EFFICIENCY OF BAITUL MAAL WA TAMWIL (BMT):
AN EFFORT TOWARDS ISLAMIC WEALTH MANAGEMENT IN MICROFINANCE INSTITUTION

Atiqi Chollisni Nasution
International Islamic University of Malaysia

ABSTRACT

The primary objective of most microfinance program is alleviating the poverty by assisting the poor to be economically independent. Measuring efficiency of microfinance program is important for enabling the microfinance institutions (MFIs) to strengthen management, generate the profits and maintain an efficient operation to ensure its sustainability. In the last twenty years, the growth of BMTs increased significantly and has contributed positively to the development of socio economic of the country. Recently, there are around 4,000 BMTs operate and have enhanced thousand poor people life. BMTs are responsible in collecting, managing and distributing the funds either for charity or providing financial services for the poor. The main objective of the paper is to examine the efficiency of Baitul Maal wa Tamwil (BMT) as Islamic microfinance institution in Indonesia and explain BMT's effort towards Islamic wealth management by applying Islamic principles on its programs. Data Envelopment Analysis (DEA) is used to examine the relative efficiency of the selected BMTs. DEA is a non-parametric method which utilizes the linear programming method to measure technical (technological) efficiency and requires inputs and outputs data. Fourteen BMTs are chosen as the sample of the study as it represents the biggest BMT's operated in the poorest

provinces. The study indicated that financing and human resources were some sources of inefficiency in BMT. It also indicated that the efficient BMTs applied the Islamic wealth management where focus on wealth of members and customers based on Islamic principles are the priorities. Inefficient BMTs are expected to optimize its operations by emulating the input minimization and output maximization practices adopted by efficient BMTs.

Keywords: microfinance, efficiency, DEA, Islamic wealth management, BMT

INTRODUCTION

The Islamic approach to eradication of poverty and achievement of an equitable distribution of income and wealth is part of an overall scheme for the establishment of a socio economic order (Ahmad, 1991). Islam has stated that the balance of human life is main priority. It should stand to the accomplishment of basic human needs and justice in human life. It means that Islam does not only manage the ritual activities between human and God but it also manages the daily activities of human where the Islamic ethics is involved on it.

Islamic finance offers various ethical schemes and instruments that can be advanced and adopted for the purpose of microfinance (Abdul Rahman, 2007). Islamic MFIs do not aim to reduce the poverty in material aspect only but they also attempt to motivate the microentrepreneurs (poor people) to thrive by assisting them to adhere to Islamic norms and values.

The term of alleviating the poverty in Islamic perspectives entails spiritual aspect is more important than material aspects. A hadith[18] narrated by Abu Hurairah on Sahih Bukhari 6081, Sahih Muslim 1051, the prophet, peace and blessing upon him, said; *"Richness is not having many possessions. Rather, true richness is the richness of the soul"*. On the other word, the real wealth in Islamic perspectives is not only in material aspects but also the spiritual concern. Wealth management can be defined as how the person manages its wealth to give as much

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[18] Hadith is the words or the acts of Prophet Muhammad (pbuh) that should be followed by Muslim and as guidance to their daily activities. The revelation given to Prophet Muhammad (pbuh) is based on circumstances that are suitable with the process of Islamic propagation

return. In conventional perspectives, anything that gives a return is considered as income without considering the sources are halal or haram. Meanwhile, Islamic wealth management helps to ensure that a person's wealth is managed in such a way that is consistent with the Islamic norms and value.

The concept of Islamic wealth management is consistent with the role of Baitul Maal wa Tamwil (BMT) in Indonesia because it is based on cooperative model. The model focuses on customer's welfare as the priority. Using Islamic principles in all activities, BMT attempts to reduce the poverty by increasing the material and spiritual aspect of the poor people. They do not only disburse the loan for the poor but also assist the poor to manage its wealth (source of funds from the microfinancing) based on Islamic principles. The full assistance of BMT to its member by educating them in managing the funds, indicates the effort of BMT to increase the welfare of its members. It also means that BMT has moved forward to improve the economic condition of a person especially in assisting the poor to improve its norms and faith as a worship to Allah SWT.

Historically, BMT's movement started around 1990's and the number grows rapidly with totally around 4,000 BMTs operating in the country. However, most of BMTs are not working well and some of them have collapsed. It indicates that the growth of BMTs is not consistent with the quality development of its performance. Therefore, BMT's performance needs to be evaluated in order to find out the problems and inefficiency matters especially the evaluation of BMT's efficiency and effectiveness in order to indicate the health of this institution that can be effective to its Islamic wealth management.

The structure of the paper is divided into four sections. The next section provides an overview of BMTs in Indonesia and literature on efficiency and Islamic wealth management. Section three discusses the methodology while section four explains the findings. Finally, the last section is the conclusion.

