# MODELLING A SUSTAINABILITY MODEL OF ISLAMIC MICROFINANCE INSTITUTIONS

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#### ABSTRACT

Islamic microfinance institutions (IMFIs) - such as Baitul Maal wat Tamwil (BMT - with cooperative legal entities), established in Indonesia as part of the shariah-compliant financial industry sector (part of the halal sector) - need to maintain their sustainability in order to encourage poverty alleviation and economic growth. In observing the sustainability of BMT, there has been relatively little research involving aspects of the quality of the human resources that carry out internal activities. Therefore, the aim of this study is to create a model that is useful for predicting the sustainability of IMFIs, especially BMT, based on variables that are considered important, namely financing growth, Islamic human capital, fraud and Islamic leadership. The model was analysed using multiple regression analysis based on the stepwise method. The primary data (cross-sectional) were obtained in 2019 using questionnaires completed by 105 respondents comprising the administrators and managers of BMTs in Semarang and Pekalongan, Central Java, Indonesia. We found that only two variables have a significant influence on the sustainability of IMFIs: financing growth and Islamic human capital. Practitioners can apply the results of the study to improve the performance of Islamic microfinance, especially BMT, through the distribution of funding in the context of economic improvement (especially micro-enterprise), spiritual strengthening for human resources, risk prevention and appropriate leadership criteria.

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## I. INTRODUCTION

## 1.1. Background

Baitul Maal wat Tamwil, also known as BMT (as an embodiment of Islamic microfinance institutions (IMFIs) in Indonesia), is a non-governmental organisation that focuses on developing productive businesses and investment in order to eradicate poverty, along with improving the prosperity of small enterprises so that they can be operated according to Islamic teaching (Mualim & Abidin, 2005). Conceptually, BMT can be divided into two functions: (i) Baitul Maal as the collectors and distributors of funds such as Zakat, infaq and shadaqah, and (ii) Baitul Tamwil as the institution responsible for improving the quality of small enterprises using donation funds (Hosen, 2012). Over time, BMT has been required to maintain its sustainability such that the two main functions can work on both eradicating poverty and improving the quality of small enterprises. Up to now, the sustainability of IMFIs has been a debatable issue among people as many similar institutions continue to grow (Bouljelbene & Fersi, 2016). Therefore, theoretical studies related to the sustainability of BMT, along with its influencing factors, are considered important.

Financing growth that is consistent and increases significantly should be considered as the critical factor influencing IMFIs. Moreover, financing is the most popular activity that dominates Islamic financial institutions (Siamat, 2005). Pissarides, Nussambaumer, and Gray (2004) revealed that in order to achieve sustainability, IMFIs must be able to profitably facilitate financial aid to small enterprise owners at an acceptable scale. Apart from financing growth, the sustainability of BMT can be predicted by looking at the human capital involved in its daily operations (Adnan, Widarjono, & Anto, 2003). Zubair (2016) stated that the quality of human resources owned by IMFIs can determine whether or not the BMT will continue in the near future. Thus, it is considered crucial that BMTs nowadays have human capital with an understanding of Shariah principles. It is through human capital that is both intelligent and has mastered the Sharia principles that BMTs will be able to sustain and maintain their existence. Those who lead on Islamic principles will, of course, be able to avoid any kind of fraud that potentially leads to organisational loss. Sama and Anselm (2016) stated that fraud continues to occur in microfinance institutions and thus will require special treatment and attention from management or stakeholders. Since fraud can potentially lead to financial loss for any kind of organisation (Chiezey & Onu, 2013), it is becoming important to know the size levels that will affect BMT sustainability. Another factor influencing BMT sustainability is Islamic leadership as it is a leadership role to design employees' potential development and reduce fraud levels within enterprises. In addition, Islamic leadership not only helps influence employees to cooperate in achieving the company's goals but also brings spiritual values that shape its regulation according to Islamic values (Baharuddin , Murdifin , Bahar , & Ibrahim , 2017). Hakim (2012) revealed that spirituality can enforce the motivation, vision and mission of human resources within an organisation. This study proposed several criteria of Islamic leadership as the right type of leadership to be applied to BMTs. As a result, Islamic leadership is expected to be able to strengthen existing Islamic human capital and weaken the practice of fraud in order to achieve BMT sustainability.

According to Adnan and Ajija (2015) and Miled and Rejeba (2015), Islamic microfinance (in the form of BMT) is effective in reducing poverty. Moreover, other findings indicate that Islamic microfinance provides the opportunity for participants to play an important role in economic development (Samer, Majid, Rizal, Muhamad, & Halim, 2015), which means Islamic microfinance is very beneficial for economic development and community welfare. The sustainability of IMFIs is a must, given that microfinance institutions will become the foundation for the poor. Moreover, scholars need to develop new research that can provide new knowledge in aiding the development of these institutions. Hence, Jiwani and Husain (2011) also recommended that future research should be undertaken in the field of IMFIs. Some researchers such as Ascarya (2014); Kassim, Hassan, and Kassim (2018); Wediawati, Effendi, Herwany, and Masyita (2018); and Zeller and Meyer (2002) have found that the sustainability of IMFIs can be encouraged through productive financing and social programmes, good governance, financial sustainability, outreach and spiritual intermediaries (preaching and client learning). However, these studies focused on aspects of financial and social performance to measure IMFI sustainability. Whereas Bouljelbene and Fersi (2016) and Widiyanto (2019, July) explained that organisational performance, assessed through aspects of human resource capacity, is also very important in measuring IMFI sustainability. Given the limited number of researchers interested in reviewing the role of humanity, this study aims to fill the gap by creating new factors in terms of human involvement in carrying out the operational activities of BMT (IMFI). This study identifies the sustainability of BMT (IMFI) by involving the quality of human resources and the criteria of Islamic leadership. These are areas that, while considered appropriate, have never been studied before. In addition, the study seeks to measure the intensity of fraud that occurs in institutions in order to find strategic ways of preventing these risks in the future. Thus, this study will offer a new strategy in helping BMTs to maintain their existence by developing new models for preserving BMT sustainability.

## 1.2. Objective

This paper aims to develop a model for predicting the sustainability of *Baitul Maal wat Tamwil*. To achieve this purpose, the paper has the following specific objectives:

- to identify the factors influencing BMT sustainability;
- to identify and develop a model of BMT sustainability.

