colour for natural objects (trees, plants, ears of corn), objects illustrated in paradise (silk, garments, pastures), prosperity within green earth and gardens. From the Quranic verses, it indicates the presence of environmental dimensions in implementing Islamic principles. Also, Beekun and Badawi (2005) analysed that multiple stakeholders perceived the needs to respect natural aspects to sustain business activities. The message to preserve the earth becomes central as it is stated in 453 times within Quranic verses (Beekun and Badawi, 2005). It can be seen that there is interrelation between green bonds and sukuk, in which having a similar feature as hypothecated funds in preserving planets.

2.2. Measuring Impact: Marginality and Diverse Interests

Different financial instruments serve distinguish purposes with its metrics. Emerson (2003) emphasised the essential creation of relevant metrics to accommodate blended values and frameworks. In a mixture of green bonds and sukuk, which holds capitalism and Islamic perspectives, this combination, may influence the calculative space of green sukuk operation. Tinker (2004) argued that Islamic principles integrate between materiality and spiritual life in which implies to the treatment of spiritual, mind and body as a holistic existence. Moreover, Tinker (2004) argued that it is unavoidable to escape from the natural scarcity and demands in which lead to resource efficiency. Instead of emphasising the scarcity, adequate utilisation of resources are encouraged in Islamic verses during both abundances of resources and scarcity (Liewellyn, 1984). Underlying principles in resource allocation and distribution are the way value judgements are exercised by its *maqasid* as Chapra (1996) argued that every human accountability would be assessed in the day of judgement based on their actions. This type of spiritual accountability has a likelihood to influence behaviour towards norms, rules, and moral values (Azid, 2010). While a growing hybrid of financial instrument in which internalise value beliefs, there has been a lack of development to measuring impact within the diversity of belief systems.

The experience of the prior scheme in climate finance drove the emergence of climate budget tagging in which was seen to provide a promising tool to internalise climate issues on the state budget (UNDP and International Budget Partnership, 2018). In the Indonesian case, for example, this budget tagging instrument was intended to respond a call for developing a monitoring and tracking the flow of international climate finance as well as promoting effective management on climate finance flows (Ampri et al., 2014). However, UNDP and International Budget Partnership (2018)'s study on four countries including Philippines, Nepal, India and Bangladesh highlighted that the implementation of climate tagging does not guarantee to achieve a greener budget when mechanisms to manage the green type of financing and to ensure accountability are still relatively weakly developed.

The implication of a blended structure in climate finance has driven the requirement of the accountability ecosystem. It implies not only various instruments operated including climate budget tagging and a combination of the situated framework such as green framework in which funding generated. Besides, it requires active collaborations within different interests of actors. Inability to comply with each instrument may exaggerate criticism towards the country's green initiatives. Inability to meet a particular requirement may face reputational risk as well as litigation risk (Bratton, 2004) which affects the generation of further financing schemes.

Addressing climate change issues demand a robust commitment from governments (Alfsen et al., 2018), it requires active engagements from strategic levels to technical levels. Even though climate change is a global agenda, international arrangements do not quickly solve the global problem without active local cooperation (Macey, 2009). This partnership is emphasised in the issuance of green bonds. The commitment to harmonise climate change was identified in key benefits of six countries which issued green bonds to meet INDC (Climate Bonds Initiative, 2018), but this complexity could face scepticism in credibility when a country has a low transparency index. Bryson et al. (2011) emphasised the urgency to understand critical stakeholders who interact to implement a particular action. Failure to identify and align the diverse interest may affect the inability to exercise policies or low quality of implementing projects. Therefore, the evolution type of climate finance, including green bonds remain unsolved without harmonisation of the issues in the way of the mentality of government as well as rigorous calculative representation to promote accountability.

2.3. Boundary objects: Calculative boundaries

A model of boundary objects originated initially by Star and Griesemer (1989) as a model to negotiate diverse groups of actors with different interests. This model was developed from the notion of '*interessement' (Latour, 1987)* who attempted to understand challenges in the translation of intersectional social worlds in which problematic to be explicated in a single standpoint. Boundary objects proposed by Star and Griesemer (1989) are structured to be adjustable in collective use across intersecting social actors while strongly determined in the individual site. It promotes actors within a network to achieve a collective goal in which translated within diverse range of groups. Carlile (2002) conceptualised boundary objects as a framework to negotiate an existing boundary represented through learning and transformation of knowledge in new product development. The presence of boundary objects was also highlighted in Koliba et al. (2018) as policy tools to serve the interactions of actors to mobilise resources and participate in collective goals. However, this boundary object received challenges in maintaining stabilisation of members of the network and beyond the members as this object needs to evolve overtime (Bowker et al., 2015). Therefore, this study proposes to fill a gap in boundary objects to accommodate a mixture of underlying principles while looking at the development of interactions within diverse interests from capital markets to the state budget.

This study adopts a mixture element of boundary objects from Star and Griesemer (1989) Carlile (2002) and Bowker et al. (2015). The dimensions of the boundaries originated from Star and Griesemer (1989) encompass repositories, ideal types, coincident boundaries, standardised forms, and developed in multiple memberships as in Bowker et al. (2015). On the other hand, Carlile (2002) restructured boundary objects in repositories of functions, standardised forms and methods, objects across diverse functionality, and maps to show dependencies and boundaries across a network.

In this study, it proposes to develop boundary objects with the following elements. Firstly, it extends in a dualism of repositories main function (Carlile, 2002) and translated function (Lange et al., 2013) as member of a network. Secondly, it adopts standardised techniques and types (Carlile, 2002) (Star and Griesemer, 1989). Thirdly, proposed objects within translated functions and a situated map within multiple membership (Star and Griesemer, 1989, Carlile, 2002, Bowker et al., 2015).

3. DATA AND METHODS

Textual documents are utilised intensively to obtain empirical evidence in field of social science (Bryman, 2016). Similarly, Laughlin (2004) emphasised that documents are essential empirical sources for conducting research in accounting. Therefore, at this stage this study deploys a qualitative methodological approach from a set of textual documents as empirical sources to address the research question. However, it can be argued that value-laden may be unavoidable as emphasised by Lincoln and Guba (2013). To maintain the quality of research in addressing personal bias, Miles et al. (2014) suggested to ensure a consistent approach and transparency of every stage undertaken, integrity of instruments utilised.

In obtaining data, initially, it is started from analysing publicly available documents related to the green framework. In document analysis, Bowen (2009) suggest that transparency in choosing and utilisation of documents become the central issue to maintain the quality of data. Therefore, this section elaborates the selection and the use of documents. The main distinction between green bonds and another type of bonds is a green framework from the issuer. The green framework provides the intention of the use of funds, governing framework including the selection process, monitoring evaluation, and accounting policy to produce sufficient reports to account for the outcome for the capital (ICMA, 2018).

Data on the green framework are obtained from issuers and independent reviewers. This study compares between green frameworks of different issuers and external assurances both in sovereign green bonds type and in green sukuk scheme. It allows analysing different models of the framework in term of its governance and accounting policy, including issuers, leading institutions involved, roles, and instruments utilised. This also helps to decide to a specific type of bonds, which is green sukuk. Alongside with green sukuk framework, this study is also obtained data from the allocation of funds and its impacts. This data is available publicly as a commitment from the issuer in which provide where the money goes to line institutions who deliver projects. Moreover, the report on impact and allocation connect to further non-state actors who involve, such as a distribution of investors, member of sharia boards, and an external auditor who provide the assurance.

By analysing each document, this research helps to produce an initial mapping of key actors, roles and instruments utilised in every stage of green sukuk. Following the map, it helps to follow the further relevant document to understand the context of the study through performance reports, policy briefs, governance framework and accounting policy before, after the involvement concerning climate finance in general, and green sukuk in particular. Particularly within the state actors, this type of documents leads the researcher to map indirectly related institutions, while directly influence the development and accountability of green financial instruments to address climate change in Indonesia such as parliaments, NGOs, and any relevant institutions.

4. RESULTS AND DISCUSSIONS

4.1. Green Sukuk Life Cycle

The fundamental concept of this green financial initiative, which is known as green sukuk, is a hybrid of conventional government bonds, Islamic finance principles and concern to address climate change issues. The fact of this green sukuk is regarded as the first sovereign green sukuk in the world and issued by the Indonesian government in March 2018 (Lai, 2018). This issuance received oversubscribed from various investors, mainly based in Islamic countries, western countries such as Europe and America and only one-tenth of investors based in Indonesia (Ministry of Finance, 2019). Moreover, this financial instrument received a relatively low cost of funds compared to other government bonds and sukuk to compensate engagements to accomplish expected outcomes within different lead institutions to carry out the project (Ministry of Finance, 2019).

Based on the textual documents obtained from the relevant publications, it contributes to produce early mapping of green sukuk life cycle. In the initial process, this study used three stages to draw upon green sukuk life cycle. These processes include identification of leading institutions who followed up the commitment of the government of the Republic of Indonesia stated on the Intended Nationally Determined Contribution (INDC), which was ratified in the Paris Agreement. Then, this study identifies key actors from Green Sukuk Bonds life cycle based on green sukuk framework documents, public opinions on green sukuk bonds, press releases, green sukuk issuance: allocation and impact report, assurance report, and other related documents. Furthermore, this study identifies key actors from government and other public sectors' accountability reports and webpages. Based on these steps, each stakeholder and their roles, which are known as the green sukuk, cycle is presented in the following figure.

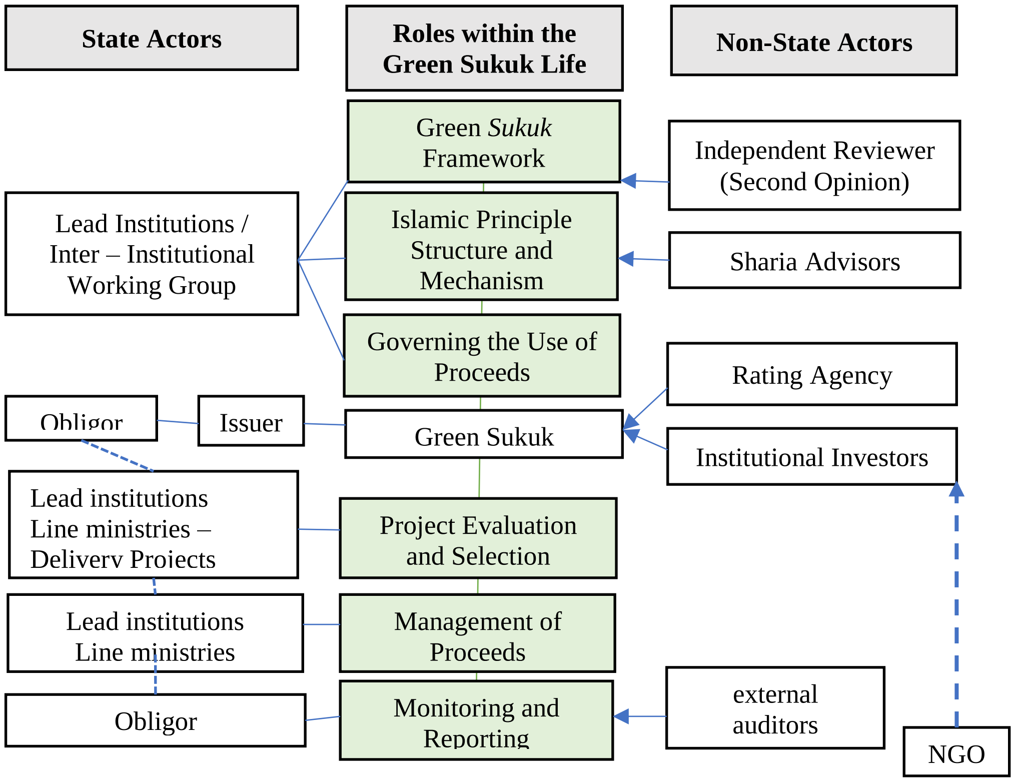

Figure 1. Green Sukuk Life Cycle

The figure illustrates the green sukuk life cycle, which includes the process of pre-issuance, issuance, and post-issuance. Initially, the issuer needs to produce green sukuk bonds framework, which is reviewed by an independent reviewer to obtain the second opinion. The framework comprises the use of proceeds, project evaluation and selection, management of proceeds, as well as monitoring and reporting. From the figure, it demonstrates key actors in each phase and its roles within the cycle. This green sukuk cycle also indicates the direct and indirect relation to each phase of the flow of funds. Indirect line such as NGOs and People's Representative Council represents the influence of these institutions in the development and accountability of green sukuk to address climate change.

a. Tracking the Flow, Impacts, Calculative Boundaries

In understanding the impact the green sukuk, each element in its cycle is analysed as suggested by Lauesen (2019).

i Green framework

The main distinction between associated green bonds including green sukuk is the presence of green framework as a governing tool to offer assurance and towards environmental concerns and actions. In this context, the green framework becomes an initial remark of the interaction between independent reviewer and issuer. It invites collaboration and engagements between state and non-state actors to pursue environmental benefits as identified by Climate Bonds Initiative (2018). The distinction is reflected from the CICERO (2018)'s comment concerning the urgency of green framework.

> "[…] the Republic of Indonesia's Green Bond and Green Sukuk Framework provides a robust structure for climate aligned investment […] and the framework includes transparent reporting, including a list of projects and environmental impacts. We are encouraged by the issuer's use of external auditors to review the annual use of proceeds and impact reporting."

CICERO as an independent reviewer serves the interest of investors to provide integrity and transparency of the green issuance in the markets. While this agency promotes to invite engagement from public sectors, particularly government to take a contribution. Alfsen et al. (2018) highlighted in CICERO's report,

> "[…] however, in order to reach out climate goals, we still need policy makers to substantially step up their efforts in strengthening climate policies."

It can be seen that this framework serves both interests of the independent reviewer and the issuer. Moreover Climate Bonds Initiative (2018) identified sovereign green bonds issued by such as Belgium, Indonesia, Poland highlighted a compensation through a lower perceived risk of return as the primary benefit in issuing sovereign green bonds as green framework are clearly stated in the issuance. Furthermore, Indonesian Ministry of Finance (2019) reported that the distribution of beyond classified as socially responsible investors (Vithayasrichareon and MacGill) who invested in the first issuance of green sukuk accounted for 71 per cent. This mixture product seems to blur a boundary between socially responsible investors and beyond.

ii Use of Proceeds

Engagements of institutions can be reflected within the flow of funds started from a stage of the use of proceeds. Even though CICERO (2018) acknowledged that the framework covers a wide range of areas that contribute to low carbon transition, climate resilient and biodiversity. This framework does not address in a case of conflicting goals within climate change issues and biodiversity issues while it is reported that the Government has been working on developing institutional and internal capacity to ensure its transparency on the selection and the impact measurement. Therefore IPCC (2018) suggested the need to consider trade-offs or reverse impacts of limiting global warming to 1.5^0 C with other sustainable development goals.

This concern aligns with Helm (2008) who identified investments on biofuels, or renewable energy are less likely to make a difference in addressing climate change or perhaps will be counter-production in a way to increase relative emission to fossil fuels. Particularly when the construction of this type of establishment destruct rainforest or carve out the land, which affects the biodiversity as well as carbon emission (Helm, 2008). Therefore, it is essential to maintain transparency and calculate inclusive cost and benefits in embracing balance goals of climate change issues and other environmental benefits.

iii Project Evaluation and Selection, Management of Proceeds

In selecting projects to be eligible of the flow of funds, there are several screening process utilised. The key instrument, namely climate budget tagging has been highlighted as the tool to trace projects within line ministries, in which associated with climate change issues (DJPPR, 2018). The tagging itself can be seen providing impact to the engagement of line ministries to address climate change issues based on their roles as the number of participation is expanding each period. Nevertheless, it remains problematic when the involvement in climate tagging and other environmental screening do not maintain coherency with the accountability performance of each line ministries who involve in climate tagging. Based on accountability performance reports, it is featured by several line ministries on the urgency to address climate change issues.

"[…] national directive in 2015 and 2016 […] Improve environmental quality, mitigate natural disasters and deal with climate change," (Ministry of Energy and Natural Resources, 2015).

Also, Indonesian Ministry of Public Works and Housing emphasised in its accountability report 2018 that climate change has driven negative impacts toward water resistance including the availability and quality of water in which this issue is categorised as a strategic issue. However, this type of national directive does not provide further performance measurement related. It occurs in several line ministries. This type of gap may reduce sustainability of impacts within a network and beyond the network.

iv Monitoring and Reporting

To ensure the monitoring of each flow, the government already put in place several instrument such as from National Planning Agency who coordinate interrelated projects as well as Ministry of Environment and Forestry as the focal point of national registry system on climate change control (DJPPR, 2018). These instruments allow the impact of interrelated project to be collectively measured. However, it also requires transparent approaches in a way to measure the impact. Result from the external assurance emphasised concern on the following statement.

"No independent assurance has been obtained by the Ministry on the use of funds to the nominated projects by Line Ministries responsible for the individual projects and the ROI's estimates of impact included in the Report and the estimation of the beneficial impact arising from the implementation of eligible green projects (Ministry of Finance, 2019)."

The heterogeneity of type of projects with the involvement of different member, it may lead to the lack of ability to provide assurance ex-post impacts in each project. This type of concern has been identified by Alijani and Karyotis (2019) in their study concerning impact investing that a major challenge in the involvement of various actors is the capacity to monetise and address the different understanding of values, beliefs and actions within the diversity of a sector, a society, state and non-state actors.

v Calculative Boundaries

Impact investing is argued not only to reduce negative environmental impact of its investment, but this concept also to prioritise positive environmental and social impact through multiple stakeholders approach (Alijani and Karyotis, 2019). In optimising impact Dufour (2019) argued that it needs to focus on traceability from input to generate outcomes. In this context, it helps to overcome any issues within the cycle that affect optimisation of impacts. However, monetising the value of social and environmental impacts become a primary challenge in investment decision (Alijani and Karyotis, 2019, Tan, 2014). Therefore formulating a relevant means to increase accountability in achieving impact Balboa (2016) support various stakeholders to engage in addressing a collective issue. In this context, a mixture between boundary object, calculative ideas and devices can be utilised as an alternative framework to sustain impact of green sukuk to address climate change issues. This proposed concept is illustrated as follows.

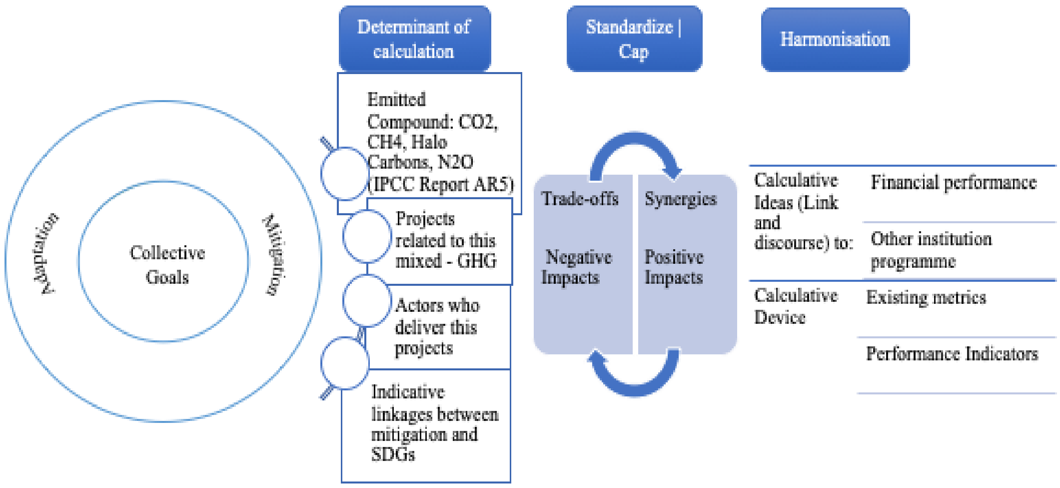

Figure 2. Calculative Boundaries Concept

Instead of looking at ideal abstraction of heterogeneity in a standardised goal of each group of actors as in Bowker et al. (2015), repositories is translated as a room for negotiating agenda between main goal of each institution and a collective goal that the institution plays a role. This area also helps each institution to unpack and interpret collective goals and its relation to individual institutions. This stage will contribute to translate calculative devices as proposed by Tan (2014), that are relevant before it is agreed by a collective member of the network. Furthermore, the translation of values, beliefs and actions within a collective goal will be mapped to assess interactions and sustain impacts within roles of each institution. The interaction also needs to assess its indicative linkage between the collective goals such as mitigation or adaptation and other sustainable development goals as initiated in the IPCC (2018). This design also responds to Alijani and Karyotis (2019) concern on harmonising calculative spaces of diverse stakeholders to sustain its impacts in meeting goals of climate mitigation or adaptations.

5. CONCLUSIONS AND RECOMMENDATIONS

In mobilising money from private markets to address climate change issues, the success of green sukuk to trigger engagement of diverse institutions to pursue the goal of climate actions, this study attempted to build further development of sustaining impact within green sukuk life cycle. This study proposes a calculative boundary as a model of boundary objects to understand a diverse interest of keys institutions in achieving collective goals. By understanding the behavioural changes in which presented in determinant of impact calculation, trade-off and synergies, as well as its harmonisation, this model aims to fill the gap in the development of architecture of tracking and measuring climate actions' ex-post impact. This study identified key actors both state and non-state actors who play pivotal roles in the development and accountability of green financial instruments, particularly green sukuk and its related devices to address climate change issues. By integrating between Islamic finance values, green framework as a reflection of concern towards climate changes and sovereign bonds, it attracts engagements from wide range of stakeholders. However, it remains essential to assess different side of environmental and social impacts in addition to main functions of institutions as well as maintain its transparency across its cycle.

Based on this initial study, this study suggests the following recommendations. Firstly, the concept of green sukuk, issued by the Indonesian government, have a likelihood to be replicated in other types of hybrid markets, including sharia-based investment funds (Islamic finance market). Secondly, the urgency to track and measure impact within green sukuk life cycle may lead to expand the engagement of state actors and non-state actors. Thirdly, calculative boundaries can be utilised as a model to fill the gap within the need to harmonise, align its consistency and transparency of diverse goals of stakeholders.

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ANALYSIS OF ISLAMIC BANKING MARKET STRUCTURE IN INDONESIA WITH PANZAR-ROSSE MODEL APPROACH

Dede Ruslan[a], Ahmad Qarib[b] and Kiki Hardiansyah Siregar[b]

[a]*Universitas Negeri Medan, North Sumatera, Indonesia*

[b]*Universitas Islam Negeri Sumatera Utara, North Sumatera, Indonesia*

ABSTRACT

The purpose of this study was to determine and analyze the market structure of the Islamic banking industry in Indonesia according to the Panzar-Rosse model and the level of competition between Islamic banking industry in Indonesia. To find out the market structure of the Islamic banking industry it had to be analyzed by the effect of Equity to Asset Ratio (EAR), Non Performing Financing (NPF), Operational Efficiency Ratio (OER), Financing to Asset Ratio (FAR), Firms Size (FS), Price of Labor (PL), Price of Financing Fund (PFF), Price of Capital Expenditure (PCE) on the performance of Islamic banking as measured by ROA (Return on Asset). The data used to answer and achieve these objectives was secondary data from Islamic banks in Indonesia which had the largest asset ratings for 6 years period with selection panel data method on the basis of tests. The analysis model related to market structure used the Panzar-Rosse model by looking the H-statistic value and identified the Islamic banking equilibrium test on the panel dataof Islamic Bank performance in Indonesia. This study found that the performance of Islamic banking measured by ROA simultaneously affected by EAR, NPF, OER, FAR and FS. The result of Panzar-Rosse approach produced H-Stat value which the sum of three main coefficients of banking inputs (labor, capital and funds). With H-Stat valued at 0.735 could be concluded that the Islamic banking industry in indonesia was categorized as monopolistic market.The levels of the Islamic banking industry namely BNI, BRI, Panin and Bank Bukopin were monopolistic market while Bank Muamalat and Bank Mandiri were directed towards a joint monopoly market as the position of long-term equilibrium.