#### II. LITERATURE REVIEW

# 2.1. Background Theory

## 2.1.1. BMT Sustainability

Sustainability is a concept that combines opportunities and challenges and looks at how to broaden the reach of an organisation and strive to achieve social goals (Doshi, 2010). Sustainability refers to the long-term and ongoing programmes of microfinance institutions that continuously generate income for their clients and perform within the three areas of managerial performance, social performance and financial performance (Bouljelbene & Fersi, 2016). Doshi (2010) mentioned

three levels of sustainability: financial sustainability, organisational sustainability and benefits sustainability. However, he also stated that the most important form of sustainability is the sustainability of the benefits available to the clients in the form of income generation. In this context, sustainability implies the potential to continue as a self-generating system within a closed reinforcing loop. It helps microfinance institutions to balance social value with financial goals and reach the scale necessary to achieve the goal of poverty alleviation. As such, Zubair (2016) stressed that sustainability relates to the ability of organisations to operate the adopted systems in order to achieve long-term sustainability. Based on the discussion above, BMT sustainability is defined as the ability of BMTs to survive continuously by combining organisational, social and financial performance, as well as providing service and profit to societies according to Islamic values.

Rebai, Azaiez, and Saidane (2016), in examining the sustainability of financial institutions, identified several complete aspects that can be considered, namely regulators, civil society, customers, employees, managers and shareholders. According to Ascarya (2014), IMFI sustainability is measured based on several financial and social aspects, including Aid Independence (MFI Performance); Coverage (Outreach); Savings Programme (Social Development Programme); Profitability (MFI Performance); Risk Mitigation (Financing Programme); Social Services (Social Development Programme); Pick-up Service (Financing Programme); and Average Financing (Outreach). Mobin and Ahmad (2017) explained that to ensure their sustainability and fulfil their main objectives, microfinance institutions (MFIs) aim to find the right balance between pursuing profit, providing social support to micro-enterprises and guiding them to succeed in their projects.

Profitability and social benefit need to be taken into account before assessing BMT sustainability (Widiyanto & Ismail, 2008). Since Sharia financing partnership schemes enable both institutions and customers to enjoy the profit, BMT sustainability should focus on the profitability of the institutions and their customers as well as their social care. In this case, BMT should achieve a high level of turnover at the same time as maximising their social benefits. According to Widiyanto and Ismail (2008), it is necessary to consider not only the creation of efficiency in profitability but also social care. This social care can take many forms, such as increasing the number of members, baitul maal and the amount of zakat from BMT profitability, tax, increasing household income, the creation of job vacancies and zakat payments derived from small business profitability. Based on the theory from Zeller and Meyer (2002), the success of an IMFI is assessed through the 'critical triangle of microfinance', which comprises financial sustainability (meeting long-term operational costs), outreach (reaching the poor to reduce poverty) and impact (impacting on the quality of the client's life). Brau and Woller (2004), through a review of 350 articles, stated that IMFI sustainability was assessed through the products and services offered, management practices, clientele targeted, regulation and policy, and impact assessment. Furthermore, Wibowo and Syaichu (2013) suggested that non-performing financing influences the long-term profitability of financial institutions. It reduces the opportunity of the financial institution to earn more profit which, in turn, can have a negative impact on those institutions.

## 2.1.2. Financing Growth

Financing is the provision of money or bills based on an agreement between financial institutions and related parties in which the financed parties are required to return the money or bill after a certain period of time with compensation or profit-sharing (Law of the Republic of Indonesia Number 10 of 1998). Choirudin (2017) outlined that financing is a financial product offered by Islamic financial institutions that can be divided into four principal categories; financing with buying and selling, leasing, complementary and profit-sharing. This is supported by Sofiudin (2014) who stated that financing is a funding product given by a certain party to others in order to support planned investment, either by itself or with other institutions. Based on the discussion above, financing growth is measured as the amount of funds provided by Islamic financial institutions to certain parties, where Islamic values are used as the basic rules.

Widiyanto and Ismail (2008) showed that BMT financing has great benefits for the development of small enterprises in Central Java, in addition to realising a social contribution to society. This social care can be delivered in many forms, including (1) increasing the profitability of small business, increasing saving, fulfilling the basic needs of many people, tuition fees, medical fees and religion activities cost; (2) providing Islamic financing for many people; (3) offering long-term Islamic financing; (4) providing various kinds of financing (including ZIS) that have simple procedures and requirements; and (5) creating job opportunities. Sholihat, Tanjung, and Gustiawati (2015) explained that effective financing is marked by zero arrears, the ability of the customer to measure their ability to pay instalments in accordance with what has been purposed, and by helping the business to increase its profit occasionally. Financing growth will be accompanied by an increase in the number of members financed since the goal of each new member that joins the BMT is to obtain financing according to the procedures.

#### 2.1.3. Islamic Human Capital

Ugbaja (2005) defined human capital as the men and women who work in order to achieve company goals, or in short, human capital is every single person working in companies or organisations such as managers, accountants, supervisors, secretaries and so forth. From the Islamic point of view, human capital is represented by the term 'ahliyah', which refers to the intelligence, ability, authority and qualification owned by people that help them to carry out their responsibilities intelligently and carefully (Hans, 1980). This is derived from the monotheism concept of 'tauhid', which means that all human souls are bound to Allah as the only God (Rafiki, Alkhalifah, & Buchori, 2014). Furthermore, human capital also relates to the integration between the physical and spiritual, thus aiming to increase the performance of employees who fear not only their employers but also Allah the almighty God. Arshad, Noor, and Yahya (2015) discussed human capital as having attitudes, competencies, skills, knowledge and innovation. Thaib (2013) stated that based on Islamic views, human capital should be seen not merely from an intellectual and emotional perspective but also from a spiritual one as the most important aspect that must be possessed by people. Widiyanto (2019, July) further explains that Islamic human capital encompasses the broader issue of faith in Allah SWT. It must be realised that humans' existence on earth is as a representative of God for the prosperity of life on earth (QS: 2:30, 6; 165) and that the human obligation to carry out organisational work is part of his duty as God's representative on earth (Widiyanto, 2019, July). Therefore, it can be concluded that Islamic human capital is a combination of the ability and concept of 'tauhid' possessed by people that can help in achieving organisational goals and their responsibility to Allah SWT.

Human capital comprises a physical and spiritual integration in order to create the best employees who are not only afraid of their employers but, most importantly, Allah SWT. They are trusted, honest and sincere in carrying out their duties, or, in other words, they are better people who have technical knowledge, skills and values taught in Islamic ways (Rafiki, Alkhalifah, & Buchori, 2014). Widiyanto (2019, July) mentions that there are 12 Islamic human capital criteria, including Faith to Allah; Science (Knowledge); Mutually Exhort; Patient; Be Willing to Sacrifice; Expert in Their Field; Pioneer and Innovative; Want to Change to be Better; Creative; Well Behaved; Obey Promises; Attitudes; Competencies; Skill. According to Rafiki, Alkhalifah, and Buchori (2014), Islamic human capital consists of four elements. First, a business experience that refers to a learning process to create better Muslims from time to time. Second, Islamic motivation refers to the concept of intention (Niyyah) based on faith, norms, perception and the attitude that Islam starts everything, combined with the concept of tauhid, so all intention must be due to Allah SWT. Third, Islamic business training that aims to facilitate not only Muslim skills and insights but also moral values and spirituality. Fourth, Islamic education consists of knowledge, faith maturity and good manner. Schuller (2000) in Putri (2013) said that human capital must have skills, knowledge and sufficient potential. Mutaqqin (2016) explained that human capital is built on various indicators such as individual capability, individual motivation, leadership, organisational climate and workgroup effectiveness.

#### 2.1.4. Fraud

Fraud is a combination of irregularities and illegal actions committed through intentional manipulation and carried out for the gain or loss of an organisation by outsiders or people within the organisation (The American Institute of Internal Auditors, 1992 in Herman (2013)). Manurung, Suhartadi, and Saefudin (2015) stated that fraud is a form of action taken, such as the use of an office or someone's work, in order to obtain personal wealth, through the abuse of resources or organisational wealth. According to Akwasi, Gilbert, and Hannah (2014), fraud involves an intentional forgery, camouflage or the exclusion of truth carried out by a person or an organisation in order to manage dishonesty against financial damage. Thus, it can be concluded that fraud involves a high level of illegal actions committed through manipulation and dishonesty in order to obtain benefits and bring detrimental effects to the organisation.

In Islamic teaching, it is forbidden for every Muslim to engage in fraud in running their business (Q.S:83:1-6) as it is potentially considered to bring harm and severe loss to all parties. Hence, Akwasi et al. (2014) explained that various factors contribute to fraud in financial institutions. These include (1) weak

corporate governance; (2) accounting fraud, poor practice and procedure; (3) lack of clients' determination; (4) weak internal control systems; (5) ignoring social values; (6) slow trial process; and (7) fear of negative report or publication. Ogoun and Obara (2013) outlined six factors that can trigger fraud at the microfinance level: (1) weak information systems; (2) late financial statement report; (3) high employee turnover; (4) unstandardised programmes and loans; (5) officers who are responsible for cash flow; and (6) poor management. Moreover, classical fraud theory explains that people engage in financial report fraud based on pressures, opportunities and rationalisation or justification (Albrecht, Holland, Malagueño, & Dolan, 2015).

## 2.1.5. Islamic Leadership

Leadership can be defined as a person's ability to lead a group of people to complete a certain mission and to care for their followers with the aim of succeeding in their management so that any shortcomings can be minimalised (Jamil, 2015). In Islam, a leader must follow the rules as given in the Qur'an and hadith. This is supported by Harahap (2017), who expressed Islamic leadership as a person's ability to both direct and motivate other people to work together according to the Qur'an and hadith in pursuit of the organisation's goals. Thus, it can be said that Islamic leadership is the ability of a person to influence and mobilise other people to cooperate for the achievement of certain goals according to the Qur'an and hadiths.

In this study, it is necessary to identify the leadership criteria that are compatible with BMT and the Islamic values it espouses. Prophet Muhammad SAW is the best example of a leader with various noble qualities (Jannah, Suwardi, & Iriyanto, 2016). These are as follows: First, Shiddig (true), honesty in attitude, performing works, and in financial matters. Second, Amanah (trustworthiness), has responsibility and trust in completing both right and obligation (Q.S:32:8). Third, Tabligh (convey), not only able to convey the information given to him but also guided in order to give further actions related to new activities. Finally, Fathonah (smart), has extensive intelligence and knowledge in solving existing problems (Q.S:16:125). Abbasi, Rehman, and Abbasi (2010) found that leadership can be seen as effective from the Islamic perspective as long as it meets certain criteria, which include serving, trustworthiness, fairness, consistency, discipline, teamwork orientation, enforcing justice, problem solver, good communication skill, strong conviction and humanitarian. Therefore, leaders who have Islamic leadership skills are obliged to act as role models for their subordinates since all of their actions will reflect their whole life (Gibson, 2000).

#### 2.2. Previous Study

Various researchers have been attracted by the existence of the IMFI and have sought to explore new concepts in order to maintain the existence of this institution. IMFIs play a strategic role in improving the economy of the community at the micro level; therefore, maintaining the sustainability of the IMFI is a must.

Based on previous research, there are various aspects involved in achieving IMFI sustainability. These include financial, social and spiritual intermediation (Wediawati, Effendi, Herwany, & Masyita, 2018), the implementation of good governance to maintain the financial sustainability of IMFIs and minimise the various risks that exist (Kassim, Hassan, & Kassim, 2018), organisational and social performance (Bouljelbene & Fersi, 2016), a solid overall performance in order to sustain the institution financially and operationally as well as ensure progress and growth (Ascarya, 2014), the financing structure in place (Bayai & Ikhide, 2016), outreach to the poor (Kipesha & Zhang, 2013), greater capital intensity and a higher number of employees (Mia, Nasrin, & Cheng, 2016), monitoring cost, regulation and supervision (Nabi & Zouari, 2013), social capital and spiritual wellbeing (Rahman, Al Smady, & Kazemian, 2015), and service quality (Nurfadilah, Samidi, & Subagja, 2018).