Keywords: Islamic Banking Industry, Panzar-Rosse Test, h-stat, Monopolistic Market.

1. INTRODUCTION

It has become a common understanding that the banking industry has different characteristics compared to other industries. Different from general industrial conditions, competition in the banking industry is more risky, especially in the credit and deposit market competition which can cause financial system instability.This has been empirically tested by Matutes and Vives (2000) who concluded that intense competition in the deposit market caused excessive risk by banks, even though there was a deposit guarantee mechanism.The results show a trade-off between stability and competition in the banking industry.This is indicated by the high level of banking competition in Indonesia which actually began to be felt since the openness of Indonesian banking initiated by the issuance of a policy package on 1st June 1983 with the aim of modernizing the banking and then continued with the October package on 27th October 1988 which provided easy licenses for establishment new banks including the opening of branch offices. At that time, with funds of only Rp 10 billion, investors could set up new banks, and this led to a significant increase in the number of banks.

The tradeoff between competition and stability in the Islamic banking industry can be explained theoretically through the Structure Conduct Performance (SCP). Chruch and Ware (2000) states that the SCP framework posits a stable relationship and a line of causality that runs from structure through conduct to performance.

This theory believes that the market structure will affect the performance of an industry with the assumption that the market structure affects the behavior of company performance in the aggregate. The development of the performance of Islamic banking after 2012 is shown in Table 1.

Table 1. Performance Islamic Banking Industry Period 2013– 2017

Indikator	2013	2014	2015	2016	2017
CAR	10,77%	16,26%	16,63%	14,13%	14,44%
ROA	1,48%	1,67%	1,79%	2,14%	2,00%
ROE	25,81%	17,58%	15,73%	24,06%	17,24%
NPF	1,84%	3,02%	1,34%	1,34%	1,75%
FDR	89,70%	89,67%	88,94%	100,00%	100,32%
BOPO	84,39%	80,54%	85,63%	82,51%	83,40%

Source: Reports of Islamic Banks (2018)

The banking industry cannot be separated from the problem of market structure models such as perfect competitive market structures or imperfect competition. Fair business competition values need to get more attention in the Islamic banking system and the economy in Indonesia. Enforcement of competition law is an economic instrument that is often used to ensure that competition between business actors takes place in a healthy manner and the results can be measured in the form of increasing public welfare. In business competition, the banking industry can maximize profit (P> MC) because the banking industry has a dominant market power. Relative Efficiency (RE) theory in Indonesia is in the opposite direction with the assumption of Structure Conduct Performance (SCP) which states that firm efficiency can produce high performance margins, so that in the end it can increase its market share, an imperfect banking market structure tends to potentially cause unhealthy business ventures.Thus, the market structure does not always affect performance. RE is concerned that market structures have a SCP market structure will reduce the company's efficiency.

Empirical studies related to SCP and RE for the banking industry produce varied conclusions. For the USA region, Gilbert (1984), Berger and Hanan (1998), Hannan and Liang (1993) and Hannan (1991) provide support for the SCP hypothesis. Calem and Carlino (1991) research rejects the hypothesis of SCP in the American banking industry. A slightly different result is shown in continental Europe. Goldberg and Rai (1996), Bikker and Groenveld (2000) and Punt and Van Rooij (1999) show mixed results, between the SCP and RE hypotheses.Several studies have examined banking competition in Indonesia, including Claessen and Laeven (2004) which are estimated to be competitive in 50 countries including Indonesia using the Panzar-Rosse method during the period 1994-2001. From the results of the study, the structure of the banking industry in Indonesia was classified into the category of monopolistic competition. The results of this study are also supported by Setyowati (2004) who concluded that the overall situation of Indonesian banking is monopolistic competition. Then what about the current structure of the Islamic banking market in Indonesia? Does it have a market structure of monopolistic competition?

2. LITERATURE REVIEW

2.1. Basic Concept

Measurement of competition can be divided into two parts; first, the conventional structural approach is related to the Structure Conduct Perfomance (SCP) paradigm; second, a non-structural approach, more directed at corporate behavior in influencing the market industry. There are three nonstructural approach models namely Iwata model, Bresnahan model, and Panzar-Rosse (P-R) model. In this study will be analyzed through the Panzar-Rosse Model.

The Panzar Rosse model testing is derived from a market model that generally determines output equilibrium by maximizing profits in the banking industry. This test is done in stages, as described below:

$R_i(X_i, n, Z_i) - C_i(X_i, W_i, t_i) = 0$ ....(1)

Furthermore, at the market level (in equilibrium) there are constraint to normal profits

$R_i^*(X^*, n^*, z^*) - C_i^*(X^*, w, t) = 0$ ....(2)

Based on these results, Panzar and Rosse define a competitive indicator called H-statistics, which is the sum of the elasticities of reduced form revenue related to input prices:

$H = \sum_{k=1}^{m} \frac{\partial R\, i}{\partial W\, ki} \frac{W\, ki}{Ri*}$ ....(3)

The methodology stated by Panzar and Rosse (1987) comes from the equilibrium market model. This model depends on different pricing strategies to respond to each change in input prices, depending on competitive behavior. In other words, competition is measured to what extent the magnitude of changes in input prices is reflected in the equilibrium of corporate income.

Consider a representative bank or i. Optimization gets high profit in industry and company level. In the previous level, zero profit is a constraint that is detained.

$R_i({y_i}^*, {Z_i}^R) = C_i({y_i}^*, W_i, {Z_i}^C)$ ....(4)

R_i (·) and C_i (·) refers to the bank revenue and cost function i, $y_i$is the output of the company, W_i is the K-vector dimension of the bank input factor (price). i,Wi =(W_{Li},…,W_{Ki}), ${Z_i}^R$ is exogenous variable J vector affects the income function ${Z_i}^R = ({Z_{Li}}^R, \ldots, {Z_{ji}}^R)$ and ${Z_i}^C$ is a vector of exogenous variables L that shifts the cost function ${Z_i}^R = ({Z_{Li}}^C, \ldots, {Z_{ji}}^C)$. At the individual level, marginal income must be equal to marginal costs.

${R_i}'({y_i}^*, {Z_i}^R) = {C_i}'({y_i}^*, W_i, {Z_i}^C)$ ....(5)

The size of the competition is formulated by the P-R model, H-Statistics, evaluating the elasticity of total income in relation to changes in input factor prices.

$H = \sum_{K=1}^{K} \left[\frac{\partial {R_i}^*}{\partial W_{ki}} . \frac{W_{ki}}{{R_i}^*}\right]$ ....(6)

The empirical application of the P-R approach usually assumes log-linearity in the specifications of marginal revenue and cost functions.

$Ln({R'}_i) = a_0 + a_0 Ln(y_i) + \sum_{j=1}^{j} d_j\, Ln(Z_{ji}^R)$.....(7)

$Ln({C'}_i) = c_0 + c_1 Ln(y_i) + \sum_{K=1}^{K} b_j\, Ln(W_{ki}) + \sum_{l=1}^{L} V_j\, Ln(Z_{li}^C)$ ....(8)

For banks that maximize profits, the output results from the equation(7):

$a_0 + a_0 Ln\, ({y_i}^*) + \sum_{j=1}^{j} d_j\, Ln({Z_{ji}}^R) =$

$c_0 c_1 Ln({y_i}^*) \sum_{K=1}^{K} b_k\, Ln(W_{ki}) \sum_{l=1}^{L} V_l\, Ln(Z_{li}^C)$.(9)

By rearranging the equations:

$$Ln({y_i}^*) \frac{1}{(a_1 - c_1)} \cdot \begin{bmatrix} c_0 - a_0 + \sum_{K=1}^{K} b_k \, Ln(W_{ki}) \\ \sum_{l=1}^{L} V_l \, Ln(Z_{li}^{C}) \sum_{j=1}^{j} d_j \, Ln\left(Z_{ji}^{R}\right) \end{bmatrix} \text{.........................(10)}$$

Reducing the form of equality of bank representative income is given by the product of bank equilibrium output i and the price level in general.

$$Ln({R_i}^*) = Ln(P^* {y^*}_i) \text{ ....(11)}$$

The price level provided with the inverse demand equation, which can also be read in the form of logarithms:

$$Ln\ (p) = \mu + \lambda Ln\ (Y) \text{ ....(12)}$$

Where:

$$Y = \sum_{i=1}^{i} y_i \text{ ....(13)}$$

Is industrial aggregate output reducing the income equation can be obtained after using algebra.

$$Ln({R^*}_i) = \alpha + \sum_{K=1}^{K} \beta_k \, Ln(W_{ki}) + \sum_{Q=1}^{Q} \delta_q Ln(\, Z_{qi}) \text{........(14)}$$

Z_i is the Q variable bank vector, without explicit references to costs or revenue functions, $Z_i = (Z_{li}, \ldots, Z_{Qi})$. Therefore, H-statistics are calculated as follows:

$$H = \sum_{K=1}^{K} \beta_k \text{ ....(15)}$$

According to Panzar and Rosse, in the monopoly market, increasing input prices will increase MC (on the curve it appears that the MC curve will experience shifting), reduce output equilibrium and ultimately reduce income. So, H will be zero or negative. Economic intuition is that monopoly output prices are not dependent on changes in input prices. Panzar Rosse further pointed out that H-statistics is also negative if the market structure is in the form of perfect collusive oligopoly.

The methodology stated by Panzar and Rosse (1987) comes from the aquilibrium market model. This model is very dependent on the assumption that companies will use different pricing strategies in response to changes in input factor prices, depending on market competition behavior. In other words, competition is measured by the extent to which the magnitude of changes in input prices is reflected in the equilibrium of corporate income. On the market perfect H-statistics = 1. In this situation, a proportional increase in the price level as an input factor induces a proportional change in income without disturbing the optimal output of each company.

2.2. The Competition Concept in Islam

Islamic economics, etimologically, the word ikhtikar is from theword al-Hukr, where it means al-Zhulm wa ‘Isâ’at al-Mu‘âsyarah, or to doinjustice and act arbitrarily, In general terminology,ikhtikar is to deliberately hold or hoard goods, especially where there isscarcity in the market, with the aim to increase price (Fatah, 2012). In general, we can define ikhtikar as those producer activities that distortthe supply side of the market to increase price and profit to the producer.

Market structure is the classification of producers into several market forms based on their characteristics, for example the type of product produced, the number of companies in an industry, the ease of entry into the industry and the role of advertising in industrial activities.

a) Perfect Competition Market

Islam emphasizes that the market must stand on the principle of free competition (perfect competition). But that does not mean that freedom is absolute, freedom must be in accordance with sharia rules. Perfect competition is a type of market with a very large number of sellers and buyers and homogeneous products sold. Prices are formed because of the market mechanism and the effects of the results of supply and demand so that sellers and buyers in the market cannot influence prices and only act as price takers.

b) Imperfect Competition Market

The imperfect competition market is the opposite of perfect competition, where the seller and the buyer are relative. Sometimes there is a market with small sellers, even just one seller. vice versa, there are only a few buyers and only one buyer. Imperfect markets are divided into several types, namely:

1) Monopoly Market (ihtikar)

It is a form of market where there is only one seller in the market who controls the market. Monopolist is a price maker, a monopolist can increase or decrease prices by determining the amount of goods to be produced, the fewer goods produced, the more expensive the price of goods, and vice versa. Islam, the existence of one seller on the market or who has no competitors, is not prohibited in Islam, but may not do ihtikar, because the definition of Ikhtikar is takes advantage of normal profits by selling a small amount of goods to get a high price.

2). Oligopoly Market

This is a market where the supply of one type of goods is controlled by several companies. The number of companies in the oligopoly market is more than two but less than ten. Oligopoly practice is usually carried out as an effort to keep companies from entering the market, and the goal of an oligopoly company is to try to enjoy profits by setting a limited selling price, so that there is no price competition that practices oligopoly. An oligopoly market structure is generally formed in high capital industries.

3). Monopolistic Market

Sellers in monopolistic markets are unlimited, but every product produced must have its own characteristics that distinguish it from other products. In monopolistic markets, producers have the ability to influence prices even though the effect is not as big as the monopoly or oligopoly market producers. This ability comes from the nature of the goods produced. Because of the differences and characteristics of an item, consumers will not easily move to other brands, and still choose the brand even though producers increase prices.

3. MODEL DESIGN

The empirical data used in this study were 7 Islamic banks namely Bank Muamalat, BNI Syariah, BRI Syariah, BCA Syariah, Bank Bukopin Syariah, Panin Syariah and Bank Mandiri Syariah which were considered to represent all Islamic banks in Indonesia for a period of 6 years from 2013- 2018. To measure competition in the banking industry, the Panzar-rosse model was used as application by Bikker and Haaf (2002), Claessens and Laeven (2004) and Shaffer (2004). The approach taken to measure the effect of price factors on the equilibrium value was observed from total income (TR). TR was the observation income and PF, Pl, Pk were as the input price. ETA and TA were bank-specific factors. H statistics were obtained by using equation specifications in the form of panel data:

$$Ln\,(TR_{it}) = \beta_0 + \beta_1 Ln\,(Pf_{it}) + \beta_2\, Ln\,(Pl_{it}) + \beta_3 Ln\,(Pk_{it})$$
$$+\beta_4 Ln\,(ETA_{it}) + \beta_5 Ln\,(TA_{it}) + ei + \mu_{it} \text{ ....(16)}$$

An important difference between previous studies is the definition of the dependent variable that is applied to the H-Statistics estimate. Bikker and Groneveld (2000), Deltuvaite (2010) or Mkrtchyan (2005) use interest income. As an alternative, Hempell (2002), Bikker et al. (2009) apply total income or net income. In this study used total income and defining the dependent variable (TR) as the ratio of total income to total assets. Pl was the ratio of labor costs to total assets. Pk was the ratio of other operating costs (non-profit-sharing costs, namely taxes and amortization) to total assets, the proxy for capital costs and Pf was the ratio of profit sharing to total deposits, as a proxy for the price of loan funds. Bank-specific factors included the ratio of total equity to total assets (ETA) which was included to control differences in capital structure. Total assets (AT) was a measure of a bank that was considered capable of controlling the economic scale. The main indicator, H-statistics, was calculated as the amount of income elasticity based on input factor prices. $H = \beta_1 + \beta_2 + \beta_3$.

H-Statistics was a test that had to be carried out in a long-term equilibrium. It showed that a competitive capital market would equalize the rate of return adjusted for risk in the bank so that in equilibrium condition, the rate of return should not correlate with the price of input. equilibrium did not mean that competition conditions could not change during the sample period. It was only an illustration that changes had to be made in stages. previously (Molyneux et al., 1994; De Bandt & Davies, 2000; Yu Sun, 2011; Aktan & Masood, 2010), to test equilibrium by calculating H-statistics (H) and using returns as the dependent variable in the regression equation. Some literature uses regression that links returns on assets (ROA) to input prices.

$$Ln\,(ROA_{it}) = \beta_0 + \beta_1 Ln\,(Pf_{it}) + \beta_2\, Ln\,(Pl_{it}) + \beta_3 Ln\,(Pk_{it})$$
$$+\beta_4 Ln\,(ETA_{it}) + \beta_5 Ln\,(TA_{it}) + ei + \mu_{it} \text{..........(17)}$$

$$E = \beta_1 + \beta_2 + \beta_3,$$

H=0, Indicates long-term equilibrium, while E<0 reflects disequilibrium.

Table 2. H-Statistics Interpretation

Equilibrium Test	
H=1	Equilibrium
H<1	Disequilibrium
Competitive Condition	
H=0	Monopoly or Conjectural
H=1	Short-run Olygopoly
0<H<1	Perfect Competition
	Monopolistic Competition

Source: Panzar-Rosse (1987)

4. DATA AND MODEL ESTIMATION

The data used in this analysis includes 7 major Islamic banks in Indonesia for the 2013-2018 period. The object of study were 7 selected banks based on the assumption that the banks had capital strength and the number of products offered, while the study was counducted during 2013-2018. It aimed to take the basis of the ease of obtaining data published. The data were collected by having the annual performance of Sharia banking reports. Banking business activities based on sharia principles in 2013 increased in number with the operation of a number of new banks. The number of Sharia Business Unit recorded not to increase from the previous year, which remained as many as 11 of Islamic Bank. while the number of Sharia Business Unit was reduced from 24 to 23. Meanwhile, the number of BPRS increased from 158 to 163. The increasing in the number of banks was also followed by the addition of office networks as shown in Table 3.

Table 3. Development of the Sharia Bank Office Network

Bank Group	2011	2012	2013	2014	2015
Islamic Bank	11	11	11	11	12
Sharia Business Unit	24	24	23	22	22
- Total Islamic Bank Office and Sharia Business Unit	1737	2262	2588	2483	2301
BPRS	155	158	163	163	163
- Total sharia financing bank Office	364	401	402	439	443

Source: Reports of Islamic Banking (2017)

With the increasing number of BPRS, the level of competition in Islamic banking was an interesting study and policy makers also realized that the financial sector (Islamic banking) played an important role in the modern economy.

Because this institution was an intermediary between creditors and debitors, especially Muslims. The difference in market structure that occurances affected the level of competition in the banking industry, but specifically the Islamic banking sector, the analysis carried out had to be more complex than other sectors.

In this study testing the level of competition in the Islamic banking sector in Indonesia equation used (17) by using panel data. Meanwhile, to identify the factors influenced the level of competition in the Islamic banking market structure in Indonesia, the specification test through OLS (Fixed effect and Random effect). Based on the Hausman test obtained 16.444678 with Probability 0.0116, which concluded that the Random effect rejected, and Fixed effect received. The panel estimation results with Fixed effect for Panzar-Rosse could be presented in table 4.

The variables used in this model, namely Y (ROA), X1 (EAR), X2 (NPF), X3 (OER), X4 (FAR), X5 (FS), X6 (PL), X7 (PFF), X8 (PCE). partial test was conducted to determine the significances or not for each of regression coefficient on the dependent variable.

From 8 independent variables, there were 6 variables that affected to the variables Y, EAR (X1), NPF (X2), OER (X3), FAR (X4), FS (X5) and PFF (X7). indicated by t-stat for the regression coefficients of each independent variable greater than t-table at level 5% with degrees of freedom 33, for variable X1 (EAR) t-stat = 1,788> t-table (0, 05; 33) = 1,692. Variable X2 (NPF) t-stat = 1.875> t-table (0.05; 33) = 1.692. X3 (OER) t-stat = 8.187> t-table (0.05; 33) = 1.692. X4 (FAR) t-stat = 1.8711> t-table (0.05; 33) = 1.692. X5 (FS) t-stat = 3.289> t-table (0.05; 33) = 1.692 and X7 (PFF) t-stat = 2.11> t-table (0.05; 33) = 1.692. While the variables X6 (PL) and X8 (PCE) had no effect on variable Y (ROA). It was shown that the t-stat for the independent variable regression coefficients was smaller than t-table at level 5% with 33 degrees of freedom. For variable X6 (PL) t-stat = 1,327 <t-table (0.05; 33) = 1,692 and variable X8 (PCE) t-stat = 0.149 <t-table (0.05; 33) = 1.692.

Table 4. Estimated results of the FEM model

Dependent Variable: ROA?

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17.18303	6.822140	2.518715	0.0180
EAR?	0.994886	0.556340	1.788270	0.0490
NPF?	-0.438380	0.233684	-1.875940	0.0399
BOPO?	-9.315179	1.137989	-8.185648	0.0000
FAR?	-0.857390	0.458211	-1.871170	0.1629
FS?	3.516086	1.070027	3.285979	0.0000
PL?	0.029466	9.329110	1.327310	0.0900
PFF?	0.661253	4.431799	2.119738	0.0434
PCE?	0.045308	0.342458	0.149823	0.8820
Fixed Effects (Cross)				
_BNI—C	1.075530			
_BRI—C	0.623347			
_PANIN—C	-0.032152			
_MUAMALAT—C	-0.438473			
_BUKOPIN—C	-0.363080			
_BCA—C	-0.780159			
_MANDIRI—C	-0.085013			

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.910937	Mean dependent var	1.019762
Adjusted R-squared	0.864756	S.D. dependent var	0.648877
S.E. of regression	0.238628	Akaike info criterion	0.244631
Sum squared resid	1.537469	Schwarz criterion	0.865227
Log likelihood	9.862759	Hannan-Quinn criter.	0.472104
F-statistic	19.72543	Durbin-Watson stat	2.010489
Prob(F-statistic)	0.000000		

Source: results of e-views

Simultaneous testing involved 8 variables X1 (EAR), X2 (NPF), X3 (OER), X4 (FAR), X5 (FS), X6 (PL), X7 (PFF), X8 (PCE) to variable Y (ROA). Simultaneously using distribution F. The results through the E-Views program obtained F-stat = 19.725> F-table (0.05; 8; 42) = 2.23. It was concluded that X1 (EAR), X2 (NPF), X3 (OER), X4 (FAR), X5 (FS), X6 (PL), X7 (PFF), X8 (PCE) simultaneously had an influence on variable Y (ROA).

Through the E-Views program, it could be estimated that the adjusted R^2= 0.8647 indicated that the variation of ROA could be explained simultaneously by the independent variables of 86.47% while the remaining 13.6% was explained by other factors were not included in the model.

To answer the second problem, the Panzar-Rosse model was based on equation (15). In the PR model the three main variables used were Labor Price (PL), Financing Fund Price (PFF), and Capital Expenditures (PCE) are input factors used to obtain bank income, while the other three variables were controlling variables. Thus, each expenditure related to three variables would be calculated as input used to produce output (bank income). This study was based on the output theory used for Intermediation Approach, that banks did not only function as producers of credit products and deposit storage services, but also functioned as intermediaries in channeling funds from those who had excess funds for those which lack funds. The indicators used to measure banking output could be seen from the value of credit and investment channeled.

From table 4, the results obtained for the coefficient value representing the input of Price of Labor (PL) is 0.029, Price of Financing Fund (PFF) is 0.661, Price of Capital Expenditure (PCE) is 0.045 so the total number of the three input coefficients was 0.735. This H-stat value of 0.735 meant that the level of competition to the banking sector in Indonesia was included into the market structure of monopolistic competition.

To answer the third problem, that the level of competition in the banking structure in Indonesia, Panzar-Rosse calculations for each bank were carried out, the results of which were shown in the following Table 5.

Table 5. H-Statistics of Islamic Banking Industry

Islamic Bank	H-Statistik
BNI	0,3714
BRI	0,0950
Panin	0,0806
Muamalat	-0,0235
Bukopin	0,2259
BCA	-0,2067
Mandiri	-0,1098

Source: results of e-views

From the table above, it revealed the usage of H-statistical model to find out the overall level of competition prevailing in the market according to the P-R Model, H-Statistics between 0 <H<1. Negative H value arosed when the competitive structure was a perfect monopoly or oligopoly. In both cases, increases in input prices were implemented as higher marginal costs, decreases in output values and then decreases in total income. If H is located between 0 and 1, the market structure was monopoly competition. while the H-statistic worth 1 was a perfectly competitive market structure. In this situation, the price level as an input factor induced changes of incoming without disturbing the optimal output of each company.

This PR model also showed that the statistical value used to measure the competitiveness of an industry, its value ranges between 0 and 1. The H-stat value <0 indicates the level of competition in the banking industry was collusive competition. The H-stat value <1 indicated to the level of industrial competition was monopolistic competition, and the H-stat value = 1 which showed the level of perfect competition.

Based on Table no.5, the structure of the Islamic banking industry for BNI, BRI, Panin, and Bukopin was less than 1, it indicated that the competition level of the Islamic banking industry had a monopolistic competition market structure, while the Muamalat, BCA, and Mandiri H-stat below 0 indicated competition takes the form of collusive competition (joint monopoly).