Based on the above-mentioned findings, we note that efforts continue to be focused on maintaining the financial and social sustainability of the IMFI. No prior research has been carried out that specifically involves the human quality in maintaining the existence of IMFIs. As we know, humans are the most important aspect for the execution of all operational and non-operational IMFI activities. Widiyanto (2019, July), through the conceptual framework, explained that human capital in accordance with Islamic values is one of the determining factors for IMFI sustainability. This influence must be proven empirically in order to prove its validity. This study therefore exists for the purpose of filling in the gaps that have not previously been examined.

#### III. METHODOLOGY

#### 3.1. Data

Both primary and secondary data were used as the data sources in this study. To obtain the primary data, various respondents were asked about the variables influencing BMT sustainability. While for the secondary data, various types of website were observed with the aim of learning about BMT sustainability development.

The population in this study includes all BMTs who are members of the Indonesian BMT Association (PBMTI) in Central Java, thus comprising a total of 112 BMTs (three respondents for each: one administrator and two BMT managers). In this study, Slovin's formula was used for sampling. The sample calculation is as follows:

$$n = \frac{N}{1 + N\left(e^2\right)}$$

$$n = \frac{336}{1 + 336 \, (0.09^2)}$$

n = 90.28 respondents

#### Where:

n = Number of samples

N = Total population

e = Error tolerance (9%)

In 2019, questionnaires were distributed to 45 BMTs in Semarang and Pekalongan, Central Java, Indonesia, with three questionnaires distributed to each BMT (intended for one administrator and two BMT managers). Thus, the total number of questionnaires distributed was 135. A total of 105 questionnaires were returned (a non-return rate of around 22.22%), which meant the total sample size sufficiently exceeded the minimum requirement.

## 3.2. Model Development

The development of the models and hypotheses in this study is explained as follows.

### 3.2.1. Financing Growth and BMT Sustainability

Khalily (2004) explained that increasing the volume of financing is one of the methods used to achieve sustainability. Pissarides et al. (2004) reported a similar finding, thus indicating that there are various indicators for categorising microfinance institutions as sustainable institutions. Firstly, they should never accept any subsidies, donations or other concessions, and secondly, the institution must be able to provide profitable financing for the micro-business owner on an acceptable scale. Financing provided by BMT can alleviate poverty externally as well as provide funding for the small business owner to enable them to move their business forward and stimulate production (Gina & Effendi, 2017). Choirudin (2017) suggested that financing is the core business of IMFIs since it enables them to earn a profit, which leads to BMT sustainability.

H1. Financing growth has a positive effect on BMT sustainability.

## 3.2.2. Islamic Human Capital and BMT Sustainability

Emmanuel (2009) suggested that human capital is able to improve productivity at the same time as positively influencing the sustainability and growth of financial institutions. Putri (2013) found that when employees can enhance their competences, success within an organisation is easily obtained, or in other words, organisational success is positively affected by human capital. Rafiki et al. (2014) found that the growth and performance of an organisation can be influenced by Islamic human capital. Furthermore, a comprehensive approach that incorporates moral responsibility, skills and knowledge has been involved in Islamic human capital development.

H2. Islamic human capital has a positive effect on BMT sustainability.

## 3.2.3. Fraud and BMT Sustainability

Sama and Anselm (2016) stated that fraud continues to occur in microfinance institutions and thus will need special treatment and attention from management or stakeholders. Based on their argument, we want to examine the situation in Indonesia, notably the impact of fraud in Islamic microfinance institutions (in this case BMT). Fraud will undoubtedly lead to a loss for the organisation (Chiezey & Onu, 2013) and has even been identified as a factor that contributes to the increase of non-performing loans in financial institutions. It will therefore negatively affect the sustainability of microfinance institutions (Sama & Anselm, 2016). This is also supported by Malone, Finnerty, and Hegde (2010, May) who found that long-term company performance can be adversely affected by fraud if it is not controlled properly.

H3. Fraud has a negative effect on BMT sustainability.

## 3.2.4. Islamic Leadership and BMT Sustainability

Islamic leadership quality can be beneficial in terms of helping organisations to interact with stakeholders. It can also help in building new partnerships and identify future opportunities as well as develop capabilities to improve organisational performance (David, Rahim, & Nasurdin, 2014). Hassan, Mohammed, Abdullah, and Adham (2011) suggested that the greater a leader's legitimacy, the greater the chances of the organisation being sustainable. Furthermore, the morality-based leadership approach as derived from the prophet Muhammad SAW provides practical examples of helping staff to work properly in achieving organisational goals (Beekun & Westerman, 2012).

H4. Islamic leadership strengthens the effect of Islamic human capital on BMT sustainability.

H5. Islamic leadership weakens the effect of fraud on BMT sustainability.

The following model in Figure 1 explains that the sustainability of BMTs can be improved by strengthening the growth of financing, Islamic human capital, knowing the level of fraud that occurs, strengthening the influence of Islamic human capital and reducing fraud by increasing the role of Islamic leadership.

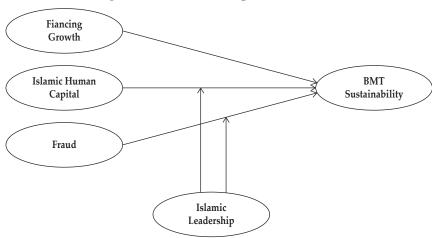


Figure 1. Research Conceptual Framework

Sources of development model: Khalily (2004); Rafiki, Alkhalifah, & Buchori (2014); Sama & Anselm (2016); Malone, Finnerty, & Hegde (2010, May); David, Rahim, & Nasurdin (2014); Beekun & Westerman (2012)

This study used a Likert scale to measure the variables based on the indicators, with the possible responses ranging from 1 to 5. The operational definitions of the variables, as well as the measurement of BMT sustainability, financing growth, Islamic human capital, fraud and Islamic leadership, are given in the following table:

Table 1. Variable Operational Definition and Measurement

Variable	Operational Definition	Indicators	Measurement on Likert scale (1–5)
BMT Sustainability	The ability of BMTs to survive continuously in combining organisational, social and financial performance, as well as their ability to provide service and profit to societies according to Islamic values.	The increasing total number of members, BMT's profitability, Small enterprises' profitability, Social care (Distribution of zakat, Distribution of Qard al Hasan, Community social activities); and NPF (Non-performing financing).	=Totally Disagree = Disagree = Less Agree = Agree = Totally Agree
Financing Growth	The amount of funds provided by Islamic financial institutions to certain parties, using Islamic values as the basic rule.	Increase in distribution fund Increasing number of financing participants	=Totally Disagree = Disagree = Less Agree = Agree = Totally Agree

Variable	Operational Definition	Indicators	Measurement on Likert scale (1–5)
Islamic Human Capital	A combination of the ability and concept of <i>Tauhid</i> possessed by someone so that they can help in achieving organisational goals and responsibility to Allah SWT.	Skills Work-related knowledge Teamwork effectiveness Leadership Islamic work motivation Moral (Akhlak)	=Totally Disagree = Disagree = Less Agree = Agree =Totally Agree
Fraud	A high level of illegal actions committed through manipulating and dishonesty in order to obtain benefits and bring detrimental effects to the organisation.	Fraud opportunities Rationalisation Accounting fraud Procedural fraud Weak internal control systems	=Totally Disagree = Disagree = Less Agree = Agree =Totally Agree
Islamic Leadership	The ability of a person to influence and mobilise other people to cooperate in achieving certain goals according to the Qur'an and hadiths.	Honest (shiddiq) Trustworthiness (amanah) Smart (fathonah) Fair Problem solver Good communication skills Role model	=Totally Disagree = Disagree = Less Agree = Agree = Totally Agree

Table 1.
Variable Operational Definition and Measurement (Contiuned)

#### 3.3. Method

This study used multiple linear regression analysis with the stepwise regression method. Draper and Smith (1998) explained that this method includes those variables with the highest and most significant correlation to the dependent variable. As variables enter the model, the other variables in the model are evaluated. An insignificant independent variable will automatically be removed from the model. The use of this method enables the best model to be produced from existing models (Draper & Smith, 1998). Multiple regression is used in this study due to the fact that the analysis applies more stringent assumptions than other analyses and multiple regression is expected to produce the best robustness. The requirements for regression testing are as follows:

1) The analysis in this study begins with testing of the instrument through validity and reliability testing. A validity test measures the level of accuracy of a questionnaire with the provision that if the r-count value exceeds that in the r-table, the instrument is said to be valid, and vice versa. Furthermore, a reliability test measures the consistency or stability of the measurement results. If the test delivers a Cronbach's alpha greater than 0.6, this indicates that, if the same test were to be carried out repeatedly against the same conditions and using the same measuring instrument, then the instrument is reliable or consistent.

2) Following the successful completion of the validity and reliability testing on the instrument, the data must meet the classical assumption test requirements through the normality test, multicollinearity test and heteroscedasticity test. The formulation of the multiple linear regression analysis is given as follows:

$$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_2 X_4 + b_5 X_3 X_4 + e$$

Where:

Y = BMT sustainability a = Constant number  $b_1, b_2, ...b_4$  = Regression coefficient  $X_1$  = Financing growth  $X_2$  = Islamic human capital  $X_3$  = Fraud

 $X_4$  = Islamic leadership

e = Error term

#### IV. RESULT AND ANALYSIS

#### 4.1. Result

## 4.1.1. General Description of BMT

The general description of BMT is illustrated by the age of the BMT, as given in Table 2.

Table 2. Age of BMT

No.	BMT Age	Number of BMTs	Percentage (%)
1.	0 – 5 years	0	0
2.	6 – 10 years	6	17.1
3.	11 – 15 years	1	2.9
4.	16 – 20 years	23	65.7
5.	21 – 25 years	5	14.3
	Total	35	100

Source: Primary data processed, 2019

The majority of the BMTs in Semarang and Pekalongan have been established for more than 15 years (16–20 years range). This indicates that all of the BMTs in this area are sufficiently experienced, capable of being sustainable and have existed until today.

## 4.1.2. General Description of Respondents

This study will provide a general description of the respondents using characteristics such as their gender, age, status, final education and tenure. There are approximately 105 respondents in total, with each BMT represented by 3

respondents. One of these respondents must be an administrator and the other two must be BMT managers. The following Table 3 contains further details related to the general description of the respondents.

Table 3. General Description of Respondents

No	Respondent	Majority of Respondents		Description	
	Characteristics	Criteria	Total	-	
1.	Gender	Male	66 (62.9%)	The majority of the administrators and managers are male because they have more flexibility, especially in terms of time and energy, which will certainly bring benefit to the BMT.	
2.	Age	31-40 years old	41 (39%)	Most of the managers and administrators are of productive age.	
3.	Status	Married	87 (82.9%)	Many of the managers and administrators have family responsibilities since almost all of them are married.	
4.	Last Education	Bachelor	77 (73.3%)	The majority of the administrators and managers have a bachelor's degree as their most recent education. This also means that they have a strong knowledge of their fields. However, they are expected to attain a higher level of education such as master's and doctoral degrees in the future.	
5.	Tenure	0-10 years	60 (57.1%)	The working periods in this study ranged from 0 to 10 years. This indicates regeneration among the administrators and managers, which means that many new members have become interested in helping BMT sustainability.	

Source: Primary Data Processed, 2019

## 4.1.3. Variable Description

Based on the responses from 105 respondents, a general description is needed for the question from each variable. Therefore, the respondents' answers (on a Likert scale), grouped according to the determination of the overall average class, are given in this study as follows:

- 1. The highest value is 5, and the lowest is 1
- 2. The scale range (highest number in measurement lowest number in measurement) / number of classes formed is (5-1) / 5 = 0.8. Then, the interpretation of the answers is categorised as follows:
  - 1) 1.00 1.80 = Very Low
  - 2) 1.81 2.60 = Low
  - 3) 2.61 3.40 = Medium
  - 4) 3.41 4.20 = High
  - 5) 4.21 5.00 = Very High

Table 4. Variable Description

No.	Name of Variable	Average of respondents' answers	Description
1.	Financing growth	4.1	High
2.	Islamic human capital	4.1	High
3.	Fraud	2.7	Medium
4.	Islamic leadership	4.6	Very high
5.	BMT sustainability	4.1	High