5. CONCLUSION

From the discussion and analysis presented in the previous chapter, then the following conclusions: Equity to Total Assets Ratio (EAR) had an effect on Return on Assest (ROA), Non Performing Financing (NPF) had a negative effect on Return on Assest (ROA), Operational Efficiency Ration (OER) had a negative and significant effect on Return on Assest (ROA), Financing to Assets Ratio (FAR) had no significant effect on Return on Assest (ROA), Firm Size (FS) had a positive effect and significant to Return on Assest (ROA) in Islamic banking industry companies in Indonesia.

The Panzar-Rosse model used to measure the level of competition in the banking sector revealed that Islamicbanking in Indonesia in the 2013-2018 period entered into the market of monopolistic competition.

The level of competition between Islamic banking institutions in Indonesia for banks BNI, BRI, Panin, and Bukopin H-stat was less than 1, it indicated that the level of competition in the Islamic banking industry was the monopolistic competition, while Muamalat, BCA, and Mandiri H-stat below 0 indicated that the level of competition in the Islamic banking industry was collusive competition (joint monopoly).

6. POLICY IMPLICATIONS

Banks need to establish competitive strategies that are more customer-oriented by utilizing the characteristics of market monopolistic competition to improve service aspects. So that the more sensitive the input prices of production factors can continue to carry out the explorations and service innovations to generate new sources of income, as for the limitations of this study, the efficiency of the Islamic banking industry was not measured. Therefore, more in-depth research on this matter needs to be carried out further.

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BLOCKCHAIN-BASED IMPACT SUKUK

Hazik Mohamed
[a]PhD in Islamic Finance, Putra Business School, Malaysia
[a]Stellar Consulting Group, Singapore

ABSTRACT

There has been increasing attention on sustainable practices and in particular in financing socially responsible projects through impact investment. The focus of these impact investment financing has been on performance-driven risk-sharing in order to ensure accountability to the execution of the program according to its initial intention. We feel that this should not only be limited to impact investments but also in every substantial investment that is being made. In this paper, we recommend putting *sukuk* and bonds on the blockchain to enable transparency and put forth steps to automate cumbersome processes in *sukuk*/bond issuances in order to reduce costs and improve efficiency. We leverage similarities and discuss significant advantages of using technology to operationalize accountability and instill confidence in properly structured and executed financial instruments. We make these recommendations on the basis of fulfilling a gap in sustainable practices, through impact-focused *sukuk* and bond issuances.

Keywords: Asset-Backed Financing, Decentralized Credit Rating, Risk-Sharing Instruments, Sustainable Finance, Trust Tokens.

1. INTRODUCTION

New financial mechanisms like equity-based crowdfunding and P2P to alternative currencies, digital remittances, impact investment, payment for results, and mobile money, have been growing over the last few years both in terms of capturing market size, operational modes and adoption in developing countries. They have become an alternative solution to plug the financing gap that many developing countries authorities are facing. According to UNCTAD's World Investment Report (2014), achieving Sustainable Development Goals (SDGs) alone will require US$3.9 trillion per year between 2015 and 2030 for health, education and infrastructure — which leaves a US$2.5 trillion annual deficit from the current and forecast pledges of US$1.4 trillion. Governments' potential to strategically mobilize various sources of financing for social purposes remains underutilized while many around the world are dealing with fiscal crises and rolling back many essential services. Alternative Financing can assist public funding to activate several new wells of investment (private and venture capital, P2P lending) for public policy, social services and achieving a number of SDGs, while calibrating mutual interests of diverse collaborators and establishing new venture opportunities. At the corporate level, social impact and 'smart' bonds can be issued to supplement those objectives at the non-governmental level and help corporations raise much needed working capital or capital investment for a product and/or service that brings public/social good.

1.1. A New Approach is Essential

Each year, responsible leadership in governments and ruling authorities exhaust hundreds of billions of dollars in national programs to tackle local social problems. However, there is no visibility into how effective these spending are for a significant majority of the programs. Program performance and effectiveness are scantly monitored and rarely assessed, even if they were, usually after all the money has been spent. The performance measures also typically only track the volume of people served the expanse and extent of service delivered rather than the intended outcomes that are actually achieved.

Administrative systems that can be bureaucratic like governments, especially those that are distant from reality are not always the best equipped to implement these kinds of social services. As in any government or social programs, unsatisfactory concentration on measurables, performance and responsibility for results often lead to disappointing consequences even with copious funding. These failures can intricately be connected to political and other institutional limitations. Re-election cycles, budget appropriations, and inflexible or narrow government requisition systems can all hinder the ability to deliver on projects adequately.

Non-profits or non-governmental organizations (NGOs) are attempting to occupy the space where governments have failed to encounter issues of their own related to financing limitations or ineffectual use of resources. These types of organizations often lack the expertise and experience to execute worthwhile programs at the scale needed to reach the underprivileged and deprived (Gustafsson-Wright et al, 2015). In addition, the Brookings report found that their dependence on unstable external resources or government funding can worsen the challenges they wrestle with

1.2. Traditional Funding Mechanisms

In the current funding mechanisms, both administrators and donors structure the agreements with implementation partners so that they pay for the provision of pre-set services that they deem which lead to their desired outcomes. This 'vendor appointment' approach does not require the implementation partners to be accountable for the pre- defined service that is not delivering the intended social outcomes. Also, the vendor will not strive for better outcomes as they are not incentivized to do so. There is also high cost of failure when there are little or no beneficial outcomes for the susceptible groups that these costly programs are trying to help.

Spending but Not Realizing Outcomes

Most spending on social service today are geared towards the delivery of a determined amount of services rather than connected to produce desired outcomes of the intended objectives. Follow-up assessments on initial outcomes are seldom made, making it difficult, for example, to stop funding on programs that do not work or to reassign resources to different service providers who can find ways to achieve the intended goals despite unforeseen obstacles.

Budgets are not Planned for Improvements

Typically, most budgets are estimated according to similar funding the previous year to deliver similar activities with minor modifications for cost increments. In extreme cases, it is legislated that the same service providers be appointed year after year to supply similar futile services. The Harvard Kennedy School's Social Impact Bond Technical Assistance Lab finds that governments do not have an organized way to work with innovative service providers to test and implement favourable new techniques (Liebman and Sellman, 2013). They also fear the public scrutiny of their projects which makes it even harder to experiment on new ideas and work on iterative processes for best solutions.

Too Short to Flourish

While it is relatively easy for a person of influence (politician or high-ranking official) to form an inter-agency task force to confront a demanding matter and to get the task force to convene several times, these efforts do not normally result in concerted efforts to necessarily achieve the response or results initially intended. Political leadership turns over in electoral cycles and in popularity contests; new situational priorities emerge and distracts focus; or the reassignment of staff and other resources destines the effort to fizzle and fail (Gustafsson-Wright et al, 2015). Moreover, economic realities make pre-emptive or preventive spending tough even though those investments promise large savings in future budgets. The problem becomes more complicated when the required spending would happen in one agency's budget, while the savings would result in another's (Galitopoulou and Noya, 2016).

Governments around the world as well international organizations like the UN organizations are beginning to acknowledge there may be a better approach to social services that emphasises on innovative ideas, finding ways to evaluate effectiveness, and subsequently deploying the solutions that have proven to be fruitful. The main hurdles to taking on this new approach are a lack of up-front investment, the inability to focus attention on performance, and an unwillingness to take risks on promising ideas, which although might fail but may also succeed tremendously (Center for Global Development & Social Finance, 2013). The social impact bond model is designed to overcome these hurdles and provide risk-mitigation techniques that may reassure its critics.

2. THE SOCIAL/DEVELOPMENT IMPACT BOND MODEL

The relevance of an impactful financing model for social programs is absolutely necessary for several reasons. Firstly, administrators and donors are looking to deliver better outcomes for beneficiaries using the same or fewer resources, in light of increasingly strained budgets. Secondly, effective impact-driven organisations are increasingly seeking creative ways to grow their impact. Finally, there is an increasing pool of socially responsible investors exploring to harness the power of innovation and entrepreneurship to find solutions to our toughest social issues. The social impact bond (and the related development impact bond), a mechanism that channels private capital for social services and encourages outcome achievement by making repayment conditional upon success, has been proposed as one way to tackle some of these challenges (Galitopoulou & Noya, 2016).

2.1. Social Impact Investor

Apart from governments funding social impact programs, high net-worth individuals (HNWIs) make up a significant donor base active in many parts of the world, be it through their generous foundations or family offices. In Asia, HNWIs allocate 37.3 percent of their portfolios to social-impact investments, in comparison to the 31.6 percent allocated by HNWIs in the rest of the world, according to a 2015 CapGemini Asia-Pacific Wealth Report. The report also highlighted that the highest portfolio allocations for social-impact investment were made by wealthy individuals in Indonesia (45.8 percent), Malaysia (43.6 percent) and China (40.8 percent).

Unlike traditional investors, impact investors distinguish themselves through the motivations behind their investment behaviour and the factors they consider when making their investment decision instead of investment vehicles, types of products, target markets or investment sectors. They are flexible in capital provision to suit the needs of the investee or social program. An impact investor may invest in equity in one entity, or straight-out donations as co-donors in a government-led initiative. They may be even willing to provide soft funding to entities that lack asset sizes or revenue streams that traditional investors may shun because of their socially motivated views.

2.2. The Impact Bond Structure

In the Impact Bond structure, socially motivated investors and other entities may be attracted to its more accountable mechanisms that are in place. Social Impact bonds (SIBs) have attracted much attention following the aftermath of the 2008 global financial crisis. SIBs have been used in a number of countries as they seem to be an attractive shared-risk approach to financing social services programs. The social/development impact bond model is a promising new approach that combines performance-based risk-sharing and self-enforces market discipline on service providers. The innovative model has the prospect of improving outcomes, overcome obstacles to social innovation, and hence mitigate risks for investments in cost-saving preventive services. It will ensure that public funding pays only for those interventions that are clearly showing their impact through demanding outcome-based performance assessments, sharing the risk of program failure between the donors and service providers, and a control dashboard for which state and local governments can evaluate which interventions work and then scale up successful innovations and discontinue those that are ineffective. In the proposed model, the government that contracts a private sector intermediary to provide social services must be clear on the performance criteria and success outcomes. The government then agrees to pay the intermediary by project milestones achieved and based upon satisfactorily achieving pre-determined performance targets. Performance is rigorously measured by pre-set performance indicators or comparing their outcomes relative to the outcomes of a control group that offers similar services.

2.3. Islamic Finance and Sustainable Finance

The vision of an economy according to the Qur'an is itself grounded in a framework of sustainability, so where conventional financing can be compartmentalized as traditional profit-driven and more socially responsible, Islamic financing always balances both.

The two fundamental concepts in the Islamic belief system that has significant impacts on economic behavior in Muslims are the concept of man as *khalifah* (vicegerent) and *'abd* (servant/slave). The Qur´an (2:30) mentions that the human being has been created to be a *khalifah*, a vicegerent on earth, a unique position (with a mission) not granted to other creations. To be a *khalifah*, the human being is endowed with a delegation of authority from God to fulfil "consciously" and willingly (not by force) the divine patterns on earth. He is granted free will to either implement or reject these divine patterns through his actions. He is the only being that can act contrary to his nature (i.e. not fulfilling God's primordial command), while no other creature be it animals, plants or angels are capable of doing so. Although Man can use the faculties and resources bestowed upon them freely, they are constantly reminded to carry out their duty towards God mainly as a servant and vicegerent entrusted by God to develop the earth positively according to his prescriptions and to create a just and inclusive lawfulness on earth.

"All that is in the heavens and the earth belongs to Allah. Whether you disclose whatever is in your hearts or conceal it, Allah will call you to account for it, and will then forgive whomsoever He wills, and will chastise whomsoever He wills. Allah has power over everything.” (Quran 2:284)

Besides, the duties to Allah s.w.t., Muslims are also responsible for other humans as well as other creations, which includes living and non-living things. Their responsibilitie towards one another include being accountable for every action and inaction. The promise of the Afterlife and the presence of Heaven and Hell becomes an overarching accountability mechanism whenever a man makes his choices in this world regardless if there was someone watching over him or not. Knowing that God is always watching and all decisions that are made will be recompensed in the Afterlife is the very source of moral values. Muslims are morally required to adhere to prescribed behaviors that are connected with upright moral values through good decision-making and to avoid those that are negative and unbeneficial.

From an institutional perspective, a truly ideal Islamic life can only be lived if all the rules of prescribed conduct are observed and obeyed. All rules of conduct and their enforcement mechanisms that are designed by the Creator, prescribed in a sustainable framework (specified in the Qur’an) have been demonstrated by the appointed Messenger □ through the implementation of the rules and its practice in order to deal with allocation of resources, production and exchange of goods and services, and distribution of resulting revenue (income) and profit (wealth) so that everyone can maximize their utility, in this world and hereafter.

2. BLOCKCHAIN-BASED *SUKUK* (DECENTRALIZED ASSET-BACKED BOND)

The model of the *sukuk* instrument is derived from the conventional securitization process in which a special purpose vehicle (SPV) is created to secure assets and issue financial rights on the assets. These financial rights represent claims on an equivalent beneficial ownership to the *sukuk* holders. However, there are several key distinctions between conventional bonds and *sukuk*. Conventional bonds are debt-based, and coupon payments are interest-based and may not be necessarily linked to the performance of the bond. *Sukuk*[1], however, are Shariah- compliant financing structures typically based on a profit-sharing payment and risk-sharing undertaking through ownership of an asset for a given tenor. Islam prohibits interest (*riba*) payments on loans (which should be interest-free) and the sale of debt (unproductive financial transactions), hence issuing trust certificates, like the *sukuk*, enables entities to raise required capital through securitizing assets without giving up ownership in perpetuity. *Sukuk* are usually issued[7] for a fixed tenure and ownership rights return to the issuer once the certificate expires. Conversely, *sukuk* investors own the securitized asset for the tenure of the *sukuk* and have recourse to the asset in cases of defaults or non-payment of shared profits. Unlike loans[2], which do not earn the lender anything in Islam, *sukuk* issuances are a permissible way to raise financing for a profitable project and share the earned profits.

The *sukuk* market has grown substantially and now makes up a significant portion of the Islamic capital market transactions where the market is free from any elements or activities that are prohibited in Islam, such as asymmetric advantages and deceptive ambiguity (*gharar*). *Sukuk*, are one of the most popular and commonly used financial instruments in the Islamic economy and are a popular approach for governments seeking to finance infrastructure projects, due to their fixed profile and enhanced credit features. However, high overall costs, issuance and legal complexity to issue the *sukuk* instrument have kept it out of reach for most MSMEs, corporations and cooperatives.

Issuing *sukuk* on the blockchain is a revolutionary way to ease the complexity and lower costs through efficiency and transparency in the issuance. In a blockchain-based *sukuk*, the trust certificates are issued as tokens underwritten by smart contracts (e.g. Ethereum protocol) which captures the ownership of the underlying asset and payments to the investors. The assets

[1] In the old Islamic era, *sakk* (plural is *sukuk*), which is related with the European root "cheque", is any legal agreement that represents a contract of transmission of rights, obligations or revenues earned.

[2] In Islamic financing, loans are only in two forms — *qard* or *qard hassan*. In both types, no earning is permissible as they will be deemed as interest. Lending, specifically bank lending as we know it, is viewed as a risk-transfer exercise rather than a risk-sharing one, and hence should not be rewarded with a profit without taking on any real risk.

underwritten will be under escrow by a licensed legal entity or under the charge of a custodian bank. This is an important function to ensure performance on the issuer and provides recourse for the investor.

3.1. BC-based Impact *Sukuk* Structure

Traditionally, the start to creating a *sukuk* structure is done by defining the obligations between the issuer and the investors against the underlying asset which has been verified as suitable (See Figure 1). The appropriate structure is then determined by the issuer, and it must be originated from one of the typical Shariah contracts (see Appendix A). Normally, the name or type of *sukuk* is determined by the Shariah contract into which the issuer deems as appropriate for his needs and agreed upon by the initial investors. Some important factors for considering a *sukuk* structure include economic objectives of the issuer, availability of assets, the level of debt that the company has, credit rating of the issuer, the jurisdiction's legal framework and the tax implication of a structure.

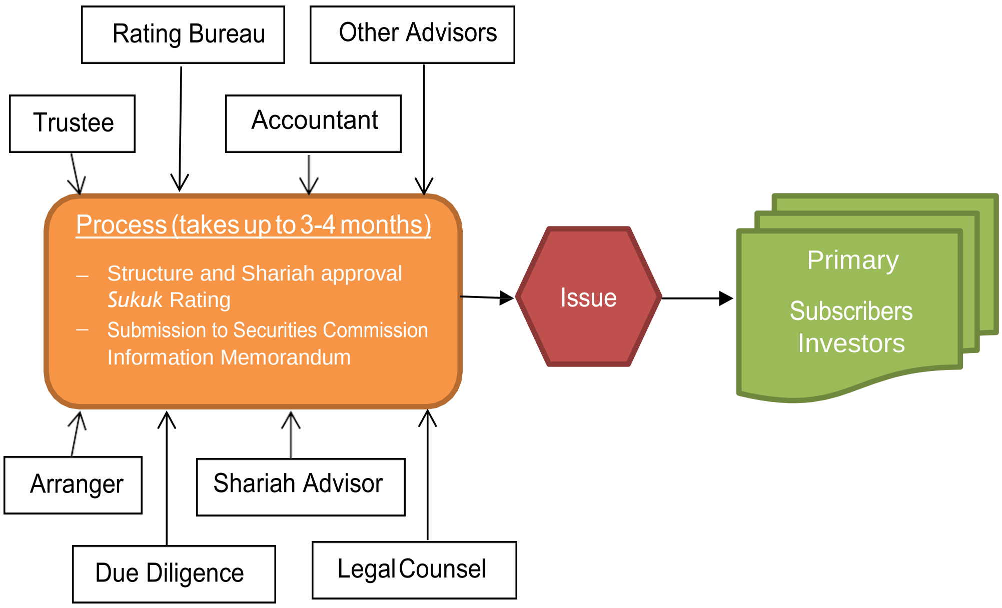


Figure 1. Traditional *Sukuk* Issuance Process and Setup

In the blockchainized version of the *sukuk*, the papers (trust certificates) issued to the primary subscribers and investors are distributed to them as (crypto) tokens which represents their portion/ownership of the underlying asset and/or dividend payment (see Figure 2).

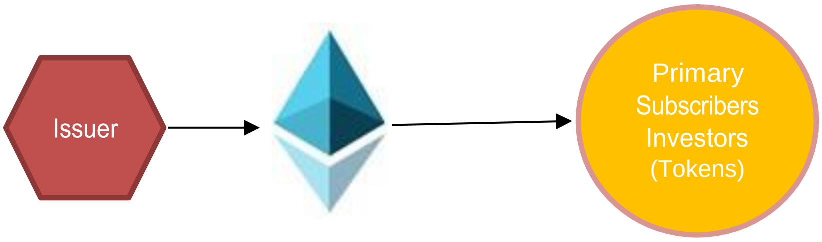


Figure 2. BC *Sukuk* Issuance Process and Setup

The process becomes much leaner and less cumbersome, with the:

– due diligence verification done via new innovative credit insights from non-traditional sources, blockchainized KYC and identity of issuing shareholders,

– rating of *sukuk* based on assessment of issuer and asset done via automated market valuation methods,

– Shariah compliance and assessment done by an automated AI-driven review process,

– legal terms and allocation of dividends/payments done via smart contracts

Appendix B describes the different modules integrated within the BC *Sukuk* Platform. For such a platform (or any other platforms really) to work, there has to be trust that the platform is run by credible, trustworthy personnel. The blockchain (on the Ethereum network in this case) provides element of confidence as it is the mechanism to enable trust and enforceability within its systems of processes and accountability. In an era that is geared towards decentralization, it is important to note that while decentralization allows us to circumvent a lot of formal time-consuming processes, including tedious regulations, we must not forget that without regulations, self-regulation becomes utmost important. If the finance industry does not want to be heavily policed, then we need to do right even when no one's watching. The blockchain ensures and operationalizes these aspirations through its immutable transparent transaction ledger system.

3.2. Commercial Considerations

In the issuance of any bond or *sukuk*, there are several commercial considerations that will be made:

3.3. Size of Issuance

The size of the issuance will be influenced by the size and market value of the social program after all costs have been tabulated. The size of the issuance can also be a one-off (standalone) or a series (program), arranging the amount of financing targeted by the issuer to raise in the next 3-5 years or all at once, just like traditional issuances, depending on the issuance strategy. In addition, just like traditional issuances, the issuer can choose to increase the issuance program size at any point, by issuing more tokens (without exceeding market value of the underlying asset), to make adjustments for further capital-raising.

3.4. Tenor

As the program amount would have been budgeted for, the tenor of the impact sukuk would depend very much on the schedule of the program to be delivered. This would be assessed by the issuing team and determined after much consultation with the short- listed vendors and suppliers who will deliver their respective services according to the specifications of the program.

3.5. Coupon Format

It is recommended that floating rate notes are used to cater to market uncertainties, but it is really up to the discretion of the issuer with respect to the structure and objective of the capital-raising and the impact program

3.6. Currency

The issuance platform will be built on the Ethereum protocol so the tokens can be issued as ethercoins (ERC-20). However, these can be pegged to a preferred currency (domestic or international) as the tokens can be opted to be used only as a technological proxy to value or means of exchange for virtually any sovereign fiat currency.

3.7. Decentralized Due Diligence

One of the many due diligence tools used is the credit rating of vendors and suppliers. In the financial world, the current credit ratings are typically carried out by national credit bureaus. The calculation of the credit score differs between the standards used by different credit agencies and bureaus, but the general scoring system by FICO (US- based) is the standard for regions that does not have their own standards. These factors that are included are typically credit or payment history, income/revenue and debt accumulated. Under this system, businesses (banks, entrepreneurs, etc) and credit bureaus have to transfer information and personal data between one another, regularly sent back and forth, opening them up to security risks each time and leaving sensitive data potentially vulnerable to cyber-attacks and unscrupulous hacks.

A decentralized due diligence platform could potentially upgrade this archaic system to a more efficient and robust global credit infrastructure that reduces fees, increases accuracy, and makes assessments (like credit scoring) fairer. Using non-traditional sources of data to shortlist for expertise and suitability would be an advantage to program stakeholders, especially in the emerging markets that have under-developed assessment systems. For example, insights from payments received data or those sent via mobile phones are outstanding alternatives for assessing income levels of certain companies (like micro-enterprises) and the company's repayment ability and financial health. For corporates, one lender found that the contractual terms and resulting cash flows between MSMEs and their key vendors and suppliers was extremely predictive (Baer et al., 2012). This factor is rivalled positively with the best variables recommended by traditional credit bureaus.

Also, by putting corporate identity on the blockchain, fraud is far less rampant since every credit check no longer requires the exposure of sensitive personal data because the desired information can reach the intended party with dramatically less risk of vulnerability through encryption of the underlying data. Also, with a blockchainized digital ID system, the current and historical debt obligations that are tied to a company's ID can be monitored (real-time) and tracked to better reflect a given company's creditworthiness. For entities raising bonds and *sukuk*, this system will be able to report all identities associated with the issuer, be they board of directors or management teams. This level of transparency enables self-regulatory measurement which may be necessary for decentralized systems.

3.8. Benefits of BC *Sukuk* / Trust Certificate Issuance

Some of the benefits of the blockchainized *sukuk* issuance is its simplicity and speed of execution. All documents (trust deed, terms of agreement, subscription agreement) are discussed at the time of the establishment of the issuance program, so negotiation at the time of each issuance is curtailed and issued almost immediately. This reduces execution risk drastically and provides better access to private placement market.

There are also obvious and significant cost efficiencies. The automation of due diligence processes via blockchainized corporate ID, company valuation (if required in eligibility criteria), integrated AI compliance systems will not only save costs but save time and unnecessary resources. New issuers can be onboarded much quicker too. Once established, the program helps to reduce the costs of subsequent capital access, especially when multiple tranches are issued, compared to a standalone issue.