Source: Primary data processed, 2019

#### Based on the table, it can be concluded that:

- 1. There has been an increase in the number of members for financing as well as the amount of funding distributed compared to the previous period in BMT. Therefore, it is clear that there has been an upward trend in BMT financing growth. However, the field observation also indicates that some BMT had slow financing growth and thus, further improvement is very important.
- 2. Human resources in BMT have adequate skills, leadership, effective teamwork, Islamic work motivation and good morals. This therefore supports the operational development of BMT. However, the field observation indicates that there are still some managers and administrators who do not meet the Islamic human capital criteria, particularly in the leadership indicator which needs further improvement.
- 3. The fraud opportunities, rationalisation, misuse of accounting practices, fraudulent procedures and weak internal control systems occurring at BMT remain low and moderate in their intensity (i.e. they continue to be manageable). However, the field observation also indicates that further improvements need to be made, especially in the BMT internal control system.
- 4. BMT leaders must have high honesty, trust in everything that is mandated, intelligence in their fields, be fair, provide solutions to the problems faced by the BMT, have good communication skills and be capable of acting as role models for other human resources.
- 5. For decades, there has been an increase in the number of BMT members, a lower maximum standard for NPF and increased profits. Moreover, profit is gained through the financing of small enterprises as well as the implementation of social care (Zakat and *Qard al Hasan*). Those phenomena contribute to BMT sustainability, which in turn helps BMT to survive and continue to help the local community.

#### 4.2. Robustness Test

#### 4.2.1. Instrument Test Results

Based on the results, it can be concluded that the distributed questionnaires met the requirements of the validity and reliability testing.

Table 5.
Data Validity Test Results

Variables	Indicators	r-value	r-table	Explanation
	The increasing number of			
	members,	0.521	0.192	Valid
	<ul> <li>BMT's profitability,</li> </ul>	0.645	0.192	Valid
	• Small enterprises'	0.555	0.192	Valid
	profitability,			
DMT C	Social care:			
BMT Sustainability	<ul> <li>Distribution of zakat</li> </ul>	0.638	0.192	Valid
	<ul> <li>Distribution of Qard al</li> </ul>			
	Hasan	0.490	0.192	Valid
	<ul> <li>Community social</li> </ul>			
	activities	0.674	0.192	Valid
	<ul> <li>NPF (Non-performing</li> </ul>			
	financing).	0.492	0.192	Valid
	Increasing distribution			
Einen eine Consult	fund	0.905	0.192	Valid
Financing Growth	<ul> <li>The increasing number of</li> </ul>			
	members	0.865	0.192	Valid
	• Skills	0.791	0.192	Valid
Islamic Human	<ul> <li>Work-related knowledge</li> </ul>	0.803	0.192	Valid
	<ul> <li>Teamwork effectiveness</li> </ul>	0.721	0.192	Valid
Capital	<ul> <li>Leadership</li> </ul>	0.766	0.192	Valid
	<ul> <li>Islamic work motivation</li> </ul>	0.817	0.192	Valid
	• Moral (Akhlaq)	0.687	0.192	Valid
	<ul> <li>Fraud opportunities</li> </ul>	0.861	0.192	Valid
	<ul> <li>Rationalisation</li> </ul>	0.819	0.192	Valid
Fraud	<ul> <li>Accounting fraud</li> </ul>	0.872	0.192	Valid
	<ul> <li>Procedural fraud</li> </ul>	0.815	0.192	Valid
	<ul> <li>Weak internal control</li> </ul>			
	systems	0.808	0.192	Valid
	• Honest (shiddiq)	0.724	0.192	Valid
	• Trustworthiness (amanah)	0.763	0.192	Valid
	• Smart (fathonah)	0.697	0.192	Valid
Islamia Landarshin	• Fair	0.848	0.192	Valid
Islamic Leadership	<ul> <li>Problem solver</li> </ul>	0.782	0.192	Valid
	<ul> <li>Good communication</li> </ul>			
	skills	0.777	0.192	Valid
	<ul> <li>Role model</li> </ul>	0.809	0.809	Valid

Source: The output of validity test, 2019

The results of the validity test (as shown in Table 5) indicate that the calculated r-values (as indicators of the variables Financing growth, Islamic human capital, Fraud, Islamic leadership and BMT sustainability) are greater than the r-table (0.192), thus demonstrating that the questionnaire used in this study was valid. It also means that the questionnaire was capable of measuring the variables used in this study.

Table 6.		
<b>Reliability Test Results</b>		

No	Variable	Cronbach's alpha	Proved
1	Financing growth	0.720	Reliable
2	Islamic human capital	0.857	Reliable
3	Fraud	0.891	Reliable
4	Islamic leadership	0.885	Reliable
5	BMT Sustainability	0.636	Reliable

Source: The output of the reliability test, 2019

Furthermore, the reliability test results (given in Table 6) show that the Cronbach's alpha values (for the variables of Financing growth, Islamic human capital, Fraud, Islamic leadership and BMT sustainability) are all greater than 0.6. Therefore, the questionnaire used in this study can be trusted or relied upon and the research would remain consistent if it were to be repeated over and over under the same conditions. In order to reduce the measurement bias for each variable, the study data were collected by distributing questionnaires to those with the authority to assess the conditions that were happening and become research topics (in this case, BMT administrators and managers). As such, the results of the data testing are more objective and relevant.

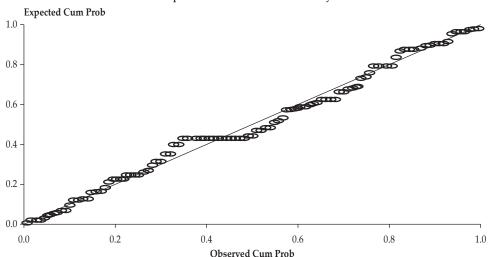
## 4.2.2. Result of Classical Assumption Test

This study found that the regression model used meets the classical assumption test requirements, namely the normality test, multicollinearity test and heteroscedasticity test.

Figure 2. Normality Test Results

Normal P-P Plot Regression Standardized Residual

Dependent Variable: BMT Sustainability



Source: The output of the normality test, 2019

The results of the normality test (as shown in Figure 2) indicate that the independent variables and the dependent variable are normally distributed, as proven by the spread of the points that follow the line.

Table 7. Multicollinearity Test Results

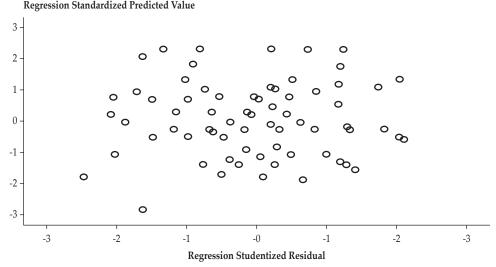
No	Independent Variable	Dependent Variable	Tolerance	VIF
1.	Financing growth	BMT Sustainability	73.9%	1.354
2.	Islamic human capital		73.9%	1.354
3.	Fraud		76%	1.316
4.	Islamic human capital* Islamic leadership		24.1%	4.152
5.	Fraud* Islamic leadership		85.7%	1.167

Source: The output of multicollinearity test, 2019

Moreover, the multicollinearity test results (in Table 7) show that there is no correlation between the independent variables (Financing growth, Islamic human capital, Fraud and Islamic leadership), as proven by tolerance values that are greater than 10% and VIF values that are smaller than 10.

Figure 3. Heteroscedasticity Test Results
Scatterplot

Dependent Variable: BMT Sustainability



Source: The output of Heteroscedasticity test, 2019

Finally, the heteroscedasticity test results (in Figure 3) indicate that there are no inequality residuals among the observations. This is demonstrated by the spread of random points both above and below the 0 point on the Y-axis as shown on the scatterplot graph.

## 4.2.3. Analysis Result of Multiple Linear Regression Test

Using the stepwise regression method, the multiple linear regression analysis of this study can be shown in the following table:

Table 8.
Coefficient Estimation Result of Multiple Linear Regression Test

Dependent variable	Independent variable	В	Sign	Description
BMT sustainability	Constant	1.627		
	Financing growth	0.265	0.000	S*
	Islamic human capital	0.341	0.000	S*
	Fraud	-0.027	0.760	NS
	Islamic human capital* Islamic leadership	0.144	0.357	NS
	Fraud*Islamic leadership	-0.002	0.978	NS
F count R <sup>2</sup>	35.054 0.396		0.000	S*

S\* : significant at  $\alpha$  = 1%, NS: not significant Source: The output of regression analysis, 2019

The results of the regression t-test using the stepwise method as given above show that financing growth and Islamic human capital have a significant positive effect on increasing the sustainability of BMT. But fraud and the moderation of fraud with Islamic leadership have a negative and not significant effect on increasing the sustainability of BMT. As well as the moderation of Islamic human capital and Islamic leadership there is a positive, not significant effect on increasing the sustainability of BMT. Thus, it can be concluded that out of the several variables studied, financing growth and Islamic human capital have a large impact and influence on supporting the sustainability of BMT. The results of the F test also show that financing growth and Islamic human capital influence the increase in the sustainability of BMT, meaning that this research model is feasible for use in predicting the sustainability of BMT using the variables financing growth and Islamic human capital. The R-Square value of 0.396 in the table above shows that variations in the increase in BMT sustainability are influenced to the extent of 39.6% by fluctuations in the financing growth and Islamic human capital variables while the remaining 60.4% is explained by other variables that are not examined.

Based on the test results above, the final sustainability model of IMFIs (BMT) can be predicted through the involvement of the variables Financing growth, Islamic human capital and other variables, which should be explored further, as portrayed in the following model.

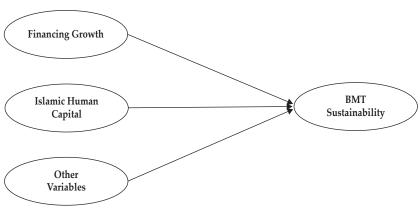


Figure 4. Final Model of BMT Sustainability

Source: SPSS Processed Results, 2019

#### 4.3. Analysis

Table 8 shows that the regression coefficient of financing growth is 0.265 with a significance level of 0.000 < 0.05. This means that if financing grows well, the BMT will also be better able to survive in order to serve small businesses. These results support the findings of Khalily (2004) and Pissarides et al. (2004) regarding the positive impact of the growth of financing distribution on sustainability. The increasing number of members financed will lead to increasing BMT membership. Moreover, the increase in the amount of funds disbursed will have an impact on increasing social care activity, BMT profitability and micro-business profitability.

Financing can grow rapidly and develop well if it is accompanied by the ability of micro-enterprises (members who are financed). Therefore, if the business is able to earn an optimal profit, the value of profit-sharing (BMT and micro-entrepreneurs) will also increase. This will help the BMT to consistently survive which in turn will influence the development of small businesses. These findings are consistent with those from Widiyanto and Ismail (2008) who stated that the sustainability of Islamic financial institutions and the development of micro-enterprises and social welfare must be achieved together by avoiding the selfishness of each party.

Increasing the number of members and financing funds has a positive effect on BMT profitability (Bayai & Ikhide, 2016). However, on the other hand, a growth in financing also has the potential to raise the financing risk (non-performing financing) if it is not managed properly. Growth in financing is not merely seen in an increase in the amount of funds disbursed but should also be considered in terms of the productive of those micro-enterprises that receive the financing. The funding capacity dried up when LKM (a non-governmental organisation) faced problems in attracting more funds due to the lack of payment capacity from partners (Ab Manan & Shafiai, 2015). Ab Manan and Shafiai (2015) stated that good credit risk management is a determining factor in IMFI sustainability. BMTs must be more selective in identifying out-funded members (a screening process) to minimise the risk of default (non-performing financing), which can lead to decreasing profitability as well as BMT sustainability.

In Table 8, the value of the regression coefficient for Islamic human capital is 0.341 with a significance level of 0.000 < 0.05. This means that the BMT's ability to sustain will improve if the human capital is also good. These results are in line with those from Adnan, Widarjono, and Anto (2003), Emmanuel (2009) and Widiyanto (2019, July) regarding the positive impact of Islamic human capital on sustainability. Furthermore, skills, work-related knowledge, teamwork effectiveness, leadership, Islamic work motivation and the moral possessed by human resources can all aid in maintaining the sustainability of BMTs.

If BMTs have qualified human capital and act within the Syariah principles, this also produces an effect on their internal quality. In another study, Rafiki et al. (2014) stated that an organisation's development and performance can be influenced by Islamic human capital. This also means that Islamic human capital plays a critical role in ensuring BMT sustainability. Islamic human capital relates not only to attitudes, competencies, skills, knowledge and innovation but also a broader scope, with its main base being the factor of faith (Widiyanto, 2019, July). With this faith, human resources will be able to mobilise other things, such as working on virtue, learning, being a pioneer, innovative, creative and so on. Thus, organisations (i.e. IMFIs) that have human resources with measured characteristics will be able to deal with changes that occur in the future.