Decentralization of these qualified underlying assets enhances the issuer's profile in the international investor community and the transparent blockchain ledger system improves transaction visibility, which would allow for cross-border investment and enable international reach more easily. With accessibility and proven structural funding flexibility, the ability to raise attractive funding in the international capital markets can be demonstrated.

3.9. BC Impact *Sukuk* Model

Following the social/development impact bond model, the blockchainized sukuk impact model can become a promising new approach that delivers performance-based risk-sharing and regulates accountability and market discipline on service providers, without additional costs to monitor performance and efficacy. The model itself will generate better outcomes that meet the objectives, and hence will safeguard such investments where public funding only pays for those interventions that are clearly showing their impact through demanding outcome-based performance assessments. In this way, the service providers will share the risk of program failure with capital- providers and donors. Within such a robust risk-management system, the program stakeholders can decide to scale up productive programs and discontinue those that are ineffectual.

Through the deployment of smart contracts, the payments can be made as soon as the agreed-upon KPIs are met according to the contractual obligations between issuer and vendor/supplier.

Developing the sukuk market will not only help raise funds for social impact projects, but also help support the growth of a liquid secondary market that would increase the asset choices for institutional investors. While the impact investing sector has the potential to take the sukuk market beyond a threshold level that makes it viable, there are other requisites that need to be in place for the market to function. Other than capital providers and users of funds, liquidity providers play an important role as they facilitate transactions in secondary markets (Chami et al, 2009). Liquidity providers, such as brokers and dealers, buy and sell securities and help trading in the markets. Governments can help flourish the secondary markets by facilitating the process by both providing the necessary legal and regulatory frameworks and market infrastructure and taking the initial lead to issue sovereign sukuk for different social impact projects.

4. CONCLUSION

The challenge is to craft a sustainable system that is grounded in prudent and shared risk approach, on top of being effective and dynamic. Practical risk-sharing cannot take place without it being performance-based. Without accountability on both sides of the contracting counterparties, no discerning person would be willing to partake in any venture that would risk their capital or resources.

BC Impact *Sukuk*, much like social impact bonds, can be devised to promote innovation in addressing capital requirements to solve social problems. Innovation is subject to experimentation and failure, and some projects may fail to achieve performance targets, leading to losses to the investor and the loss of confidence in the project. The payment structure of the Impact *Sukuk* makes accountability a requirement for the delivery of goods and services, and that effectively spread the risk of the project amongst the investors and shareholders, instead of transferring the entire risk to the issuer without having achieved the objectives (see Figure 3). The blockchainized process produces efficiency and cost-savings. The Islamic economic system based on accountability, efficiency and social justice provides desired financing solutions through reforming financial structures by introducing risk-sharing protocols and unconditional responsibility (in the absence of absolute monitoring) more sensibly. Corporations, central banks and governments can have these types of risk-sharing instruments which could be used to regulate the supply of services that produce the desired outcomes of social projects and programs for the disadvantaged. Incorporating risk- sharing, and accountability mechanisms that only pay for services that are effective and produce the desired outcomes, will greatly turn to reduce ineffectual programs and ideas which only appear good on paper but produce no or little results. Instead, it will generate innovative solutions to difficult problems. Such a model becomes in itself a risk-management system that will result in a robust and more sustainable funding system for social benefit programs.

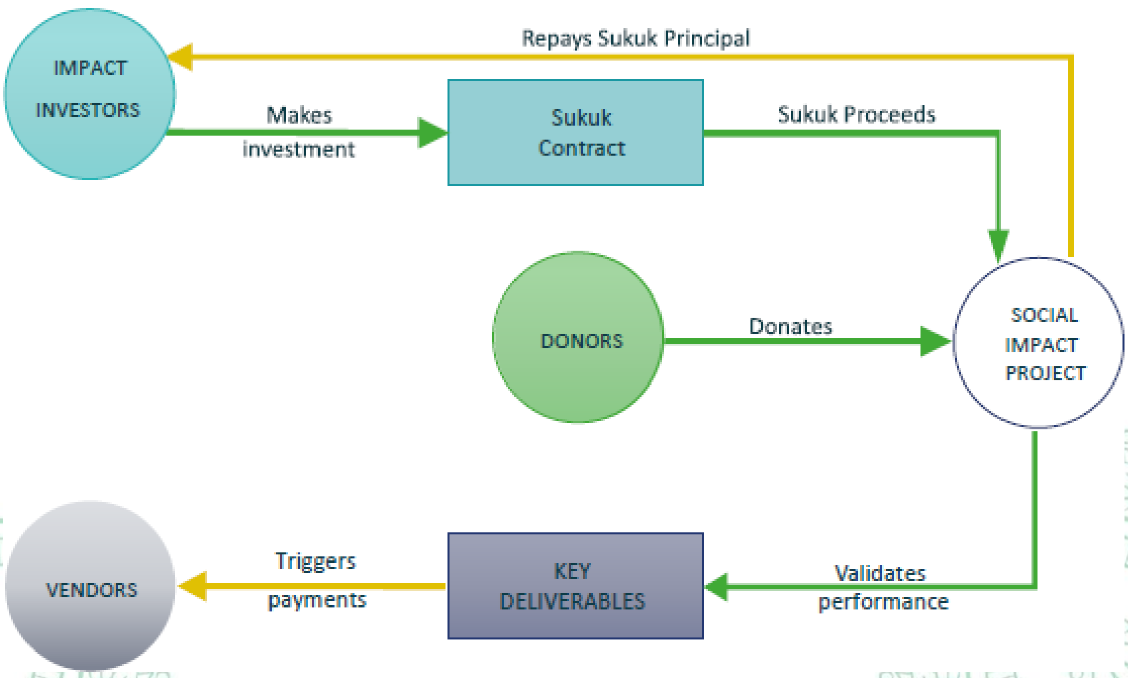
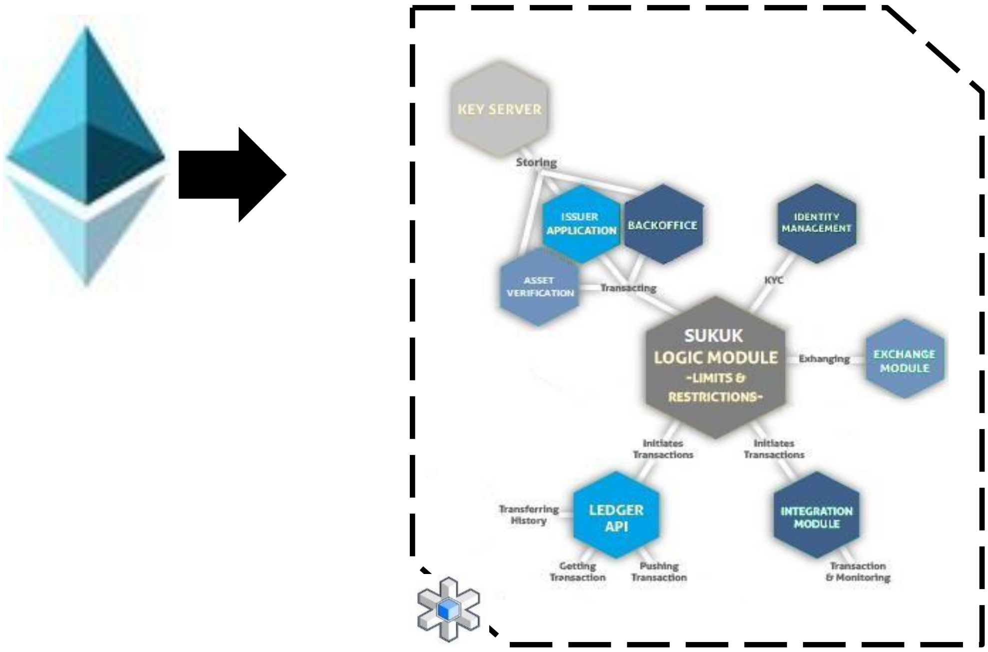


Figure 3. BC *Sukuk* Process Flow and Accountability Measure

APPENDIX A

Common Types of Sukuk	**Nature**	**Featur es**
Ijarah (Lease-based)	Represents ownership of asset, its usufruct or services (the "Underlying Asset")	These lease-based *sukuk* represent rights to the leased asset according to the investment made by shareholders and also the rights to the cash-flows resulting from it as well as earnings from asset sales.
Mudarabah (Partnership; entrepreneur-investor [silent partner])	Represents equity ownership of units of equal value in the issuance and are registered in the names of holders on the basis of ownership of shares in the scheme.	In this partnership *sukuk*, ownership and distribution of returns is based on the percentage of shares held by the respective shareholders. Profit and losses are borne proportionally according to the shares owned unless the losses are found to be due to the negligence and/or wilful misconduct of the *mudarib* (entrepreneur), who will be held responsible for such losses.
Murabahah and *Istisna'* (Cost-plus and Contracted Venture)	Proofs of obligation resulting from an asset sale.	These *sukuk* is structured on the commitments arising from the applied exchange as spelt out in the contract. Unlike *sukuk* structures above, these do not represent ownership on the physical asset as the ownership of the asset has been transferred to the obligor. However, collaterals or securities can be pledged as assets to the contract.
Musyarakah (Joint Venture)	Represents joint ownership of total equity and are registered in the names of shareholders according to the ownership of shares in the SPV.	Profits and losses are shared among the shareholders and distributed according to the percentage of ownership.
Wakalah (Agency)	Agent/s is/are entrusted to manage various asset, goods or services purchased via the *sukuk* on behalf of the actual owners.	Capital providers have ownership over the various asset, goods or services acquired by the *sukuk* issuance according to their contributing percentage.

APPENDIX B



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PART 3

ISLAMIC SOCIAL FINANCE

FACTORS AFFECTING THE SUCCESSFUL MUSTAHIK EMPOWERMENT PROGRAM : EVIDENCE FROM PEKANBARU, INDONESIA

Budi Trianto[a] , Saparuddin Siregar[b] and M. Yasir Nasution[c]

[a]*Sekolah Tinggi Ekonomi Islam (STEI) Iqra Annisa Pekanbaru, Riau, Indonesia*
[b]*State Islamic University of Nort Sumatera, Medan, Sumatera Utara, Indonesia*

ABSTRACT

The purpose of this research is to explore and measure what factors influence the successful mustahik empowerment program. This research is conducted in Pekanbaru with the total sample of 105 mustahik taken from four zakat institutions. The data were collected using the questionare with the Likert scale. Quantitative approach is used to analyze the data by the Generalize Structural Component Analysis (GeSCA). FIT model evaluation result shows that FIT is 0.541, AFIT is 0.530 and GFI is 0.983. Meanwhile the outer model evaluation shows that the loading factor value of all manifest variabel is greater than 0.5 and significant at 0.05 level. Based on the inner model evaluation shows that the successful of mustahik empowerment program is influenced by mustahik motivation and enterpreneurial characteristics. While the organization support does not give a direct effect on the successful of mustahik empowerment program but it influences indirectly through the motivation. The successful mustahik empowerment program also gives impact on the successful poverty alleviation.

Keywords : Organizational Support, Mustahik Empowerment Program, Enterpreneurial Characteristic, Motivation and Poverty Alleviation.

1. INTRODUCTION

For developing countries, poverty is a major issue that always becomes an annual subject. Poverty seems to be a homework for the government like Indonesian government. Unfortunately, in the country which has rich natural resources there are still many people who live below the poverty line. There are several factors which influence the individual poverty such as low access to information, unavailability of jobs, the extend of corruption, limited access to capital etc. Conceptually, poverty is caused by four factors: individual, social, cultural and structural factor. The poverty in Indonesia almost spread in every province, although the level of poverty in each province varies. Different poverty level in each province is caused by the rate of economic growth, the rate of inflation, the openness to investment and others.

The level of poverty can not be separated from the distribution of wealth that reflected by the gini ratio index. Based on the BPS report on September 2017, gini ratio index in Indonesia still reaches 0.391. It means that one percent of the wealthy group controls the national assets of 39.10 percent. This data figures explain that the distribution of wealth is not good in this country. In Islam, there are several instruments can be used to redistribute wealth such as zakat, infak and sodaqah. Therefore, zakat, infak and sodaqah play a very important role in the social life of the state, especially in reducing poverty.

The popular program to alleviate poverty is the empowerment of mustahik by the zakat fund as an instrument. Mustahik empowerment is conducted by Zakat Institution to help the mustahik reaches their economic independently. Mustahik empowerment programs by Zakat Institution usually use Zakat fund scheme, where the mustahik do not need to refund those fund. This scheme is often referred to as productive zakat, that is zakat fund obtained by Zakat Institution and dedicated to the poor in the form of business capital assistance.

The mustahik empowerment in Pekanbaru mostly use this program. In this program, there are two concepts, namely group empowerment and individual empowerment. Group Empowerment model is a model where the business coaching is within the group and the business is run together by the member of group. Meanwhile, individual empowerment model is a model where the business coaching is within the group with togetherness but the execution of business by individual.

To make the program successful, zakat institutions provide technical and non-technical supports. Technical support can be in the form of business capital, training or course, team of assistence and business equipment. While the non-technical support can be in the form of motivation and spiritual assistence. Technical support aims to facilitate the mustahik in running their business, while the goal of non-technical support is to strengthen and encourage the effort.

However, there are some problems faced by the zakat institution in running this program. The first problem is due to lack of empowerment personel to assist and evaluate the planned program. This condition impacts on mustahik business because the mustahik business is running alone without maximum assistance. Meanwhile, mentoring plays a very important role in every empowerment program. The lack of empowerment personel is also influenced by the budget of the program provided. The budget for economic empowerment programs is usually not much so that they should use the budget tightly and efficiently. These condition make the impact of economic empowerment program on mustahik relatively small.

The second problem is the motivation and durability mustahik in running the business. Sometimes, mustahik are difficult to sell their product so that they get frustrated. This condition brings effect on the mustahik endurance for running in business, because their business does not run as theyplanned. This mustahik endurance in business will affect on how they are strongly in running the business. For mustahik who have good endurance, they will survive in any condition untill they success to achieve their goal. But for mustahik who hasno endurance, they are vulnerable to leave the business that has been started.

Durability of the mustahik is certainly related to the characteristics of enterpreneurship. The characteristic of enterpreneurship is an attitude that must be possessed by an enterpreneur. Therefore, under any circumstances they will always survive and innovative to find solutions to the problems they face then the business will be successful (Nair and Pandey, 2010 ; Lumpkin and Dess, 1996). The success of a business is also inseparable from the motivation possessed by the mustahik because motivation is a great energy capabel of moving a person to achieve the goals of success in his business (Winter, 2010). The purpose of this study to find out whether the support provided by zakat institutions to mustahik, enterpreneurial characteristics and motivation have impact on the success of economic empowerment programs and whether the empowerment pogram gives impact to poverty alleviation of the mustahik.

1. THEORITICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

2.1. Zakat and Poverty Alleviation

Zakat is one of the instrumens to overcome social problems that often occur in developing countries such as poverty and income inequality. In today's modern society, zakat is able to contribute to society by providing scholarship, short course, equipment and capital assistence (Wan Yusoff, 2008). Poverty has a different meaning in every country, but in general, poverty is a condition caused by the lack of food, housing, education or assets. According to the World Bank, a person is said to be poor if he can not generate a minimum income of $1,25 or $2 per day. Meanwhile, the Goverment of Indonesia classified someone as poor based on the basic need approach. Currently the Government, espesially in Pekanbaru set a poor person if his income is below Rp. 416,479 per month.

In Islamic view, poverty includes two aspects : material and non-material. However, poor in the world (material) aspect is not necessarily poor in the spiritual aspect. Poor people are those who can not meet basic needs such as food, housing, clothing, health and educational facilities. Whereas the poors in spiritual are those who do not possess the minimum spiritual wealth such as the knowledge of religion (*Ukhrawi*) and the common (Earthly), both are necessary for pray to Allah by emphasizing the value of good attitude (*Akhlakul kharimah*) (Madjid, 2011).

2.2. Organizational Support

Organizational support is perceived as an effort by the organization to improve the performance of its employee. According to Roadess and Eisenberger (2002)organizational support can be in terms of policy, norm, culture, legal, moral and financial. Organizational is a global belief as a form of corporate apreciation of employee performance.

Organizational support theory emphasizes on three aspects. Firstly, based on acceptance norms, perceived organization support (POS) must provide assurance and concern about organizational well-being to achieve organizational goals. Secondly, attention, approval and respect are connoted as emotional–social fullfilment, leading workers to join the organization and role-playing status into social identity. Thirdly, POS must reinforce employees' belief that rewards and organization recognition will improve their performance (Roades and Eisenberger, 2002).

In the context of empowering the poor, organizational support can be in terms of financial and non-financial assistance. In the case of financial support, they can give capital fund for mustahik (the poor) to buy some various purposes as well as for venture capital. The grant can be made by non-profit organization such as zakat organization or other NGO that focus on social issues and can also be done by the Government. Support by the Government can be a pro-poor policy.

Empirical studies show that organizational support has a significant impact on success of a program, such as the research conducted by Lee *et al* (2010), in which organizational support affects positively and significantly to enterprise resources planning. Another finding was found by Afzali *et al* (2014) that organizational support had a significant effect on empowerment. On the other hand, organizational support will also provide a sense of comfort to employee so that they will follow the wishes of the company (Paille *et al.*, 2010).

Meanwhile, the research conducted by Muhammat *et al* (2013) showed that the success of Asnaf business in Malaysia is influenced by capital and knowledge. Capital is a very important thing in starting a new business (start-up business), and this is one of the biggest barriers of the poor for building their business (Hadisumarto and Islami, 2010). Then, knowledge of the asnaf is related to the business they are running is more important than the training they follow (Ghosh *et al.,* 2011). However, different findings are given by Voegtlin *et al* (2015) that training has a relantionship with the empowerment. From the description above, it can be formulated research hypotesis as follow :

H_1 = Organizational support given to participant of the empowering program has a positive effect on the motivation of empowerment participant.

H_2 = Organizational support given to participant of the empowerment program has a positive impact on the economic empowerment program of the poor.

2.3. Enterpreneur Characteristics

One of the principles of empowerment is ability of the empowering agent to cultivate the soul of enterpreneurship. It is very important because it relates to ability in running the business independently, while empowerment is focused on economic field. Empowerment in target of economy is how clients are able to increase family income through business. Dowling and Smude (YEAR), Fritsch and Muller (YEAR) argue that enterpreneurs are very important in developing personal and economic (Cubico *at al.,* 2011). Similarly, it also expressed by Branback and Carsrud (2015), that enterpreneurship is a significant factor in creating national wealth, not just creating individual wealth.

There are no single definiton of enterpreneur because it is complex and linkage with the phenomenon. Meanwhile, to give underderstanding about the enterpreneur, there are some definitions about the enterpreneur. Brannback and Carscud (2015) say that enterpreneur is someone who exploite the opportunity with the goal is to attempt the wealth in the economy.

The European Commission defines the enterpreneur is a mindset and process to create and develop of the economic activity which combine the decision of making risk, creativity and or innovation with management through a new organization or existing organization (Cubico *et al.,* 2011). Drucker (1984) finds that the enterpreneur is about innovation, so the enterpreneur is the opportunity to find and exploite, and to maximize the need and want by someone. The simple definiton given by O'Brien *et.al.,* (2017), that the enterpreneur is a someone who organize, manage the business risks in running his business.

To be a success enterpreneur, there are some characteristics of enterpreneur. These characteristics are *Drive and Energy Level, Self Confidence, Setting Challengging but Realistic Goals, Long-term Involvement, Using Money as a Performance Measure, Persistent Problem Solving, Taking Moderate Risk, Taking Inisiative and Seeking Personal Responsibility, Making Good Use of Resources* (Dingee *et al*., 1997). Lumpkin and Dess (1996) propose that the keys of a success enterpreneur are *Autonomy, Innovativeness, Risk-taking, proactiveness and competitive agressiveness*. In addition, Tagraf dan Akin (2009) suggest that an enterpreneur should have characteristics such as *risk taking, autonomy, having control of his own dan having success confidence despite each kind of ambiguity.*

In empirical study, the enterpreneural spirit is the factor which contributes to the success in running business, such as the empirical study conducted by Ahmad (2010) that compares the risk taking by CEO of enterpreneur with CEO of company, where the level of risk taking of an enterpreneur CEO is better than company CEO. These findings are supported by Sarwoko *at al* (2013), Leutner *et al.,* (2014), Wahab and Al-Damen (2015) where the characteristics of an enterpreneur influenced the success of business. Based on the description above, the next hypothesis is as follows:

H_3 = The characteristics of the enterprenuer possessed by the mustahik give a positive influence on the success of economic empowerment program.

2.4. Mustahik Motivation

The success of an enterprenuer can not be separated from achievement motivation. Empirical evidence shows that success in the business can not be separated of n-Achivement concept that has been developed by David McClelland (Winter, 2010). For someone who has decided to involve in business, there are factors that encourage or influence it. Those factors are 1). achivement, challenges and learning, 2). Independent and autonomy, 3). Income security and financial access, 4). Recognition and status, 5). Family and roles, 6). Dissatisfaction and 7). Community and social motivation (Stephan *et al.*, 2015).

In line with this, Franck (2012) says that the motivation of someone in opening a business, especially for informal micro enterperises is to get the income, interest in enterprise, increase flexibility and autonomy, and possibility for combining of family and survival guarantee. A more interested definition is delivered by Suarez-Ortega and Galves-Garcia (2017) that motivation of someone to start a new business is pleased with the activity.

Then the three empirical studies which explained by Benzing and Chu (2009), Kuratko *et al (YEAR)* and Robichoud *et al (YEAR)* show that motivation of an enterpreneur can be grouped into four factors : extrinsic reward, independency or autonomy, instrinsic reward and family security. Meanwhile, Wang *et.al (YEAR)* conducted research in West Australia says that there are 17 motivation of someone in opening of business. The seventeen motivations are grouped into four factors : personal development motivation, financial motivation, push motivation and flexible lifestyle motivation

Some studies show that motivation has significant impact on successful business, such as the research conducted by Gebauer and Fleisch (2005). Another study also has similiar result where motivation and enterpeneurial traits affect the success of enterpreneur (Baum and Loke, 2005). Similarly, Aidis and Praag (2006) assert that someone’s success in running business is influenced by his motivation. This condition also applies in small business that the success of business is influenced by one's own motivation (Mensah and Bennedic, 2010).

Based on the explanation above, so the hypothesis development is as follows:

H_4 = The motivation possessed by the mustahik gives a positive influence on the success of economic empowerment program.

H_5 = The motivation possessed by the mustahik has a positive effect on the poverty alleviation.

2.5. Mustahik Empowerment

Empowerment is one effort to alleviate poverty by giving efforts to the less fortunate people to improve their standard of living. In Indonesian Dictionary, there are several meaning of empowerment. First, empowerment is defined as the ability to do something or the ability to act. Second, empowerment is strength of power (which causes move). Third, empowerment is defined as effort and power.

According to Djohani, in Anwas (2013) empowerment can be interpreted as an effort in providing power to the weak (powerless) and reduce the power to the party that is too powerful, so that there is a balance. Empowerment can also be interpreted as a means by which people, organizations, and communities are directed to be able to control or rule over their lives (Rappaport, 1984).

In addition, the World Bank (2002) defines empowerment as an expansion of the assets and abilities of the poor in participating, negotiating with, influencing, controlling and holding institutional responsibility that affect their live. Poverty is life multidimentional, the poor needs asset and ability. In the level of individual, they need health, education and housing while in the collectivity level, they need ability to organize and have mobilization to solve the problem.

Empowering the poor can be done by the government and society. In Indonesia, empowering the poor has been implemented by the PNPM Mandiri. PNPM mandiri gives facility to the poor, such as assistence or mentoring, training and fund. Beside from the givernment, empowering the poor also can be given by the society with the zakat institution through the mustahik empowering program. Like PNPM mandiri, zakat institution gives some programs to mustahik such as business capital, technical support, mentoring and motivational supporting.