In Table 8, the value of the regression coefficient for fraud is -0.027 with a significance level of 0.760 > 0.05. This means that fraud does not impact on BMT sustainability and the field observation indicated that fraud in BMTs is either below the medium level or still at the controlled level (i.e. the impact is not significant). These findings contradict those from research by Sama and Anselm (2016) and Malone et al. (2010, May) which showed that fraud continues to occur at IMFIs and will have a negative impact on organisational performance over the long term. The results of the study indicated that generally, fraud in BMTs tends to still be at a low level. The rationalisation of fraud, misuse of accounting practices and diversion of procedures are still at a level that can be controlled by BMTs so that the impact of fraud has no influence on the sustainability of the institution. The low level of fraud at BMTs might also be attributed to the role of the Indonesian BMT Association (PBMTI), which helps them to eradicate fraud. Widiyanto and Ismail (2008) stated that the existence of this BMT association strengthens the relationships between BMTs and enables them to help and cooperate in solving problems (both management and financial).

However, precautions still need to be taken. According to Akwasi et al. (2014), the strengthening of fraud prevention and risk management at IMFIs can be carried out through the role of the board of directors, management, via a good internal control system, policies and procedures, and internal and external audit. Furthermore, to develop better risk management, BMTs are required to develop their Islamic human capital (in order to improve the ability and character of HR). Islam teaches to avoid all forms of fraud, which means the development of Islamic human capital can also be dedicated to the successful implementation of risk management. Thus, attention needs to be paid to strengthening risk management and developing Islamic human capital in managing BMT.

In Table 8, the value of the regression coefficient for the moderation of Islamic human capital and Islamic leadership is 0.144 with a significance level of 0.357>

0.05. Also in Table 8, the value of the regression coefficient for the moderation of fraud and Islamic leadership is -0.002 with a significance level of 0.978> 0.05. This means that Islamic leadership is not able to moderate the relationship between Islamic human capital and fraud on BMT sustainability. These findings differ from those reported by Malone et al. (2010, May), which showed that Islamic leadership quality can be good in terms of helping organisations to interact with stakeholders.

In this study, the Islamic leadership examined at BMT was at the level of leadership criteria and was agreed upon by the BMT practitioners. This means that the direct implications of the influence of Islamic leadership on BMT cannot be clearly described. In addition, based on Table 8, the human capital owned by BMT already has a strong influence on the sustainability of the institution. Furthermore, the table showed that the fraud that occurred was indeed under control and did not adversely affect the sustainability of BMTs. The influence of Islamic leadership was to strengthen the role of human capital and reduce the impact of fraud to the point where it was invisible (i.e. insignificant).

#### V. CONCLUSION AND RECOMMENDATIONS

#### 5.1. Conclusion

The following are important conclusions that require attention with regard to the sustainability of IMFIs (BMT) as part of the halal financial industry. *First*, the sustainability of IMFIs can be maintained through financing growth. Greater financing growth will help to create a higher level of sustainability for these financial institutions. *Second*, IMFI sustainability can be improved through improvements to Islamic human capital. This means that the better the quality of Islamic human capital owned by IMFIs, the better the level of sustainability. *Third*, other variables, such as Islamic leadership and fraud, do not have an impact on sustainability. The rise and fall of these two variables produce no significant effect on the rise and fall of sustainability.

#### 5.2. Recommendations

## 5.2.1. Managerial Implications

There are several implications for management based on the research carried out, which are given as follows: *First*, regarding financing growth, IMFIs need to increase the amount of funds channelled to the user community, namely microbusinesses (members who are financed) and conduct more intensive supervision and direct guidance towards micro-entrepreneurs related to the development of business productivity. *Second*, regarding Islamic human capital, there is a need for the procurement of character-building training programmes that must be followed by all human resources at IMFIs in order to foster the nature of leadership by inviting experts to provide training and knowledge related to skills development and deepening knowledge related to the job. *Third*, it is necessary to strengthen the internal BMT system to reduce opportunities for fraud by implementing organisational governance by utilising information technology and forming structured special divisions to conduct audit checks every month. *Fourth*, the Islamic leadership criteria identified in this study should be implemented by BMT leaders.

### 5.2.2. Regulator Implications

In order to maintain the development of BMT, it is very important to strengthen risk management. This can be carried out internally through more selective procedures in terms of the selection of financing participants, financial security systems to avoid the risk of fraud, and so forth. Related to financing, strengthening risk management regulations can prevent the risk of default that results in high levels of NPF (non-performing financing). Related to fraud, prevention is better than mitigation. Thus, we need a better risk management system. Externally, tighter supervision from the government is needed in order for systems to be effective in preventing and reducing the level of fraud. This can also affect the increasing public trust and reputation of the BMT as a trusted institution for the usury-free micro halal financial sector offered by Islam.

## 5.2.3. Limitation of Research and Future Research Suggestion

From the results obtained, the coefficient of determination of 0.396 means that the variables of financing growth and Islamic human capital together can explain 39.6% of BMT sustainability, while the remaining 60.4% is explained by other variables not examined in this study. Therefore, other variables are needed in order to identify their effect on BMT sustainability. These could include the involvement of associations, support from the community and other supporting variables.

The sample in this study was limited, comprising 35 BMTs in PBMTI Semarang and Pekalongan, Central Java, Indonesia, and even then, the same questionnaire was posed to the three respondents at each BMT. Therefore, it would be necessary to expand the area for future research, such as Central Java.

The study found that the level of fraud in BMT was low and did not affect the sustainability of the institution. Further research on the sustainability of IMFIs could be expected to focus more on risk management (risk prevention) using both qualitative and quantitative approaches. The Islamic leadership variables in this study only related to those criteria appropriate for becoming BMT leaders. Therefore, for future research agendas, the researchers suggest that more critical studies should be conducted on Islamic leadership practices in BMT. They may also seek to include new moderating variables such as Islamic corporate governance, ICT governance and other moderating variables. Finally, further research could apply different methods, such as Structural Equation Modelling (SEM), Analytic Network Process (ANP), Error Correction Model (ECM), Vector Auto Regression (VAR) and Autoregressive Distributed Lag (ARDL).

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