To evaluate the success of the program, can be observed from some aspects. First, impact aspect. The indicator from the impact aspect is the increasing family income. In the business level, the indicator is net income of business, while in the level of household and indiviudal is the changing in the annual income. Second, outcome aspect where the indicator can be seen from how much wage earned by society. Third, output aspect. The indicator is how the community participate in the empowerment, how the training alumni is used by other parties and how many products are produced. The fourth, activity aspect. From activity aspect, it can be seen the commitment of the managers in the empowerment program (Merkel, 2014).

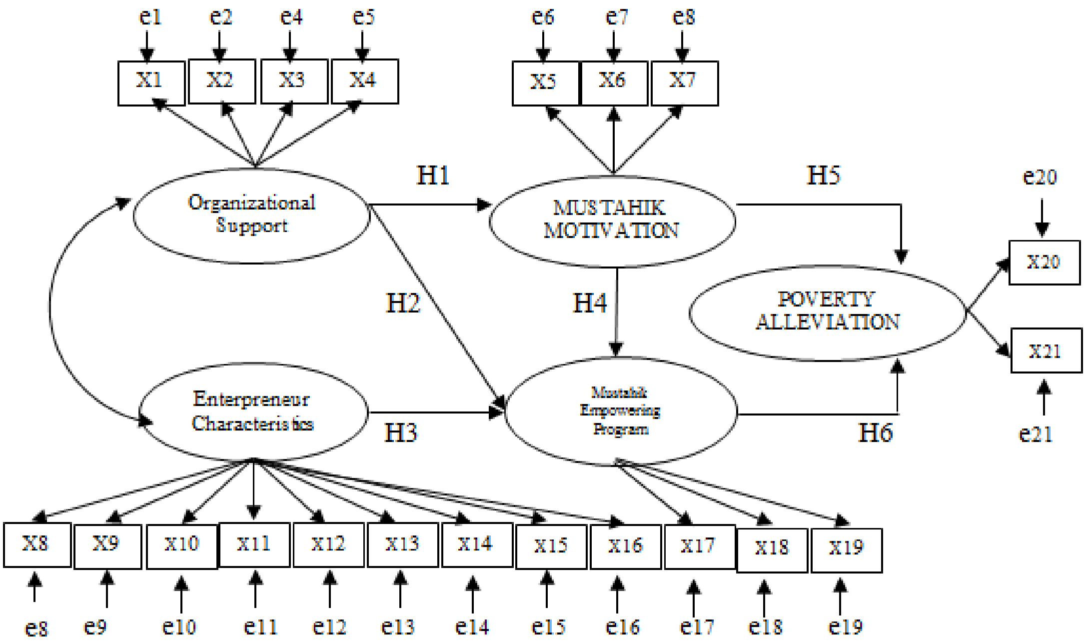
The ultimate goal of empowerment is the creation of economic independence of the mustahik and the next level is mustahik can exit from poverty. Empirical study shows that economic empowerment can help the financial problem of family (Lessy, 2013). Another study also shows that empowering mustahik through the productive zakat has been delivered if mustahik can fulfill the their basic need such as food, cloths and others, despite the result is below expectation but has given the hope for better life (Nurzaman, 2016).

By using a logistic regression approach, Azzam *et al* (2014) shows that household expenditure after obtaining zakat allocation has increased, it means that there is an economic impact resulting from zakat. In another study, it was found that the contribution of zakat funds has been unexpected. From 1,195 samples, zakat fund is only able to increase monthly family income by 8.94 percent. Nevertheless, the existence the zakat so far is able to contribute in reducing poverty to 16.79 percent (Beik, 2013).

Based on the above explaination, it can be formulated research hypothesis as follows :

H_6 = Empowering the poor through economics activities provides a positive influence in alleviating poverty of the mustahik.

Following is conceptual framework of this research :



Figur 1. Conceptual Framework

Note :

X1 = Capital Support	X8 = Drive and Energy Level	X15 = Taking Initiative
X2 = Technical Support	X9 = Self Confidence	X16 = Good Use Of Resources
X3 = Accompaniment	X10 = Realistic	X17 = Impact
X4 = Training	X11 = Long Term Involvement	X18 = Ouput
X5 = Need for Achievement	X12 = Money as Performance Measure	X19 = Outcome
X6 = Need for Affiliation	X13 = Problem Solving	X20 = Financial
X7 = Need for Power	X14 = Taking Moderate Risk	X21 = Nonfinancial

3. RESEARCH METHOD

The research was conducted in Pekanbaru while the sampel was taken from four zakat institutions with the total sampel is 105 from the total of 267 population. The four zakat organizations are Baznas Kota Pekanbaru, Dompet Duafa Riau, Rumah Zakat Riau and Swadaya Ummah Pekanbaru. In this study, the variables consist of five laten variabel : organizational support, enterpreneur characteristics, mustahik motivation, mustahik empowerment program and poverty alleviation.

Variabels of organizational support taken from Roades and Eisenberger (2002): capital support, technical support, mentoring and training. While the enterpreneur characteristic variabels follow Dingee et al (1997). There are nine manifest variabels : *Drive and Energy Level*, *Self Confidence, Setting Challengging but Realistic Goals, Long-term Involvement*, *Using Money as a Performance Measure, Persistent Problem Solving, Taking Moderate Risk, Taking Inisiative and Seeking Personal Responsibility, Making Good Use of Resources.*

Mustahik motivation variables taken from David McClelland Theory. There are three manifest variabels, *n*-Achivement, *n*-Power and *n*-Affiliation. While the empowerment program variabel are using Merkel (2014) Concept with three manifest variabels: impact, output and outcome. While, poverty alleviation variabels using the two manifest variabels, financial and non-financial (Madjid, 2011).

In this research, data collected by questionare using Likert Scale 1-5. Quantitative approach is used to analyze the data using the Generalize Structural Component Analysis (GeSCA).

4. RESULT AND DISCUSSION

4.1. Evaluation Fit Model

In the evaluation of FIT Model, there are four evaluation components namely FIT, AFIT, GFI and SRMR. The results are in the following table :

Table 1. FIT Model Evaluation of SEM-GeSCA

Model Fit	
FIT	0.541
AFIT	0.530
GFI	0.983
SRMR	0.214

Output result by SEM-GeSCA shows that value of FIT result is 0.541. So the model created in this reserach can explain all variables involved by 0.541. It means, organizational support, motivation, enterpreneur characteristics, economic empowerment program dan poverty alleviation can be explained by model as much 54,10% and remain 45,90% can be explained by the other variables. Meanwhile, AFIT is value of FIT that has been adjusted with the value of 0.530.

Goodness of Fit Index or GFI (*unweighted least-square)* and SRMR (*Standardized Root Mean Square Residual*) shows the different proportion between covariance samples with covariance resulted by parameter estimate from structural analysis. Based on the testing result, the GFI value is 0.983 and the model is very good. Meanwhile the SRMR value is 0.214 and good.

4.2. Evaluation of Outer Model

Outer model evaluation consists of Loading factor, AVE (Average Covariance Extracted) and Alpha. Loading factor is value resulted by observed variabel, while the value of loading factor is figure of how good contribution of the observed variabel on the latent variables. The loading factor value is good if the value is minimum 0.5, that means the observed variabel are reflected of (by) latent variables. While the AVE value figures the variance average total from observed variabel has explained by the relation with laten variables. AVE shows the value of discriminant validity, while the good value of AVE is minimum 0.5 or the value of square-root is greater than correlation between variables. While the value of alpha shows the internal consistency and the value of alpha suggested is 0.6. Following is the result of outer model evaluation.

Table 2. Evaluation of Outer Model

Variable	**Loading**			**Weight**			**SMC**		
	Estimate	**SE**	**CR**	**Estimate**	**SE**	**CR**	**Estimate**	**SE**	**CR**
Organizational Support	**AVE = 0.718, Alpha =0.852**								
X1	0.555	0.123	4.52*	0.203	0.047	4.28*	0.308	0.124	2.48*
X2	0.923	0.016	57.48*	0.309	0.036	8.5*	0.852	0.029	28.94*
X3	0.925	0.016	59.08*	0.319	0.034	9.51*	0.856	0.029	29.62*
X4	0.924	0.019	49.06*	0.332	0.035	9.59*	0.854	0.035	24.61*
Enterpreneural Characteristics	**AVE = 0.522, Alpha =0.883**								
X5	0.789	0.034	23.11*	0.171	0.014	11.99*	0.623	0.054	11.48*
X6	0.753	0.044	17.07*	0.166	0.013	12.61*	0.567	0.066	8.64*
X7	0.732	0.057	12.93*	0.154	0.015	10.24*	0.535	0.083	6.48*
X8	0.811	0.033	24.68*	0.180	0.015	11.64*	0.658	0.053	12.44*
X9	0.658	0.062	10.69*	0.138	0.016	8.42*	0.433	0.080	5.4*
X10	0.685	0.063	10.8*	0.150	0.016	9.44*	0.470	0.084	5.6*
X11	0.753	0.048	15.66*	0.158	0.013	11.94*	0.567	0.070	8.06*
X12	0.701	0.051	13.72*	0.132	0.014	9.11*	0.492	0.071	6.95*
X13	0.593	0.082	7.23*	0.127	0.015	8.74*	0.351	0.093	3.77*

Mustahic Motivation	**AVE = 0.629, Alpha =0.703**								
X14	0.840	0.039	21.54*	0.453	0.048	9.39*	0.706	0.065	10.81*
X15	0.823	0.044	18.71*	0.449	0.055	8.15*	0.677	0.071	9.48*
X16	0.710	0.072	9.89*	0.353	0.034	10.23*	0.504	0.099	5.1*
Mustahik Empowering Program	**AVE = 0.738, Alpha =0.820**								
X17	0.860	0.030	28.9*	0.381	0.041	9.32*	0.739	0.051	14.54*
X18	0.829	0.047	17.51*	0.347	0.052	6.68*	0.688	0.077	8.95*
X19	0.888	0.023	38.9*	0.434	0.040	10.98*	0.788	0.040	19.61*
Poverty Alleviation	**AVE = 0.688, Alpha =0.547**								
X20	0.822	0.030	26.97*	0.591	0.049	12.02*	0.676	0.049	13.69*
X21	0.836	0.041	20.49*	0.614	0.036	17.17*	0.700	0.068	10.34*

CR = significant at .05 level*

The result shows that all of observed variabel are significant at 0.05, it means that the observed variables are constructed of the latent variabels are valid and can be accounted empirically.

4.3. Evaluation of Inner Model

Structural model evaluation or inner model evaluation is an evaluation of the structural equation which has been resulted from the model developed. The number of structural equation generated depends on how complex the model built. The more complex of model built, the more structural equation will be resulted. Evaluation on the inner model can be seen in the value of path coeficient and critical region (CR). Following is the result of structural model :

Table 3. Evaluation of Inner Model

Path Coefficients			
	Estimate	**SE**	**CR**
Organizational Support->Mustahik Motivation	0.330	0.095	3.47*
Organizational Support ->Mustahik Empowering Program	0.200	0.134	1.5
Enterpreneur Characteristics-> Mustahik Empowering Program	0.359	0.164	2.19*
Mustahik Motivation-> Mustahik Empowering Program	0.289	0.128	2.26*
Mustahik Motivation ->Poverty Alleviation	0.346	0.124	2.8*
Mustahik Empowering Program -> Poverty Alleviation	0.374	0.130	2.87*

CR = significant at .05 level*

From the table above, it shows that the organizational support does not give impact on the mustahik empowerment program but organizational support gives indirect effect on mustahik empowerment program through motivation variabel and significant at 0.05, which the estimate value is 0.330 and standard error is 0.095. Therefore, we reject the the hypothesis of H1 and accept the hypothesis of H3. Meanwhile, the success of mustahik empowerment program is influenced by mustahik motivation and enterpreneur characteristics and significant at 0.05 and each of estimate value is 0.289 and 0.359. That is why the hypothesis of H2 and H4 are accepted. The above result also shows that the success of alleviation poverty is influenced by mustahik motivation and mustahik empowerment program with the path coeficient is 0.374 and 0.346 and significant at 0.05. Therefore, the hypotesis of H5 and H6 are accepted.

These results figure that despite organizational support does not impact on mustahik empowerment program but the organizational support gives the indirect impact on success of mustahik empowerment program through mustahik motivation. It means that the motivation for success has great influence on the mustahik business in the empowerment program than organizational support. This result is consistent with Baum and Loke (2005), Aidis and Praag (2006), Mensah and Benedict (2010) and Winter (2010) that the business success influenced by mustahik achievement motivation, but this result is contradictive with Afzali *et al.* (2014), Lee *et al* (2010) and Muhammat *et.al* (2013).

There are some possibilities why the result is contradictive. First, people/human. It is different in the empowerment program, mustahik is not employee of the zakat organization but in the research by the Afzali *et al* (2014) and Lee *et al* (2010) is employee. Employee is an asset of organization but mustahik is not asset of zakat organization. Employee as an asset is very important for organization (Gabcanova, 2011; Bayraktar and Sencan, 2017), although the concept of employee as corporate asset is still debatable (Fulmer and Ployhart, 2014). Hence, the organization will give more attention to the employee to achieve its goals. Meanwhile, if they are not asset, it depends on their resources or their priority programs. Unfortunately, mustahik empowerment programs is not their priority programs for most of zakat organization in Pekanbaru. Therefore, the successful mustahik in running a business in empowerment program depends on individual factor and their experiences. Organizational support is only a stimulus or encouragement for mustahik. Second, the variables involved is different although the object of the reasearch is still mustahik. Research by the Muhammat *et al* (2013), uses observed variabels, they are capital, knowledge and training. But in this research the variabels involved is latent variabel or unobserved variable.

Third, unmaximum support. The zakat organization can not be maximum in supporting the mustahik empowerment programs because they are lack of budget and human resources. Despite the organizational support does not give impact on mustahik empowerment program, the organizational support gives indirect impact through motivation. Therefore, the zakat organization must keep mustahik motivated. Beside motivation, the success of mustahik business through empowerment program is influenced by the enterpreneur characteristics. This result is in line with the Sarwoko et al (2013), Lautner et al (2014) and Wahab and Al-Damen (2015). It shows the important aspect should be changed in the mustahik is the mentality. Mentality for success should be built and continued to keep, so he/she does not give up despite he/she failed in business. It needs process and patient in running a business since it needs mind and more energy to struggle. By understanding enterpreneur characteristics and its implementation, so the mentality of the mustahik in a running their business will increase and furthermore it will give the best opportunity for success mustahik.

Finally, the result of this study also describes that the mustahik empowerment program gives impact on poverty alleviation. The success of poverty alleviation is not only influenced by the success empowerment program, but also influenced by motivation. It means that both variables play an important role in the poverty alleviation of mustahik. This result is similar with Beik (2013), Azzam, *et al* (2014) and Nurzaman (2014).

5. CONCLUSION AND RECOMENDATION

The final goals of empowerment program of the poor (mustahik) is to create the economic independent, which in turn will give the impact on quality life of mustahik. The quality life will be reached when they can fulfill their basic need independently. This study shows that the success of empowerment program influenced by enterpreneur characteristics and mustahik motivation, while the organizational support does not give the impact on success of empowerment program although the organizational support gives indirect effect through motivation. Thus, the motivation and enterpreneural spirit must be cultivated by the management of mustahik empowerment program. In addition, the success of mustahik empowerment program also gives the impact on poverty alleviation. It means that the empowerment program gives concrete help toward government problem and the poor exits from poverty line.

Therefore, to increase the mustahik access on the empowerment program, it needs to improve the program model. First, the grant of business capital has to be improved. There are some programs which the busines capital given is bigger for a small group, so the access for the other mustahik will be lost to get the program. Second, empowerment duration has to be evaluated. To give same access for other mustahik, the duration of empowerment is not more than two years. If the duration of empowerment is too long, it will lock the access for other mustahik to get the same program. Third, the involvement of group member in business should haves similar chance to develop the business. By similar chance in developing the business, the group members has similar responsibility so the group member will have the sense of belonging to the business. Thus, the group members can focus on their group business and they will make the business as their main job. Fourth, it needs to provide an additional budget allocation. Reflecting on the research result, when the budget allocation is added, the beneficent will increase and the opportunity for alleviating poverty is also increase.

Limitation of the research is the sample only involves four zakat organizations in Pekanbaru, so the result cannot represent the condition of mustahik empowerment in Indonesia because each district in Indonesia have different characteristics of mustahik and different management by the zakat organization.

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WAQF AND IMPACT INVESTMENT IN INDONESIA: LESSONS FROM SOCIAL IMPACT BOND (SIB)

Lisa Listiana[a]

[a]Waqf Center for Indonesian Development and Studies (WaCIDS), Indonesia

ABSTRACT

In Indonesian waqf sector, a comparison between budget and realization of the state budget (APBN) represents the mainstream information available for the public. On the other hand, there is a mechanism in which the result or success becomes the prerequisite for investment return, hence equipped with measurable explicit outcome called Social Impact Bond (SIB). SIB is acknowledged as an innovative financial instrument that enables impact investment scheme by blending both social and financial returns at the same time. Some studies associated the SIB concept with social finance and Socially Responsible Investment (SRI) which contains value of *Maqashid* shariah of which the Islamic finance may take lesson from it. Unfortunately, the concept of SIB has not yet become popular in Indonesia, despite being the largest Muslim population country. Acknowledging this situation, the current paper aims to synthesize the concept of SIB and identify salient features of the existing models across jurisdictions. Taking lessons from the SIB's characteristics, this paper proposes a partnership model in waqf sector, which essentially embraces impact investment in nature. Reviews of existing reports and publications by relevant institutions complement the Systematic Literature Review (SLR) on SIB in the current study. This study represents the pioneer work that attempts to elaborate on the SIB concept and waqf within the Indonesian environment.

Keywords: Social Impact Bond, Waqf, Indonesia.

1. INTRODUCTION

According to a published book issued by the Ministry of Finance (2019), Ministry of Religious Affairs (MoRA) which represents the relevant authority on waqf sector in Indonesia, belongs to the top five ministry institutions with the biggest state funding allocation. From total IDR 62,1 trillion of the ministry funding, Directorate General of the Guidance of Islamic Society has allocation about IDR 5,1 trillion in 2019.

The detail of 2019 approved budget of relevant directorate informs about the target number for waqf land certification, number of dispute completion on waqf land, number of productive lands, number of participants of capacity building program, number of securities of waqf assets, and number of advocacies toward waqf assets. However, in term of usage, historically, comparison between budget and realization represents the mainstream information available for public access. Lack of measurable outcome being defined may cause difficulty to assess the effectiveness of programs that used the state budget.

On the other hand, there is a mechanism in which the result or success becomes a prerequisite for investment return, hence equipped with measurable explicit outcome called the Social Impact Bond (SIB). Since its pilot project in the UK in 2010, many relevant articles, studies, and reports about Social Impact Bond (SIB) can be found. Even some developed countries like the US and Australia have adopted similar concept with some modifications.

While some other studies are in the agreement that SIB has some congruence with Socially Responsible Investment (SRI) or *maqashid* shariah value, the concept and characteristics of SIB have not been explored yet in Indonesia. This is among the gaps that will be addressed in the current study.

First, this paper aims to synthesize the concept of SIB and identify the salient features from the existing models across jurisdictions. It is expected that the synthesis may offer useful insight for waqf sector in the country. Second, this paper aims to propose the partnership model in waqf sector, which essentially embraces impact investment in nature. Hopefully, the given proposed policy may help to unlock Indonesian potential as the largest Muslim population country which is still positioned in the 10th rank according to Global Islamic Economy Score (Reuters & Standard, 2019).

This paper is divided into five sections. In the first section, the introduction is given. The second section covers the existing literature related to SIB and waqf in Indonesia. The third section is the research methodology. Later section will provide a discussion on the existing model and innovation of SIB across jurisdictions. In addition, the proposed partnership model in waqf sector within Indonesia environment will be elaborated before the conclusion and policy recommendation in the last section.

2. LITERATURE REVIEW

This section will explain the concept of SIB and waqf in Indonesian environment based on the existing published reports and literature.

2.1. Understanding Concept of SIB

According to Nicholls and Tomkinson (2013), SIB is an innovative method of financing welfare and other social services that aims to improve a social outcome through the collaboration of government, service providers, and external investors. They noted that SIB mechanism offers incentive to both services providers and investors. It is acknowledged as a new way to fund public services (Rubin, 2011).

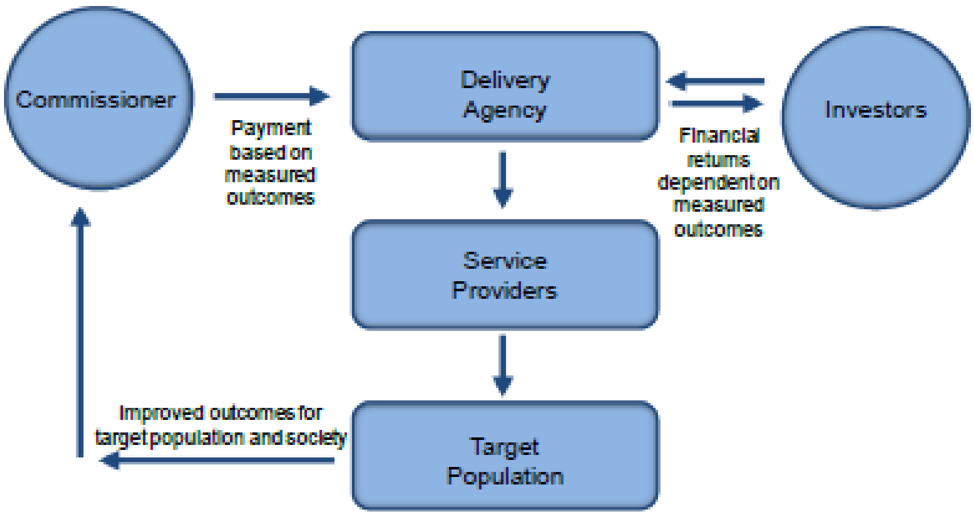

Figure 1. Structure of SIB (Nicholls & Tomkinson, 2013)

As summarized by Azman (2018), in general SIB is structured as below:

1) An outcomes contract is negotiated between the government and SIB delivery agency/service provider.
2) Based on agreed outcomes contract, fundraising is conducted by the SIB delivery agency.
3) Social service providers agree to deliver the services or interventions to define/target group or community or population using collected funds.
4) Independent evaluator evaluates the outcomes/results of SIB project.
5) If the agreed outcomes are achieved, the government needs to pay the investors. Otherwise, the investors may lose their partial or wholly investment funds.

Nicholls and Tomkinson (2013) noted that effectiveness, efficiency, and accountability represent three benefits of engaging with SIB projects. While this mechanism enables the government to reduce government burden and remove the financial risk for ineffective funding, SIB mechanism may enable service providers to get upfront funding and offers impact investment opportunity for investors (Azman, 2018; Disley, Rubin, Scraggs, Burrowes, & Culley, 2011).

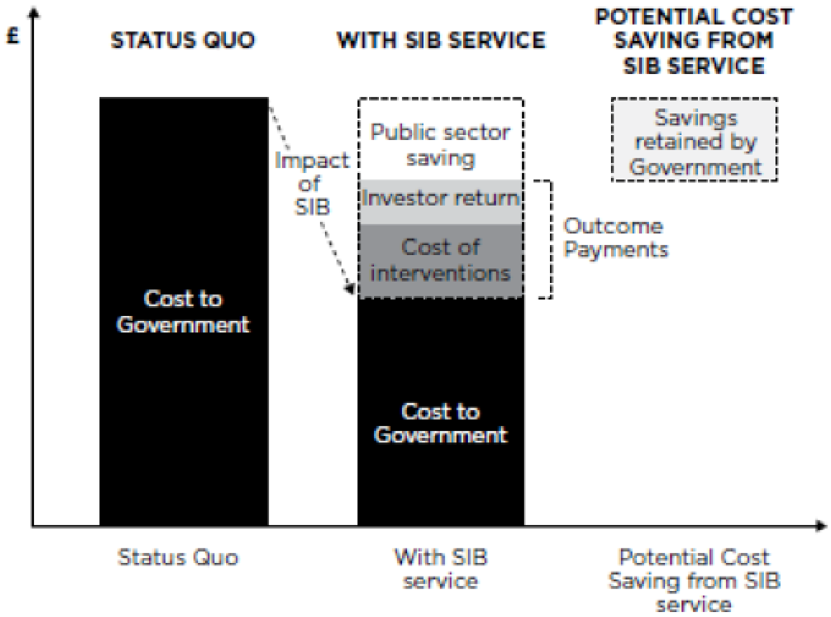

Figure 2. The Theoretical Value-for-Money Calculation by Government (Nicholls & Tomkinson, 2013)

Despite the above theoretical concept indicating potential cost saving from the SIB implementation, Disley et al. (2011) noted that a small-scale SIB will not deliver substantial cashable savings. Other than expensive preparation in term of effort, time, and funding, relevant stakeholders acknowledged the complex and time-consuming, requiring significant resources in the development stages (Disley et al., 2011).

2.2. Waqf in Indonesia

According to the Waqf Act 41/2004, waqf is defined as "*legal action by waqif (waqf founder) to separate or/and give part of his wealth to be used for religious purpose and/or public welfare according to shariah*". Under this act, the scope of waqf assets varies from non-moveable assets like land and building to moveable assets like cash, gold, shares, etc. This act also acknowledged the permissibility of three types of *nazhir* (manager of waqf assets), including personal, organization, and legal institutions (Waqf Act, 2004). As such, there is an open opportunity to develop waqf sector more profesionally.

As part of this effort, some initiations have been started, including the development of waqf core principles and cash waqf linked sukuk. Waqf core principles (WCPs) contains 29 core principles aiming to "*promotes or maximizes the benefits to others, inclusively for all humans and living beings and emphasize the importance of maintaining or keeping public confidence high since the system is fully dependent upon the public's propensity to donate*" (InternationalWorkingGroup, 2018). This document was launched by the International Working Group on Waqf Core Principles which represents the collaboration between IRTI-IsDB, Indonesian Waqf Board, Bank Indonesia, and the representative of waqf stakeholders across jurisdictions during the IMF-World Bank annual meeting in Bali, Indonesia in 2018.

Aligned with the aforementioned effort, cash waqf linked sukuk was also launched in the same event in October 2018. Technically, the collected temporary five years cash waqf will be used to buy state sukuk (SBSN). 10% of the return of the sukuk will be allocated for operational and 90% for *mauquf alayh* (beneficiaries of waqf assets) who are the zakat and *infaq* institutions. Funding of the sukuk will be allocated for social infrastructure projects conducted by the government (WaCIDS, 2019).

In its feedback document, WaCIDS (2019), noted that there is no further information with regards to the potential project to be funded, the respective responsible party, and treatment of the project after maturity date in the feasibility study report on cash waqf linked sukuk. This important information is somehow missing in the document. According to the published information on the structure of cash waqf linked sukuk, in essence, it has similarity with the concept of SIB. However up to this time, no further information with regards to the progress of the project.

3. RESEARCH METHODOLOGY

The current study adopts a qualitative meta-synthesis to synthesize existing literature on SIB. This method is acknowledged as an exploratory research method designed to build or extract references from qualitative research. It aims to develop an explanatory theory or model that may explain the findings of a group of similar qualitative studies (Lee, 2010).

Technically, electronic database search in the Google Scholar are undertaken using keywords “Social Impact Bond” on 11 June 2019 at 4.46 pm Malaysian time. Considering the open-access feature and broad coverage of literature, this platform is used in this research. Other than Google Scholar, relevant published reports from respective institutions and authorities in Indonesia are also being covered. Those include Masterplan for Indonesian Islamic Financial Architecture and Masterplan for Indonesian Islamic Economy issued by Bappenas; performance report, financial report, approved budget of Directorate General of the Guidance of Islamic Society, MoRA; and relevant laws and regulation related to waqf.

Table 1. Summary of Literature Selection (Author own)

Description	Number
Using the keyword "social impact bond" in everywhere	2100
Using the keyword "social impact bond" in title	79
Other than the English language	-19
Not relevant based on abstract/summary screening	-22
Not full text available or inaccessible or double file	-11
Not relevant based on full paper screening	-6
Total documents for SLR	**21**

4. DISCUSSION

4.1. Existing Models of SIB around the World

The first SIB project which obtained 5 million from 17 investors was originally introduced by the United Kingdom in 2010 (Azman, 2018; Disley &

Rubin, 2014; Nicholls & Tomkinson, 2013). This project was launched at Peterborough Prison, sponsored by the Ministry of Justice and the Big Lottery Fund (Disley & Rubin, 2014). In this project, the Social Finance Ltd. becomes the intermediary to coordinate related parties (Faia, 2014). Disley et al (2011) noted that the majority of its investors were charities or foundations. In this project, reconviction events become the measured outcome that is being assessed using the propensity score matching (PSM) methodology (Cave, Williams, Jolliffe, & Hedderman, 2012). The intervention which is called One Service is a voluntary scheme that offers support to reduce reoffending. Technically the contact was made with the prisoners before being released and was continued in the community. There was a mechanism change from payment by result into a 'fee-for-service' arrangement (Disley, Giacomantonio, Kruithof, & Sim, 2015). However, in essence, the project was able to reduce the reconviction events, as mentioned by Anders and Dorsett (2017) that "*reduction is sufficient to trigger an outcome payment*".

It offered long-term contracts, single outcome contracts, collaboration, and service innovation. Berlin (2016) noted that SIB promises "*more mission funds for non-profit organizations; the space for government entities to experiment by lowering their risk; new profit opportunities for socially minded investors; and for society, the chance to test and expand more effective interventions to existing challenges*".

Since then, Azman (2018) noted that more SIBs were launched in other countries with some variations and even being acknowledged with other names. While in the US, it is called as "Pay for Success Bonds" and "Human Capital Performance Bonds", in Australia it is termed as "Social Benefit Bonds". Differently, it is acknowledged as "Development Impact Bond" in developing countries. In his study, Azman (2018) found that good governance framework, fulfillment of ethical standards, transparent procurement process, well-defined scope, and viable feasibility study represents the top five critical success factors of SIB for Malaysian context. In term of priority areas, he identified education, healthcare, and children as top three areas potential for using SIB mechanism.

He noted that there are five major stakeholders relevant to SIB mechanism, including government or commissionaire, intermediary, investors, service providers/non-profit organizations, and evaluators. Despite its promising benefit, SIB also contains potential risks, such as intervention area risk, execution risk, intermediary risk, political risk, financial risk, performance risk, and reputational risk (Azman, 2018; Olson & Phillips, 2013).

As an effort to promote the SIB scheme, the UK government established the Centre for Social Impact Bonds. It is a multi-disciplinary team within the Cabinet Office that promotes the development of more and better social impact bonds. The Centre for SIBs works to increase understanding of SIBs across government and to provide support to SIB developers. It does this in four ways: 1) increasing awareness and understanding of SIBs through online resources and at workshops and conferences; 2) reducing transaction and set-up costs by developing standard tools such as template contracts; 3) helping SIB developers to estimate cross-cutting benefits by making more data publicly available about the costs to government of providing specific public services; 4) supporting SIB developers by providing strategic advice and analytical support (Cabinet Office, 2013).

As of August 2016, Rizzello & Carè (2016) found that there are around 65 SIB typical contracts across the world, including in the UK, USA, Australia, Canada. They acknowledged that variations across jurisdictions indicate adaptability of SIB concept toward local context, socio-economic politic situation, the nature of targeted investors as well as the landscape of existing potential stakeholders in the country.

Normally, SIB ensures that payments are only made by the public sector if SIB-financed services improve the outcomes for service users. However, in practice, many variations can be found, as can be seen in the appendix.

In New York City SIB, there was an investment guarantee mechanism by Bloomberg philanthropies that reduces the risk of capital loss to $2.4m or 25% of total investment. In essence, it is a loan from Goldman Sachs to support the delivery of therapeutic services to 16 to 18-year-olds incarcerated on Rikers Island. Repayment of the loan will be based on actual and projected cost savings realized by the New York City Department of Correction (Olson & Phillips, 2013). "*If the program is successful and meets its benchmarks, the resulting reductions in future incarceration days should save the City of New York money, and the city will use a part of those savings to pay back the investment. If the program fails to meet the required benchmarks, the city will not achieve any savings and will not pay back the investment"* (Rudd, Nicoletti, Misner, & Bonsu, 2013).

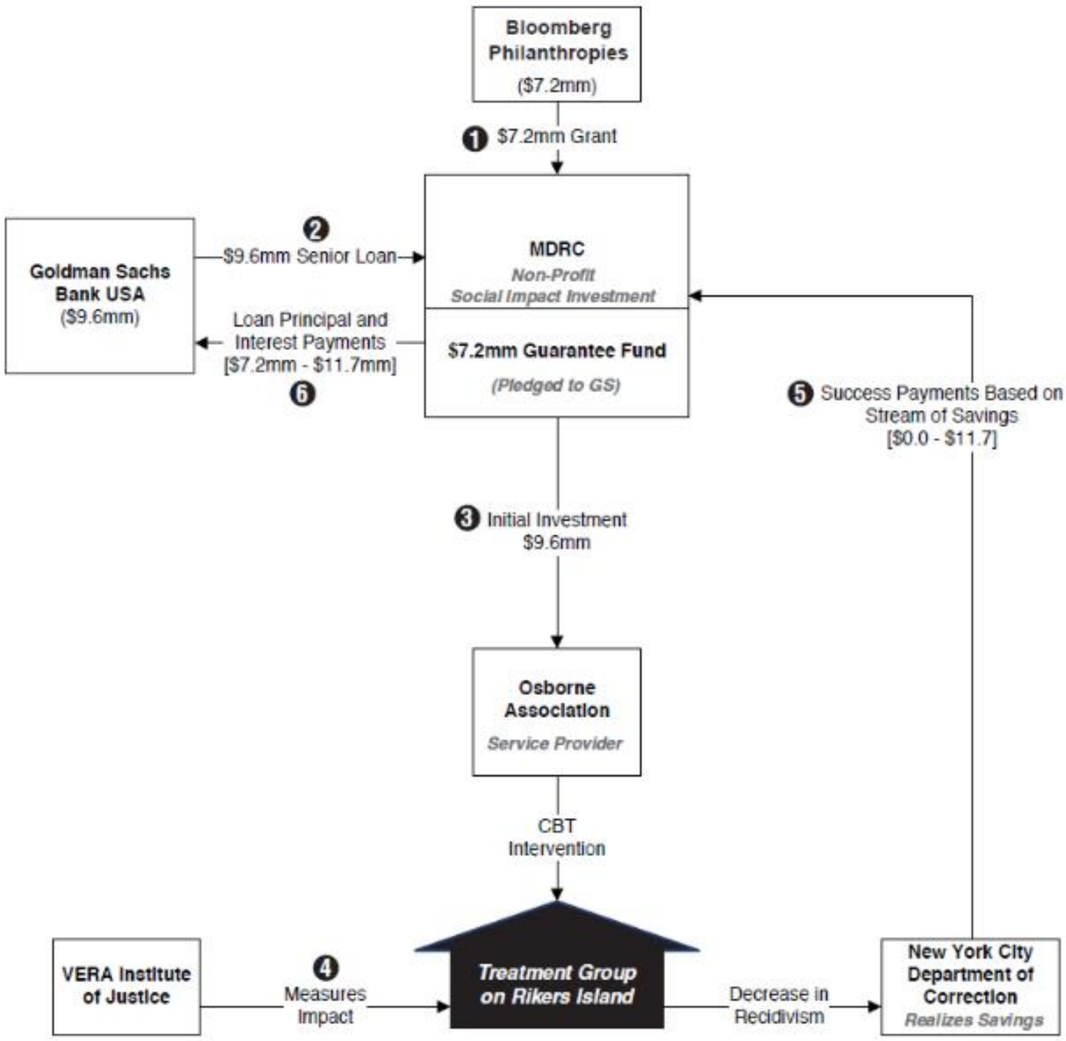

Figure 3. Flow of Funds for Rikers Island Social Impact Bond (Olson & Phillips, 2013)

A similar SIB contract, which was based on a loan was also used in the Denver Supportive Housing SIB Initiative (Cunningham, Pergamit, Gillespie, Hanson, & Kooragayala, 2016; Gillespie, Hanson, Cunningham, & Pergamit, 2017). In New South Wales, there is no intermediary body in the SIB mechanism. Australian not-for-profit organizations are directly contracting with the New South Wales Government. Called as Social Benefit Bonds in this country, proportional payment of capital to investors is made by the government, even if no positive outcomes are achieved. In Massachusetts, USA the service provider acts as the investor at the same time (Nicholls & Tomkinson, 2013).

Nicholls & Tomkinson (2013) noted that while non-government commissioner is implemented in a pilot health care SIB in California, there are multiple commissioners and service providers in different SIB contract in the UK. Disley et al. (2011) noted that interviewees perceived complex contractual relationship in the pilot SIB project. In the first SIB project, there were six key contractual relationships.

Defined as the contractual agreement between government and other parties with social outcome targets, from the existing models, there are two salient features of SIB, namely public-private partnership and payment by results (Azman, 2018). Public-private partnership (PPP) refers to a performance-based contract between the public or government agencies with private agencies. Yescombe (2011) noted that over the last decade, this kind of partnership has become increasingly popular. On the other hand, payment by result means that payment of the capital and investment return depending on the result and achievement of agreed scope and targets. To do this, measurable indicators need to be explicitly defined.

Other than developing a simpler mechanism, the UK Government established catalyst institutions and policies to promote this movement. In the UK, a successful project from the transformation rehabilitation as the first SIB was duplicated by the government with its budget. Nicholls and Tomkinson (2013) noted that "*SIBs fit into this tradition of change as part of a new wave of welfare reforms that have been largely driven by the deficit crises*" or aligned with the spirit of new public management of public sector.

4.2. Proposed Model for Indonesia Environment

Mohamad, Lehner, and Khorshid (2015) noted that the impact and contribution of Islamic finance to the social sector was minimal. As they argued that "*there is inherent weakness of the present-day Islamic banking and finance industry in terms of its underdeveloped social sector*", they acknowledged for a need to take lesson from SIB and adopt the concept to ensure the shariah-compliant aspect of such proposed financial products, called as social sukuk. This argument is similar to what was mentioned by Azman and Ali (2016a) in their study. They agree that in essence, there is congruence between SIB, SRI, and Islamic finance spirit (Azman & Ali, 2016b).

Particularly in Indonesia, with its status as the largest Muslim population country in the world, this country is still positioned in the 10th rank according to Global Islamic Economy Score (Reuters & Standard, 2019). Bappenas (2016) in their published masterplan mentioned that lack of vision and coordination among relevant stakeholders, lack of government support, and lack of society (general public and business sector) awareness on the potential become the main obstacle in developing the Islamic finance industry in the country. Related to Islamic religious funds sector including waqf, it is being acknowledged that there is a lack of transparency and good governance (Bappenas, 2016)

Year	**IDR Budget***	**IDR Realization****	**%**
2018	1,535,504,950,000	1,516,755,164,000	99%
2017	1,485,382,525,000	1,420,575,703,812	96%
2016	1,285,723,775,000	1,189,487,112,878	93%
2015	2,036,441,613,000	1,589,768,441,287	78%

Table 2. Comparison between Budget and Realization of MoRA Social Grant

*) budget according to a comparison between budget and realization report;

**) realization according to audited financial statement

Normally each ministry, including MoRA has annual allocation for social grants. In MoRA, for example, the allocation is for social rehabilitation, social security, social empowerment, poverty alleviation, disaster management(MoRA, 2018).

However, there is no public information available with regard to the measurable outcomes of programs. The only available information is the comparison between budget and realization, as can be seen in table 2. As such, it is rather difficult to measure the effectiveness of the programs.

Specifically related to waqf, during 2005-2010, MoRA provided incentive funds in the form of grant amounting to IDR 34,9 billion to develop productive waqf projects for 32 *nazhirs* (Harahap, 2013). Technically, *nazhirs* need to submit proposal and relevant attachment, such as 1) recommendation letter from KUA, MoRA in regency and MoRA in province level, 2) ownership letter of the waqf land, 3) *nazhir* registration letter, 4) foundation/institution establishment report, 5) organization structure of the foundation/institution, 6) development committee. There will be an internal selection to choose the recipients of such grants. Even though, there is a requirement for the recipients to send periodic report, only few comply with the requirement. Hence causes difficulty in assessing the effectiveness and impact result of the grant using this mechanism. In addition to that, while Sukmana et al (2018) found that UNISMA with its Islamic hospital may have a successful story in managing the grant, there is no official assessment and report published by the MoRA.

According to Waqf Act 41/2004 main responsibility of Indonesian Waqf Board as one of the Indonesian waqf authorities are 1) to develop knowledge and capability of registered *nazhirs* in managing waqf assets, 2) to develop waqf assets in national and international scale, 3) to give approval for status change, usage, and exchange of waqf assets, 4) to change or dismiss *nazhir* registration, 5) to suggest and advice the government with regards to the regulation on waqf matters. In addition to that, MoRA as the part of waqf authorities in Indonesia has the responsibility 1) to conduct coordination and implementation on waqf area, 2) to increase quality of waqf empowerment, 3) to facilitate infrastructure and funding for waqf development, 4) to develop relevant laws, regulations, and policies related to waqf, 5) to provide technical guidance and supervision on waqf mattes, and 6) to evaluate and monitor waqf activities (MoRA, 2016).

Figure 4. Cycle Roles of Waqf Authorities (Author own

In summary, the main roles of the two waqf authorities in Indonesia can be categorized into 1) coaching and supervision/monitoring, 2) decision making, 3) regulation and policy formulation. To effectively conduct their roles and responsibilities, proper human resources with adequate competencies are needed. Unfortunately, the relevant division on waqf sector is not equipped with adequate human resources.

For example, one program that is conducted by the waqf authority is to advocate any dispute related to waqf. However, there is even no worker with lawyer competency or legal background in the division. Another example, in waqf sector, one of the important mandates of the existing waqf authorities is to provide capacity building program for the registered nazhirs (managers of waqf assets). However, the human resources within the authorities themselves have no background and/or exposure on skills required to develop the waqf assets, such as business, finance, management, and other technicalities skills.

On the other hand, civil society or non-government organizations (NGOs) like Rumah Wakaf, Global Wakaf Indonesia (GWI), Sinergi Foundation, and Tabung Wakaf Indonesia have reports and impact analysis with regard to their waqf programs. Independent institutions like Waqf Center for Indonesian Development and Studies (WaCIDS) have resources and expertise to provide capacity building program for waqf manager. Taking lesson from the SIB concept which is promoting public-private partnership, there is an open opportunity for the ministry or government institution-independent institutions/NGOs partnership to promote effectivity, efficiency, and accountability of state budget-based programs while also solve human capital issue.

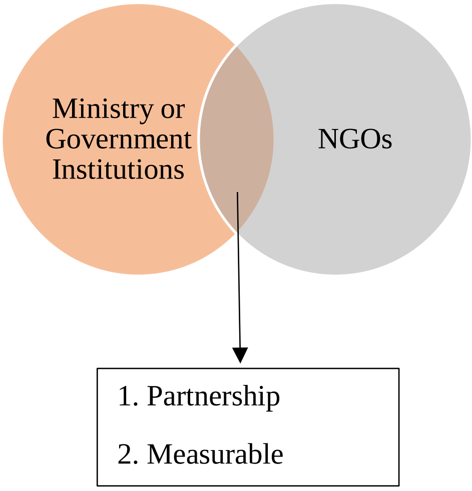

Figure 5. Proposed Partnership Model in Waqf Sector (Author own)

The level of partnership between government and independent institutions/NGOs and the sources of budget may be adjusted over time. However, for the first stage, this study proposed to start from the budget from social grant allocation. In practical wise, the proposal can be elaborated as below:

1) Allocation of social grant may use impact investment mechanism via independent institutions/NGOs to replace the traditional grant mechanism. The impact investment mechanism may promote transparency and accountability which at the end of the day may increase the trust level of the public toward the ministry or government institutions. In waqf sector, the types of partnership between waqf authorities and NGOs may vary, such as capacity building/coaching program with training provider and impact investment for large scale pilot productive waqf project with reputable waqf institutions. Technically the budget of social grant may be transferred for impactful investment program via NGOs with proven good track record.
2) Partnership between ministry or government institutions with independent institutions/NGOs needs to specify measurable outcome. As such, periodic independent assessment on the program can be conducted. For example, in

providing coaching and capacity building programs for registered *nazhirs*, the measurable outcome can be the number of *nazhirs* who pass minimum score for certification requirement. For impact investment for large scale pilot productive waqf project with reputable waqf institutions, the measurable outcome can be either incremental investment return or incremental benefit for *mauquf alayh*.

By doing the public-private partnership with explicit measurable outcome, waqf authorities may save state budget in two ways. First is by having measurable outcome of programs, so it can be assessed periodically. Second is by having expert people in the area to execute the programs.

In addition, taking a lesson from the action taken by the UK government in promoting SIB projects, the government of Indonesia needs to accommodate the enabling environment to promote public-private partnership. Supportive regulation or catalyst is needed to execute this proposal, including regulations to support the usage of impact investment mechanism via NGOs to replace the traditional grant mechanism, to require specification on the measurable outcome in programs conducted using the state budget, to require independent evaluation performance and achievement of major/pilot program, and to enable report of the program to be accessible for public.

5. CONCLUSION AND POLICY RECOMMENDATION

SIB is acknowledged as an innovative financial instrument that enables impact investment scheme by blending both social and financial return at the same time. Variations of SIB structures across jurisdictions indicate the flexibility of impact investment concept. From the SIB, at least three concepts can be learned for the Indonesian context. First is about open opportunity for partnership between ministry or government institutions with NGOs. Second is the importance of measurable outcome of programs conducted from the state budget. There is a necessity to explicitly define the matric and allow the public to access it. Third is about the leadership that needs to be promoted by the government whenever a national movement is initiated. Specifically, in waqf sector, partnership between waqf authorities and independent institutions/NGOs with explicit measurable outcome can be started. The coverage of partnership may depend on the priority during the year. But in essence, it represents an effort to ensure the effectiveness, efficiency, and accountability of the usage of state budget by specifying measurable objectives of public-private partnership, allowing the expert to execute and assess the programs, and publicizing such report for public access.

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APPENDIX

SIB Project	HMP Peterborough	Rikers Island	Newpin SBB
Launching year	2010	2012	2013
Amount	£ 5 million	USD 9.6 million	USD 7 million
Country	UK	US	Australia
Structure	Long-term investment contracts with single outcome contracts	Loan from Goldman Sachs with investment guarantee mechanism by Bloomberg philanthropies that reduces the risk of capital loss to $2.4m or 25% of total investment to support delivery of therapeutic services to 16- to 18-year-olds incarcerated on Rikers Island	Long-term investment contracts. Proportional payment of capital to investors made by the government. Minimum 5% interest in the first 3 years. Principal protection 75% Yrs 1-3, 50% Yrs 4-7
Involved parties	Social Finance Ltd. as intermediary body, Ministry of Justice and the Big Lottery Fund as sponsor, delivery agency, and 17 investors (majority were charities or foundations)	City of New York, MDRC, the Osborne Association as the service provider, Bloomberg Philanthropies, and Goldman Sachs	UnitingCare, the NSW Government, impact investors, Social Ventures Australia Limited, Newpin SBB Pty Ltd, Deloitte Touche Tohmatsu as independent certifier
Measured outcome	Reduce re-offending by short-sentence male prisoners leaving hM Prison Peterborough over a six year period	Reduce recidivism among adolescent men coming out of incarceration in Rikers Island Correctional Facility	Restoration rate of abused child

Example of varieties of existing SIBs across jurisdictions

Summarized from SVA, 2019; Olson & Phillips, 2013;

Nicholls & Tomkinson, 2013

ZAKAT MANAGEMENT PERFORMANCE ANALYSIS IN KOTABARU REGENCY, SOUTH BORNEO, INDONESIA

Khalifah Muhamad Ali[a,c], Nur Aditiya Lestari[a], Didin Hafidhuddin Maturidi[a], Miftahul Jannah[b], and Salina Kassim[c]

[a]*Department of Islamic Economics, Faculty of Economics and Management, IPB University, Bogor, Indonesia*

[b]*Department of Landscape Architecture, Faculty of Agriculture, IPB University, Bogor, Indonesia*

[c]*Institute of Islamic Banking and Finance, International Islamic University of Malaysia, Gombak, Malaysia.*

ABSTRACT

Poverty and Inequality are two major problems in developing countries, including Indonesia. Zakat is one of the obligatory acts in Islamic teaching, specifically the third of 'Rukun Islam'. Zakat is the act of giving out a certain amount of someone's wealth that meets several conditions. Per 31 December 2015, the potential of zakat in Indonesia recorded to be 286 trillion rupiahs (USD 20.5 billion), while the actual amount of collected zakat was only 3.75 trillion rupiahs (USD 268.8 million). This fact shows that zakat potential has not been optimally managed. The objective of this study is to assess and evaluate the performance of zakat management, including the contribution of government, the contribution of society, the performance of zakat institution, and the impact of zakat on the society's prosperity in Kotabaru Regency, South Borneo. This study was done by using survey method through questionnaire-interview. The sampling technique was conducted using purposive sampling method. The analysis tools used in this study was National Zakat Index (NZI) with the Multi-Stage Weighted Index assessment method. The result of the study shows that zakat management performance in Kotabaru Regency, South Borneo was considered to be good with the index value 0.66.

Keywords: National Zakat Index (NZI), Poverty, Zakat Management Performance.

1. INTRODUCTION

Poverty and inequality are two major challenges that are faced by developing countries, including Indonesia. According to Soenarno in Multifiah (2009), poverty is a multi-dimensional problem which covers the dimensions of social, politics, economics, and asset. Based on the data of *Badan Pusat Statistik* (BPS) –Indonesia's Statistic Center- of 2018, the number of Indonesia citizens that live under poverty was decreasing from 26.58 million in the previous year to xxx million people. Despite this decrease, the Gini ratio in Indonesia was 0.39, and it is still considered high.

One of the solutions to overcome this problem is to implement the concept of zakat. Moreover, the majority of Indonesians are Muslim, and they are obliged to give out some amount of their wealth in the form of zakat if the wealth meets several certain conditions. According to Hasan (2008), inequality needs to be reduced, and zakat is a strategic way towards that goal. Zakat also has an ability to reduce the number of people that live under poverty, reduce inequality between poverty and income, and also reduce the depth of poverty (Beik 2009).

Zakat is the third of the five Islamic pillars. Therefore, zakat is compulsory to Muslims that own the wealth, which meets several certain conditions. Zakat has several pearls of wisdom, such as the prosperity booster, solidarity and humanity reinforcer, envious mind reducer, and social prosperity enhancer. Unfortunately, previous studies found that there are huge differences between the zakat potential and the actual zakat fund collected. In 2015, *Organisasi Pengelola Zakat (OPZ)* – zakat management institutions- only collected less than 1,3 percent of its potential. The difference between potential zakat amount and actual zakat amount indicated that the management of zakat performance by zakat management institutions has not been optimal.

BAZNAS Kotabaru Regency, South Borneo, is a nonstructural government institution that was initially established by the government, and the establishment of the BAZNAS Kotabaru Regency was together with the establishment of the other BAZNAS of many cities and regencies in Indonesia through the General Director of *Bimbingan Masyarakat Islam's* Decree No. DJ.II/568 the year of 2014 regarding The Establishment of *Badan Amil Zakat Nasional* of Cities/Regencies in Indonesia. There is only one zakat institution in this regency because Kotabaru is a small regency, and based on the regulation every regency should have only one zakat institution managed by the government.

BAZNAS Kotabaru Regency is the initiator of the Strategic Plan (Renstra), which covers 13 regencies/cities in South Borneo Province. Based on the publication of *Komunikasi dan Dokumentasi Saijaan News 2018*, the total amount of zakat collected by BAZNAS Kotabaru Regency in 2017 was Rp 549,709,440. This amount was higher than the target amount that was Rp 416,000,000. The amount of zakat fund that was distributed in 2017 was Rp 631,570,000. Even though the number of people that live under poverty decreased from its initial value in 2017 of 14, 440 people (BPS Kalsel 2017), the higher amount of zakat fund distribution is still needed. The difference between the amount of zakat potential and actual zakat indicates that zakat management has not been optimal. Therefore, it is necessary to conduct an evaluation to assess the performance of zakat management in the BAZNAS Kotabaru Regency.

The tool that is suitable for assessing and evaluating zakat management performance in the national, province, or city/regency levels is the National Zakat Index method. NZI consists of two dimensions, which are macro dimension and micro dimension. The macro dimension consists of regulation, government's financial support, and zakat institution database indicators. The micro dimension consists of institutional and zakat impact indicators. Therefore, the objective of this study is to analyze the performance of zakat management in the BAZNAS Kotabaru Regency by using NZI method.

2. LITERATURE REVIEW

This chapter will explain about the literature review for this paper, contains current zakat condition in Indonesia, National Zakat Index (NZI), and the previous studies regarding this topic.

2.1. Current Zakat Condition and National Zakat Index (NZI)

The latest studies conducted by BAZNAS in 2015 found that the potential of zakat already reached 286 trillion rupiahs (USD 20.5 billion) by considering the previous years' increase in GDP. However, the actual zakat fund was recorded to be approximately 3.75 trillion rupiahs (USD 268.8 million) or less than 1.3 percent of its potential. This data indicated that the management of zakat is not optimal. In line with that, Ali (2013) mentioned that there are internal and external factors affecting zakat management in Indonesia. The internal factor is the performance of the zakat management institution (OPZ), and the external factors come from government and society.

In 2016, PUSKAS BAZNAS published a standard measurement tool, namely the National Zakat Index (NZI), to assess the performance of zakat from the national, provincial, and regency levels. NZI can be used as a reference in evaluating the current condition of the national zakat management, as well as a reference in defining the right policy (Beik, 2016). Appendix 1 and 2 show the criteria for every indicator and variable in the macro and micro dimensions of NZI.

2.2. Previous Studies

Shalehanti (2017) conducted a study regarding the analysis of BAZIS South Jakarta's performance in zakat management. The method used in this study was the National Zakat Index. The result showed that the assessment in the macro dimension aspect demonstrated a fairly good score of 0.425. BAZIS South Jakarta was unable to obtain a higher score because of several reasons. First, the government had provided some financial support to the BAZIS; however, this support was not followed by government regulation regarding zakat management. Second, the ratio of individual *muzaki* (zakat donors) and corporate muzaki were considered low. Meanwhile, the assessment in the micro dimension demonstrated a better score. This dimension consists of two indicators, which are institutional indicator and zakat impact indicator. The institutional indicator scored 0.55 and was considered 'good'. These conclusions were based on the results of CIBEST Prosperity Index, modified HDI index, and financial independence indicator which demonstrated considerably high score.

Farchatunnisa (2017) analyzed the performance of the BAZNAS Bandung City National Zakat Index. The method used in this study was the Multi-Stage Weighted Index measurement technique, which used to process the data obtained from the National Zakat Index assessment. Zakat's performance in Bandung City was scored 0.355. This value indicated that the performance of zakat management in Bandung City was considered bad. The assessment in macro dimension demonstrated 'fairly-good' performance and scored 0.047. This means that the government support in the form of financial and regulation, zakat institution database, individual, and corporate muzaki ratio was not considered optimum. The assessment in micro dimension demonstrated a 'fairly good' performance of zakat management in Bandung City and scored 0.56. Overall, institutional indicators scored 0.5, which means that zakat management performance in Bandung City, including zakat collection, management, distribution, and financial reporting was considered 'fairly good'. Zakat impact indicator scored 0.6, which means that zakat management performance in Bandung City regarding its impact on mustahik's (zakat beneficiaries) material, spiritual, education, health, and financial independence was considered ‘fairly good’.

Diana (2017) analyzed the performance of zakat management in the West Lampung Regency. This study used the NZI analysis method. The overall score of zakat management in the Lampung Timur Regency was 0.38 index value. This means that zakat management performance was considered ‘less good’. Between two dimensions of NZI analysis, micro-dimension scored higher than macro-dimension. The Micro dimension scored 0.60, while the macro dimension scored 0.05. This score indicated that the poor performance of zakat management in West Lampung Regency was mainly caused by the regulators that have not played their role optimally and have not shown significant support to zakat management.

Abdullah *et al.* (2012) conducted a study regarding technical note on the derivation of the Zakat Effectiveness Index (ZEIN). This index was used to assess the role of government in allocating their budget to the mustahik’s prosperity. This study developed a new method by observing government budget and consumption regarding zakat management to assess poverty alleviation. Other than government budget allocation, the regulation was also considered an important part of zakat management.

Kasri (2016) analyzed the effectiveness of zakat targeting in alleviating poverty in Indonesia. This study was conducted by using a survey method to collect primary data regarding the economic and socio-demographic conditions of poor households that received zakat in Jabodetabek, 2011. The analysis of the primary data used descriptive analysis and poverty index. The result of this study demonstrated that zakat had a positive impact and was considered effective in poverty alleviation in Jakarta, Indonesia. This study concluded that zakat organizations need to increase their effectiveness, focus on poverty alleviation especially productive economy, in order to alleviate poverty and decrease the income gap.

3. METHODOLOGY

This chapter explains the research methodology adopted in this study, focusing on data collection, data processing, and data analysis using the components of the National Zakat Index (NZI), which is formulated by Puskas BAZNAS (2016) and as the main tool of data analysis.

3.1. Location and Period of the Study

This study was conducted in seven districts in Kotabaru Regency, South Borneo. The zakat organization that was observed was *Badan Amil Zakat Nasional* (BAZNAS) -National Zakat Board- Kotabaru Regency. The selection of this location was made purposively based on the BAZNAS Kotabaru Regency's operation area. This study was conducted from January to February 2018.

3.2. Type and Source of the Data

The types of data used in this study were primary and secondary data. Primary data was obtained from a questionnaire interview with 100 respondents, which were all mustahik households that received zakat from BAZNAS Kotabaru Regency. These primary data were used to assess the performance of BAZNAS Kotabaru Regency, South Borneo regarding zakat impact by using CIBEST prosperity index, modification of Human Development Index (HDI), and financial independence indicator. The secondary data were obtained from BAZNAS Kotabaru Regency's archives, books, journals, theses, and internet resources. The secondary data that was obtained from BAZNAS Kotabaru Regency was used to assess the performance of zakat management regarding regulation, government budget support, zakat institution's database, and institutional indicators.

3.3. Sampling Technique

Primary data in this study was obtained by using a case study method through an interview with respondents. The interview was conducted using a questionnaire. The sampling technique used in this study was purposive sampling. This technique is done by selecting sample based on the predetermined characteristics (Juanda 2009). The characteristic predetermined in this study was mustahik that receive zakat from BAZNAS Kotabaru Regency in 2017. The number of samples was 100 respondents (which were all mustahiks) by using *Slovin* formula and 10% significance level.

Table 1: Component of National Zakat Index

Dimension	Weighted score	Indicator	Weighted score	Variable	Weighted score
Macro (X_1)	0.40	Regulation (X_{11})	0.30	Regulation	1.00
		Government financial support (X_{12})	0.40	Government financial support	1.00
		Zakat Institution database (X_{13})	0.30	Number of official zakat (X_{131})	0.33
				Individual Muzaki Ratio (X_{132})	0.33
				Enterprise Muzaki Ratio (X_{133})	0.33
Micro (X_2)	0.60	Institutional (X_{21})	0.40	Collection (X_{211})	0.30
				Management (X_{212})	0.20
				Distribution (X_{213})	0.30
				Reporting (X_{214})	0.20
		Impact of Zakat (X_{22})	0.60	Material and Spiritual (CIBEST) (X_{221})	0.40
				Education and Health (Modified HDI) (X_{222})	0.40
				Financial independence (X_{223})	0.20

Source: PUSKAS BAZNAS (2016)

3.4. Data Processing and Analysis Methods

Data analysis methods used in this study were the quantitative and qualitative approaches. Quantitative analysis was conducted by using an estimation technique namely Multi-Stage Weighted Index. Qualitative analysis was conducted to data that was obtained from the questionnaire interview with mustahiks of BAZNAS Kotabaru Regency, South Borneo.

3.5. The Components of National Zakat Index (NZI)

The components of NZI analysis are macro and micro dimensions. The macro dimension describes the role of government and society to the development of zakat institution. This dimension consists of three indicators; they are regulation, government financial support, and zakat institutions' database.

Table 2: Example of a Likert scale

Indicator and Variables	Actual Condition	Criteria	Score
Regulation	There is no province regulation, only the major's act degree	Very weak	1

Source: PUSKAS BAZNAS (2016) and author (2018)

The micro dimension is formed from the perspective of zakat institution and zakat receiver (mustahik). Technically, the micro dimension consists of two indicators; they are zakat institution performance indicator and a zakat impact indicator. Each indicator has several derived variables. Each component has its weighted contribution to the overall score. The weighting of each component has already passed the Focus Group Discussion mechanism and expert judgment criteria. This is demonstrated in Table 1.

3.6. The Steps of National Zakat Index Measurement

This study was conducted using the National Zakat Index (NZI) as its analysis method that was formulated by PUSKAS BAZNAS, 2016. National Zakat Index value measurement uses a multi-stage weighted index. The NZI measurement consists of 5 steps to finally obtain the overall value. All these five steps need to be conducted, respectively. The steps set out as follows:

First Step: setting out a Likert scale ranges from 1 to 5, where 1 describes the worst condition, and 5 describes the best condition (Table 2).

Second Step: measuring the index of each variable by using this following formula

$$I_i = \frac{(S_i - S\min)}{(S\max - S\min)} \quad (1)$$

Where,

I_i : Index of variable i
S_i : actual score on the measurement of variable i

S_{max}: Maximum score
S_{min} : Minimum score

Third Step: multiplying the obtained index value of each variable with its weight to obtain indicator index value. Regulation and government financial support indicators are not derived into a detailed variable so that they do not need to be measured in this step. Meanwhile, three other indicators that have detailed variables need to be processed in this step. The measurement sets out as follows:

- Zakat Institutions' Database Index

$$X_{13} = 0.33X_{131} + 0.33X_{132} + 0.33X_{133} \quad (2)$$

where,

X_{13} : Zakat institutions' database indicator Index

X_{131}: The number of official zakat institution variable index

X_{132}: Ratio individual muzaki to total households variable index

X_{133}: Ratio corporate muzaki to total corporation variable index

- Zakat institutional indicator index:

$$X_{21} = 0.30X_{211} + 0.20X_{212} + 0.30X_{213} + 0.20X_{214} \quad (3)$$

where,

X_{21} : Institutional indicator index

X_{211}: Collection variable index

X_{212}: Zakat management variable index

X_{213}: Distribution variable index

X_{214}: Reporting variable index

- Zakat impact indicator index:

$$X_{22} = 0.40X_{221} + 0.40X_{222} + 0.20X_{223} \quad (4)$$

where,

X_{22} : Zakat impact indicator index

X_{221} : CIBEST prosperity variable index (material and spiritual)

X_{222} : Education and health variable index (HDI modified)

X_{223} : Financial independence variable index

Fourth Step: multiplying the index value of each indicator with its weight to obtain macro and micro dimension index value.

$$X_1 = 0.30X_{11} + 0.40X_{12} + 0.30X_{13} \quad (5)$$

where,

X_1 : Macro dimension index

X_{11} : Regulation indicator index

X_{12} : Government financial support indicator index

X_{13} : Zakat institutions' database indicator index

$$X_2 = 0.40X_{21} + 0.60X_{22} \quad (6)$$

where,

X_2 : Micro dimension index

X_{21} : Institutional indicator index

X_{22} : Zakat impact indicator index

Fifth Step: multiplying the index value of each dimension with its weight to obtain overall NZI. The formula sets out as follows*:*

$$NZI = 0.40X_1 + 0.60X_2 \quad (7)$$

where,

NZI : National Zakat Index

X_1 : Macro dimension

X_2 : Micro dimension

with the NZI value criteria:

- 0.00 – 0.20 : Bad performance
- 0.21 – 0.40 : Less good performance
- 0.41 – 0.60 : Fairly good performance
- 0.61 – 0.80 : Good performance
- 0.81 - 1.00 : Very good performance

3.7. CIBEST Prosperity Index

This index is used to measure the number of mustahik households that is categorized to be in quadrant I (prosperous). The formula of prosperity index set out as follows:

$$W = \frac{w}{N} \tag{8}$$

where,

W : Prosperity index; $0 \leq W \leq 1$

w : The number of prosperous households (categorized to be in quadrant I)

N : Total number of observed households

3.8. Modified HDI Index

The modified HDI index that is used in this study involved health and education indicators. The formula sets out as follows:

$$HDI = \sqrt{Ieducation\ x\ Ihealth}\ x\ 100 \tag{9}$$

4. RESULTS AND ANALYSIS

This chapter explains the result and analysis of the study or performance analysis of BAZNAS in Kotabaru Regency, South Borneo, Indonesia. This chapter includes the profile of BAZNAS Kotabaru Regency, Likert scale scoring, the index value of variables, indicators, and dimensions, and finally, the National Zakat Index of Kotabaru Regency, South Borneo.

4.1. The Profile of BAZNAS Kotabaru Regency, South Borneo

BAZNAS Kotabaru Regency, South Borneo is a non-structural government institution that was established by the government based on the Act No 23 in 2011. The office is in the Jl. Suryagandamana, MUI Building, Second Floor, Kompleks Masjid Agung Husnul Khatimah Kotabaru, South Borneo. This institution is led by H Mahmud Dimyati, SSos. This institution also has five main programs in distributing zakat funds, namely Kotabaru Makmur, Kotabaru Cerdas, Kotabaru Sehat, Kotabaru Taqwa, and Kotabaru Peduli (Prosperous Kotabaru, Educated Kotabaru, Health Kotabaru, Kotabaru Taqwa, and Kotabaru Care).

The distribution of zakat fund that is conducted by the BAZNAS Kotabaru Regency, South Borneo, tends to be fluctuating. The highest increase of zakat distribution happened in 2017, which was approximately Rp 631,570,000 (USD 45,283). Zakat fund collection in 2013 was Rp 375,898,030 (USD 26 951) and experienced an increase in 2014 to be Rp 510,700,880 (USD 36,617). However, the amount decreased in 2015 to be Rp 390,971,650 (USD 28,032). In 2016, the zakat fund amount eventually increased to be Rp 425,739,016 (USD 30,525). And in 2017, the amount increased again to be Rp 498,484,164 (USD 35,741). Zakat fund amount movement is displayed in Figure 1.

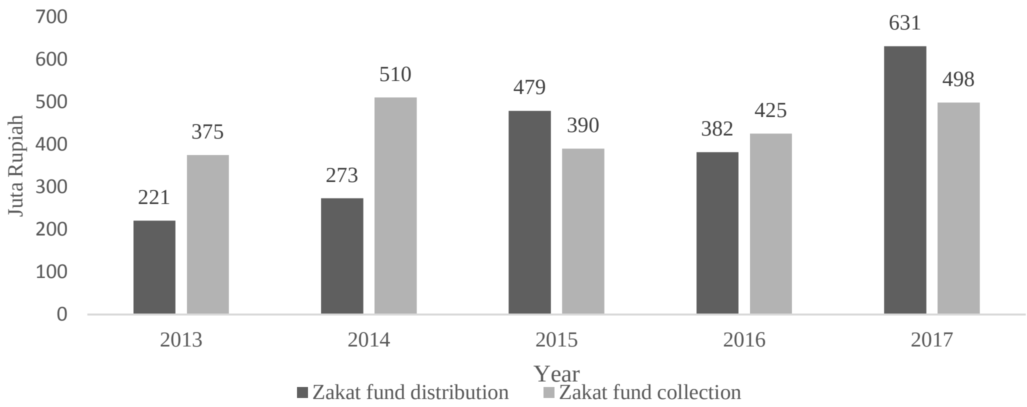

Figure 1. Zakat fund collection and distribution (2013-2017)

Source: BAZNAS Kotabaru Regency, South Borneo (2018)

4.2. Characteristics of *Mustahik*s

The zakat impact index value was obtained through interviews with 100 mustahik households who received BAZNAS zakat funds in Kotabaru Regency, South Borneo, in 2017. Interviews were conducted in seven sub-districts received zakat funds from BAZNAS Kotabaru Regency, South Kalimantan. The majority of household heads who received zakat funds from the BAZNAS of Kotabaru Regency, South Borneo, were men (56 households) while the others are women (44 households). Twenty-three mustahiks are in productive age (age range of 15 to 40 years), 63 people at ages between 41 and 64 years and another 14 people are not in productive age (over 64 years). As many as 45 households are married, while the other 55 households are widowed, meaning that as many as 55 households are borne by one person. Among the family of the recipients of the majority of zakat funds, 55 of the households consist of one to three people, 42 households consist of four to six people, and three households consist of more than six people.

Based on the majority of mustahik education levels, there are 43 elementary school graduates, 24 junior and senior high school graduates, 24 graduating from diploma or bachelor's degree, and the remaining two are uneducated. The majority of mustahik jobs consist of 22 traders, 12 employers, 11 laborer, two farmers, and the other 53 works in the other fields such as housewives, teachers, honorary civil servants, taxi bikes, massage workers, pedicab drivers, security guards, and fishermen. The following characteristics of zakat recipient households are presented in Table 3.

Table 3. Characteristics of mustahiks

CHARACTERISTICS		TOTAL (PEOPLE)	PERCENTAGE (%)
SEX	Male	56	56
	Female	44	44
AGE	15-40	23	23
	41-64	63	63
	> 64	14	14
MARITAL STATUS	Married	45	45
	Divorced	55	55
FAMILY SIZE	1 – 3 People	55	5
	4 – 6 Peoples	42	42
	> 6 Peoples	3	3
EDUCATION	Uneducated	2	2
	Elementary School	43	43
	Junior High School	24	24
	Senior High School	24	24
	Diploma / Bachelor	7	7
OCCUPATION	Employer	12	12
	Farmer	2	2
	Trader	22	22
	Laborer	11	11
	Others	53	53

Source: Primary data (2018)

4.3. Likert Scale Scoring

The Likert scale scoring is arranged for all of the variables in this study, including variables of micro and macro dimensions. These variables consist of official zakat institution database (X_{13}), individual muzaki ratio (X_{132}), corporate muzaki ratio (X_{133}), zakat collection (X_{211}), zakat management (X_{212}), zakat distribution (X_{213}), zakat reporting (X_{214}), CIBEST prosperity index (X_{221}), HDI modified (X_{222}), and financial independence (X_{223}).

Regulation indicators can be seen through the availability of local regulations on zakat management. In Kotabaru Regency, there is no regulation at the province level, but there is a regulation by the major. For government support, the mark will be full (5) if the state government supports BAZNAS Kotabaru from APBD funds, and the amount is more than 75% from its operational cost.

Zakat institution database indicator consists of three variables; they are registered official zakat institution, individual muzaki ratio, and corporate muzaki ratio. Registered official zakat institution obtained score 3. This score indicated that BAZNAS Kotabaru Regency, South Borneo had no database of the other zakat institution in Kotabaru Regency. However, there had been a muzakki and mustahik database that was owned by BAZNAS Kotabaru Regency. The individual muzaki ratio scored 1. This score indicated that the number of registered muzaki which possesses.

Nomor Pokok Wajib Zakat (NPWZ), an identification number of zakat donors, per total households was less than 1 percent, only 0.009 percent. Corporate muzaki ratio scored 5. This score indicated that the number of registered corporate muzaki, which possesses NPWZ per total number of corporations was more than 4 percent, at about 13.79 percent.

The institutional indicator has four derived variables, which are variable of collection, zakat management, distribution, and reporting. The collection variable scored 4. This score indicated that the growth of zakat collection, which was under BAZNAS Kotabaru Regency, South Borneo, was between 15 and 19 percent (specifically, 17.08 percent). The Zakat management variable scored 4. This score indicated that BAZNAS Kotabaru Regency, South Borneo has several programs, strategic plans, and standard operational procedures. However, it had not obtained ISO certificate. The distribution variable scored 4, which means the BAZNAS's Allocation to Collection Ratio (ACR) was 126.6 percent or more than 90 percent. This record showed that distributed zakat fund was higher than what had been collected. The amount of zakat fund that was distributed in 2017 was increased by Rp 133,085,836 (USD 9,542) compared to what was obtained from previous year fund. Zakat fund distribution to social/consumptive program was conducted for 9 to 12 months or once a year. Zakat fund distribution to economy/productive program conducted was less than six months or once a month. Meanwhile, the zakat fund allocation for the *dakwah* program was 9.82 percent (between 7.5 to 10 percent). The reporting variable scored 2. This happened because BAZNAS Kotabaru Regency, South Borneo had unaudited financial reports which were published periodically.

CIBEST prosperity variable scored 5. This was obtained because 82 out of 100 mustahiks were in quadrant I (prosperous), which were categorized as Muslims that can fulfill their material and spiritual needs. HDI Modified variable scored 3. The score ranged between 0.41 and 0.60 (specifically 0.46). Meanwhile, the financial independence variable scored 3. This means that mustahik households mostly had only one of either stable jobs or businesses, and they had no savings. The suitable attempt to boost mustahiks' financial independence by owning either a stable job or a business is to empower them by using productive zakat. According to Nasrullah in Diana (2017), the impact of zakat is to support mustahiks' economic prosperity by providing capital support and helping business development so that mustahiks would have a stable income and able to save their income. This is shown in Table 4.

Table 4. Likert scale scoring

Dimension	Indicator	Variable	Actual Condition
Macro (X_1)	Regulation (X_{11})	-	There is no province regulation, only the major's act degree

	Government financial support (X_{12})	-	The government supports BAZNAS Kotabaru from APBD funds, more than 75% of its operational cost.

Table 4. Likert scale scoring (continue)

Dimension	Indicator	Variable	Actual Condition
	Zakat Institution database (X_{13})	Number of official zakat (X_{131})	BAZNAS Kotabaru did not have an official institutional database, but they have the database of muzaki and mustahik.
		Individual Muzaki Ratio (X_{132})	The ratio of registered muzakki (have NPWZ) against national household <1%
		Enterprise Muzaki Ratio (X_{133})	The ratio of registered entity muzakki (have NPWZ) to the number of business entities ≥4%
Micro (X_2)	Institutional (X_{21})	Enterprise Muzaki Ratio (X_{133})	The ratio of registered entity muzakki (have NPWZ) to the number of business entities ≥4%
		Management (X_{212})	BAZNAS Kotabaru has SOP zakat management, strategic planning, and the annual working program, but it does not have an ISO certification
		Distribution (X_{213})	ACR > 90%, SP 9-12 months EP < 6 months, Funds allocation for dakwah program 2.5 < 7,5%.
		Reporting (X_{214})	Have a financial report which is not audited by an independent auditor
	Impact of Zakat (X_{22})	CIBEST prosperity Index (X_{221})	The weight of the prosperity index is 0.8
		HDI modification (X_{222})	The weight of the modified HDI is in the range of 0.41 – 0.6 (exactly 0.47)
		Independence (X_{223})	Majority of the people only have one job or business, without any saving

Source: Primary and secondary data (2018)

4.5. The Index Value of Variables, Indicators, and Dimensions

Table 5. shows the index value of variables, indicators, and dimensions of the NZI in Kotabaru Regency. The macro dimension scored 0.54. This score indicated that the performance of zakat management, which was observed from the macro dimension perspective, was considered fairly good. The index value was

obtained from the measurement of variables and indicators in the macro dimension. The regulation indicator scored 0 because Kotabaru Regency had no regulation regarding zakat management. The only regulation regarding zakat was Mayor of Kotabaru's Decree No 188.45/467/KUM/2017, dated 10 July 2017 regarding *Insentif Pemerintah Badan Amil Zakat Nasional Kabupaten Kotabaru Tahun Anggaran 2017*. According to *Pusat Ekonomi dan Bisnis Syariah* (PEBS) Universitas Indonesia in 2009, there were approximately 24 regions in Indonesia (including provinces and cities/regencies) which already had regulation regarding zakat until the end of 2006. Cilegon is the first city that established zakat regulation in Indonesia. The regulation was Perda No. 4/2001 regarding Zakat Management in Cilegon. This regulation was further strengthened by *Surat Keputusan (SK) Walikota Cilegon* –Mayor of Cilegon's Decree- No. 451.12/Kep.326.Huk/2001. With the presence of zakat fund, Cilegon City experienced increase of zakat collection. This case is an example of regulation regarding zakat management, which has a significant impact on increasing zakat collection.

Even though there was no regulation regarding zakat management in Kotabaru Regency, there was financial support from the government to BAZNAS Kotabaru Regency, South Borneo. This was the reason that the index value of government financial support is scored 1. The financial support that was given by the government was Rp 198,000,000 (USD 14,196) in 2016 and Rp 205,000,000 (USD 14,698) in 2017. This support was used to cover the operational cost of zakat management. The study by Saf (2015) proved a positive contribution of government role in financially supporting zakat management by the case study of *Badan Amil Zakat (BAZ) Kota Mojokerto*. There was an increase in zakat fund collection since the number of muzaki who give their zakat through zakat institutions also increased. BAZ's operational cost was covered by government financial support, and the zakat fund could be completely focused on mustahiks.

Table 5. The index value of variables, indicators, and dimension

No	Dimen-sion	Index value	Indicator	Index value	Variable	Index value
1	Macro (X_1)	0.54	Regulation (X_{11})	0	-	-

Government financial support (X_{12})	1	-	-

Table 5. The index value of variables, indicators, and dimension (continue)

No	Dimen-sion	Index value	Indicator	Index value	Variable	Index value
			Zakat Institution database (X_{13})	0.49	Number of official zakat (X_{131})	0.50
					Individual Muzaki Ratio (X_{132})	0
					Enterprise Muzaki Ratio (X_{133})	1
2	Micro (X_2)	0.74	Institutional (X_{21})	0.65	Collection (X_{211})	0.75
					Management (X_{212})	0.75
					Distribution (X_{213})	0.75
					Reporting (X_{214})	0.25
			Impact of Zakat (X_{22})	0.80	CIBEST prosperity Index (X_{221})	1
					HDI modified (X_{222})	0.50
					Independence (X_{223})	0.50

Source: Primary and secondary data (2018)

Zakat institution database indicator scored 0.49. This means that the performance of the zakat institution, which was observed from the database perspective was considered fairly good. This score was obtained from its derived variables, which were the number of official zakat institutions, muzaki, and mustahik. All of these variables scored 0.50. This score was obtained since BAZNAS Kotabaru Regency had no official zakat institution database. However, they had muzaki and mustahik database. The variable of individual muzaki to total household ratio scored 0. This score was obtained since the number of registered muzaki, which has NPWZ per total household was less than 1 percent (specifically 0.009 percent). The number of registered individual muzaki which possess NPWZ was nine people while the total number of households in Kotabaru Regency was 95.294. The variable of corporate muzaki to total corporate ratio scored 1. This means that the number of registered corporate muzaki which possess NPWZ per total number of corporations was more than 4 percent (specifically 13.79 percent).

There were 64 units of registered corporations in BAZNAS Kotabaru Regency, South Borneo, out of 464 total corporations in Kotabaru Regency.

The micro dimension scored 0.74. This means zakat management performance observed from the micro dimension was considered good. The institutional indicator scored 0.65. This means the performance of the institutional aspect in zakat management was considered good. This score was obtained from the weighting of derived variables in institutional indicators. First, the collection variable scored 0.75 index value. This means the performance of zakat collection was considered good. This claim was in line with data of zakat collection that experienced a considerably huge increase from Rp 425,739,016 (USD 30,525) in 2016 to Rp 498,484,164 (USD 35,741) in 2017. The total of collected zakat fund increased by 17.08 percent or Rp 72,745,148 (USD 5,215) from the previous year. Second, zakat management variable scored 0.75. This means the performance of zakat management was considered good. BAZNAS has annual programs, a standard operational procedure for zakat management and administration, and also a strategic plan.

Third, the distribution variable scored 0.75. This means that zakat distribution performance was considered good. Zakat fund that was collected by BAZNAS Kotabaru regency was Rp 498,484,164 (USD 35,741) in 2017, while the distributed zakat fund was Rp 631,570,000 (USD 45,283). Fourth, the reporting variable scored 0.25. This means the reporting that was done by BAZNAS Kotabaru Regency was considered 'less good'. This claim was based on the fact that BAZNAS Kotabaru periodically published financial reports that were not audited. Muhammad (2006) stated that the main objective of the financial report of a non-profit institution is to provide relevant information for stakeholders, including contributors, organization members, creditors, and the other party that provides resources for the institution. For the case of BAZNAS Kotabaru Regency, even though the financial reports were created and published, they were not audited by either external public accountant or sharia auditor.

Table 6. National Zakat Index value of Kotabaru Regency, South Borneo

No	Dimension	Index value
1	Macro	0.54
2	Micro	0.74
NZI value of Kotabaru Regency, South Borneo NZI = (0.40x0.54) + (0.60x0.74) = 0.66		

Source: Primary and secondary data (2018)

Zakat impact indicator scored 0.80. This means the performance of zakat management observed from the zakat impact perspective was considered good. In obtaining this score, 100 respondents were observed for three aspects, which were spiritual and material prosperity (assessed by CIBEST prosperity index), education and health (assessed by HDI modified), and financial independence aspect. CIBEST prosperity index indicator scored 1; this means the impact of zakat to mustahiks in Kotabaru Regency was considered very good. The score was obtained through CIBEST model measurement. With zakat funds, more households were able to transfer to quadrant I (prosperous). The number of prosperous households that were categorized to be in quadrant I was increased from 72 households to 82 households. This finding was in line with the finding of Ali *et al.* (2016), which stated that zakat funds for both productive and consumptive funds had an ability to increase household prosperity and eventually alleviate poverty. Therefore, zakat is able to be selected as one of the major tools for poverty alleviation.

HDI modified indicator scored 0.50. This means education and health index was considered fairly good. However, in this case, the zakat impact on HDI was considered insignificant since there was no change of HDI index value before and after zakat. Zakat distribution that was done by BAZNAS Kotabaru Regency was conditional, and it was not continual. There was no further monitoring of the mustahiks that had received education and health support. The financial independence variable scored 0.50. This means the zakat impact on mustahik's financial independence was considered fairly good. This claim was made since most of the mustahiks had either a stable job or a business. However, they had no savings. Out of 100 households, there were three households that saved their income with the amount ranged from Rp 1,000,000 (USD 71.7) to Rp 5,000,000 (USD 358.5), 40 households saved less than Rp 1,000,000 in the form of saving or '*arisan*' -regular social gathering whose members contribute to and take turns at winning an aggregate sum of money-. Meanwhile, the other 57 households had no savings. Based on the interview results, there were no mustahiks who saved their income in Islamic Bank or the other Islamic financial institution.

4.5 National Zakat Index Kotabaru Regency, South Borneo

NZI value of BAZNAS Kotabaru Regency, South Borneo, was obtained from the fifth step in the NZI measurement. The multiplication results of each dimension's index value and its weight. Based on the measurement provided in Table 6, the index value of zakat performance in BAZNAS Kotabaru Regency based on NZI method was 0.66. This value indicated that zakat performance in Kotabaru Regency was considered good.

5. CONCLUSION AND RECOMMENDATION

The assessment of BAZNAS Kotabaru Regency's zakat performance using the NZI method demonstrated that there was a different index value between the micro and macro dimensions of zakat performance. The micro dimension outperformed the macro dimension. The micro dimension scored 0.74 and was categorized as 'good'. Institutional indicator scored 0.65. This means the performance of zakat management in BAZNAS Kotabaru Regency including its collection, management, distribution, and reporting was considered good. Zakat impact indicator scored 0.80 which means that zakat impact on mustahiks spiritual prosperity, material prosperity, education, health, and financial independence was considered good. Even though zakat distribution has already given a positive impact on mustahik, a further development regarding mustahik's material and spiritual prosperity is still needed to be conducted. For instance, a periodical meeting between mustahiks and BAZNAS staff.

The macro dimension of BAZNAS Kotabaru Regency's NZI scored 0.54. This score indicated that the performance of zakat management observed from the macro dimension perspective was considered fairly good. There was government financial support for BAZNAS Kotabaru Regency, which was used to cover operational costs. However, there was no regulation regarding zakat management in Kotabaru Regency. The only law was only Mayor’s Decree. To further develop zakat management performance in Kotabaru Regency, a higher regulation needs to be proposed and implemented. There was no official zakat institution that has been registered in BAZNAS Kotabaru. The individual muzaki ratio was categorized as low, and the corporate muzaki ratio was categorized as high. To increase the number of individual muzaki, public awareness program regarding BAZNAS and zakat management through institutions needs to be conducted. The overall index value of BAZNAS Kotabaru Regency was 0.66. This score indicated that zakat management performance in Kotabaru Regency was considered good.

Based on the research results, several suggestions for the Ministry of Finance and local government are as follows:

1. It is necessary to have a regulation that makes the zakat payment become compulsory.
2. BAZNAS Kotabaru Regency, South Borneo, should issue NPWZ as proof of paying zakat for the muzakki.
3. The Ministry of Finance may facilitate the development and implementation of the National Waqf Index (NWI) to measure the performance of waqf in the national, provincial, and regency levels.

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Appendix 1: Criteria for every indicator and variable in Macro Dimension

No	Indicator and Variables	Criteria (1 = very weak, 2 = weak, 3 = neutral, 4 = strong, 5 = very strong)				
		1	**2**	**3**	**4**	**5**
1.	**Regulation (X_{11})**	The availability of state regulation about zakat at province level and <25% at district level in those province	The availability of state regulation about zakat at province level and at least 25% at district level in those province	The availability of state regulation about zakat at province level and at least 50% at district level in those province	The availability of state regulation about zakat at province level and at least 75% at district level in those province	The availability of state regulation about zakat at province level and at all district/cities in those province
2.	**Government financial support (X_{12})**	State government budget ratio to operational cost of BAZNAS is <20%	State government budget ratio to operational cost of BAZNAS is 20%	State government budget ratio to operational cost of BAZNAS is 30%	State government budget ratio to operational cost of BAZNAS is <50%	State government budget ratio to operational cost of BAZNAS is <75%
3.	**Zakat Institutional Database (X_{13})**					
	Number of official zakat (X_{131})	Database of total numbers of official zakat institutions, muzakki, and mustahik per institution is unavailable	Have one of database regarding numbers of zakat institutions, muzakki, and mustahik per institution	Have two of database regarding numbers of zakat institutions, muzakki, and mustahik per institution	Have all of database regarding numbers of zakat institutions, muzakki, and mustahik per institution	Have all of database regarding numbers of zakat institutions, muzakki, and mustahik per institution as well as its portray
	Individual Muzaki Ratio (X_{132})	The ratio of registered muzakki (have NPWZ) against national household <1%	The ratio of registered muzakki (have NPWZ) against national household 1-3,9%	The ratio of registered muzakki (have NPWZ) against national household 4-6,9%	The ratio of registered muzakki (have NPWZ) against national household 7-10%	The ratio of registered muzakki (have NPWZ) against national household >10%
	Enterprise Muzaki Ratio (X_{133})	The ratio of registered entity muzakki (have NPWZ) to the number of business entities <1%	The ratio of registered entity muzakki (have NPWZ) to the number of business entities 1-1,9%	The ratio of registered entity muzakki (have NPWZ) to the number of business entities 2-2,9%	The ratio of registered entity muzakki (have NPWZ) to the number of business entities 3-3,9%	The ratio of registered entity muzakki (have NPWZ) to the number of business entities ≥4%

Source: PUSKAS BAZNAS (2016)

Appendix 2: Criteria for every indicator and variable in Micro Dimension

No	Indicator and Variables	Criteria (1 = very weak, 2 = weak, 3 = neutral, 4 = strong, 5 = very strong)				
		1	**2**	**3**	**4**	**5**
1.	**Institutional (X_{21})**					
	Collection (X_{211})	Growth (YoY) <5%	Growth (YoY) 5-9%	Growth (YoY) 10- 14%	Growth (YoY) 15-19%	Growth (YoY) >20%
	Management (X_{212})	SOP zakat management, strategic planning, ISO certification/ quality management, and the annual working program are unavailable	Have at least on of documents from these required documents; SOI zakat management, strategic planning, ISO certification/ quality management, an the annual working prograr	Have at least two of documents from these required documents; SOP zakat management, strategic planning, ISO certification/ quality management, and the annual working program	Have at least three of documents from these required documents; SOP zakat management, strategic planning, ISO certification/ quality management, and the annual working program	SOP zakat management, strategic planning, ISO certification/ quality management, and the annual working program are available
	Distribution (X_{213})	ACR <20%	ACR 20-49%	ACR 50-69%	ACR 70-89%	ACR ≥ 90%
		SP >12 months	SP 9 – 12 months	SP 6 ≤ months	SP 3 ≤ 6 months	SP <3 months
		EP >15 months	EP 12-15 months	EP 9 ≤ 12 months	EP 6 ≤ 9 months	EP <6 months
		No budget allocation for Da'wah program	Budget allocation for DP at least 0.1 ≤ 2.5 % from total distribution budget	Budget allocation for DP at least 2.5 ≤ 7.5 % from total distribution budget	Budget allocation for DP at least 7.5 ≤ 10 % from total distribution budget	Budget allocation for DP ≥ 10 % from total distribution budget
	Reporting (X_{214})	Do not have any financial report	Have financial report which is not audited by independent auditor	Have audited financial report with qualified opinion, adverse opinion, and disclaimer	Have audited financial report with unqualified opinion and periodic publication	Have audited financial report with unqualified opinion, Sharia audit report, and periodic publication
2.	**Impact of Zakat (X_{22})**					
	CIBEST prosperity Index (X_{221})	Index value 0 – 0.20	Index value 0.21 – 0.40	Index value 0.41 – 0.60	Index value 0.61 – 0.80	Index value > 0.80
	Modified HDI (X_{222})	Index value 0 – 0.20	Index value 0.21 – 0.40	Index value 0.41 – 0.60	Index value 0.61 – 0.80	Index value > 0.80
	Independence (X_{223})	Do not have any job/business	Have an irregular job	Have either a permanent job or business entity	Have either a permanent job or business entity, and saving	Have a permanent job, business entity, and saving

Source: PUSKAS BAZNAS (2016)

EDITORS' BIOGRAPHY

Sutan Emir Hidayat

He is the Director of Islamic Financial Education and Research at the Indonesian National Committee of Islamic Finance (KNKS). He obtained his PhD in Islamic Banking and Finance and his MBA in Islamic Banking and Finance both from the International Islamic University Malaysia (IIUM). He was an associate professor and Head of Business Administration Department at University College of Bahrain (UCB). Dr. Hidayat has published several research papers in peer reviewed international journals. Among them are International Journal of Islamic and Middle Eastern Finance, Emerald and Journal of Islamic Economics, Banking and Finance. In addition, he is also an associate editor for Journal of Islamic financial studies and many other journals. He also has published two books and contributed chapters in five books. He is also an Islamic finance journalist. He regularly publishes articles in Islamic Finance News (IFN-Red Money), Islamic finance in Daily Tribune, a newspapers in Bahrain. Due to his contribution to the Islamic Economy, He was recognised as one of the top influential 500 personalities on a global scale in 2015, 2016, 2017, and 2018 by ISFIN, a leading advisory firm for Islamic markets. He can be reached at: sutan.emir@knks.go.id.

Yani Farida Aryani

She is Deputy Director for Islamic Finance Industry Development Policy for the Fiscal Policy Agency, Ministry of Finance. Before moving to her current position, she was the Head of Direct Tax Policy Subdivision of Fiscal Policy Agency and started her career as administrator in the Education and Training Agency, Ministry of Finance. She earned her Master of Economy (Public Policy) from University of Indonesia, bachelor's degree in accounting and Diploma from the State College of Accountancy (STAN). She actively involves in formulating public policies especially the issue of subsidies and taxation in collaboration with regulators and stakeholders. Her research interest is in fiscal and budget spending, as well as in islamic microfinance and islamic social finance. She can be reached at: yfaryani@fiskal.kemenkeu.go.id

Bayu Arie Fianto

He is an Assistant Professor at Department of Shari'a Economics, Faculty of Economics and Business, University of Airlangga. He earned his PhD in Finance from Lincoln University, New Zealand, his MBA of Islamic Banking and Finance from International Islamic University Malaysia, and bachelor's degree in management from Brawijaya University, Indonesia. He has published several articles in peer-reviewed journal include *Pacific-Basin Finance Journal* and *Agricultural Finance Review*. He is also reviewer for several refereed journals such as *Journal of Economic Analysis and Policy* and *SAGE Open*. His current research interest includes Islamic microfinance, Islamic banking and finance, and Islamic capital market. He can be reached at: bayu.fianto@feb.unair.ac.id

Sylva Alif Rusmita

She is an Assistant Professor at Department of Islamic Economics, Faculty of Economics and Business, University of Airlangga. She earned her master's degree in Islamic Finance from International Centre For Education in Islamic Finance (INCEIF) Malaysia and bachelor's degree in Islamic Economics from University of Airlangga, Indonesia. She has published several articles in National and International acredited journal and Proceeding. She is also managing editor at Journal of Economics and Business Islamic, Univeristas Airlangga. Her current research interest includes Islamic Banking, Islamic Finance and Capital Market, and Halal Industry. She can be reached at: sylvalifr@feb.unair.ac.id

Nisful Laila

She is vice dean for research and cooperation, as well as an Assistant Professor in Islamic Economics, faculty of Economics and Business University of Airlangga, Indonesia. She is founder of Islamic rural bank or Baitul Maal wa Tamwil (BMT) ABADA. She wrote book chapter about Innovation Business Development- A Global Perspective, published by Springer in 2018. She also published her papers in Emerging Market Review, Economics Modelling, Journal of King Abdul Aziz University and journal of Entrepreneurship and Sustainability Issues. She is PhD holder in Islamic Economics from University of Airlangga, Master of Commerce from The New South Wales (UNSW), Sydney, Australia, and bachelor's in economics from University of Airlangga. Her research interest is in Islamic Banking and Finance, Sukuk, Social Finance and Halal Industry. She can be reached at: nisful.laila@feb.unair.ac.id

Haryadi

Haryadi is the Deputy Director for Finance Industry Development Policy of the Fiscal Policy Agency, Ministry of Finance. Before moving to his current position, He was the Deputy Director for Islamic Finance Industry Development Policy of the Agency. He started his career as an investigator in the Capital Market Supervisory Agency (Bapepam), Ministry of Finance. He earned his Doctor of Business Administration (DBA) from Victoria University, Australia, Master of Business (Banking & Finance) from Monash University, Australia, Bachelor in Accounting from Universitas Indonesia, and Diploma from the State College of Accountancy (STAN). He actively involves in formulating financial sector development policies and regulations in collaboration with regulators and stakeholders. His research interest is in financial sector deepening, financial inclusion and stability, insurance policyholder protection policies, and anti-money laundering, as well as in Islamic commercial and social finance. He can be reached at: haryadi@fiskal.kemenkeu.go.id

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