LITERATURE REVIEW

Asian Development Bank (ADB) (2000) defines poverty as characterized by a lack of access to essential goods, service, assets and opportunities to which being is entitled. On the other word, someone is considered poor when they are absence of the items in the list of

necessities (basic needs). Microfinance provides financial services to the poor through delivering financial services in micro and small sized enterprise.

Baitul Maal wa Tamwil (BMT) is established to help Muslim micro-entrepreneurs as a strategy for eradicating rural poverty (Kholis, 2009). As Islamic MFI, BMT divides its role into two functions; social and economic mission. The social missios is operated by Baitul Maal where collecting and distributing the charity fund (zakah, infaq, sadaqah) to the poor is the main tasks. Whilst, Baitut Tamwil operation is based on commercial activities, where the funds managed are productive and profitable.

The basic operation of BMT follows cooperative model, where all persons involved in BMTs are members (e.g staffs and customers). As member of BMT, they are responsible to pay the membership fees. The fees will support the BMT's mission to highlight the members' welfare by optimizing their contribution fees on BMT's commercial activities.

Some studies indicated that BMT's performance was relatively low. It was confirmed by the lack of management (Widiyanto and Ismail, 2010), lack of supervision and development assistance (Kholis, 2009; Amalia, 2009). To evaluate the performance of a financial institution, Berger and Humphrey (1997) suggested separating those production units that are performing well from those that are performing poorly. For an MFI, efficiency analysis is useful to know if MFIs are well performing and if they can in the long run survive autonomously (Sedzro and Keita, 2009).

In terms of efficiency, economic efficiency is defined in economic theory as a term describing how well a system is performing, in generating the maximum desired outputs for given inputs with available technology (Wahab, 2013). The question came out when the assessment of an Islamic MFI is needed. How we assess that Islamic MFIs are efficient in contributing its role in economic and social, is one of the questions that should be investigated more. In fact, most of previous studies were more concerned on evaluating the efficiency of conventional MFIs whereas evaluating the efficiency of Islamic MFIs is still limited.

The prior studies used Data Envelopment Analysis (DEA) method to measure the efficiency of MFIs and covered a sample period of two to five years. DEA is a non-parametric method which utilizes the linear programming method to measure technical (technological) efficiency

and requires inputs and outputs data. Study by Qoyyum and Ahmad (2006), Hassan and Sanchez (2009) and Haq et.al (2009) analyzed the efficiency of MFIs in some countries and indicated that DEA method can identify the problems and improve the MFI's functions.

Moreover, there were two studies that only concentrated on one country, such Nghiem et.al (2006) analyzed the efficiency of MFIs in Bangladesh and Widiyanto (2007) that explored efficiency of BMTs in Indonesia. Both of them summarized that measuring the efficiency of MFIs has helped them to analyze the best practices of each MFI. Therefore, measuring efficiency of Islamic MFIs is an important effort to enhance the functions of this institution for the ummah and for the future studies in the area of Islamic MFIs.

Additionally, the concept of Islamic wealth management (IWM) could strengthen the role of Islamic MFIs. As it has mentioned before that IWM helps to ensure that a person's wealth is managed in such a way that is consistent with the Islamic norms and value. Islamic MFI distributes the loan to the poor from halal sources and make sure the loan is used in the ethical scheme (Islamic principles). Meanwhile, IWM helps Islamic MFI in managing the loan (as the wealth) of the recipients to be developed and securing the benefit of the loan. It can be clearly stated by the scheme as follows;
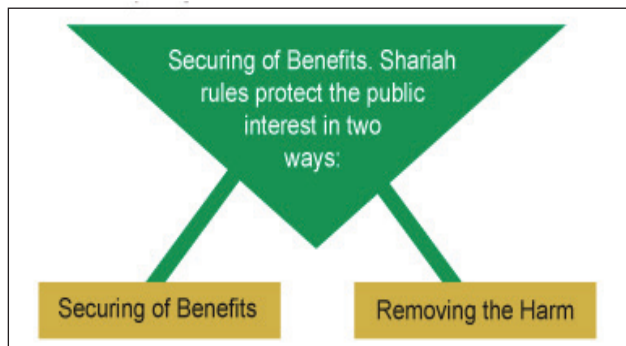
Source: Money Compas (2010)

Shariah rules will protect the public interest by securing the benefits and removing the harm. Securing of benefits means that the benefits of the loan used by the poor people or microentrepreneurs as recipients should be useful for themselves and also brings benefit for

public.[19] Moreover, removing the harm earns that every transaction or investment of MFI's loan must avoid any transactions that involves gambling, harm or unclear investment. However, being compliant to shariah law does not limit a person's opportunity to invest as it actually helps a person to make ethical investment whereby the chosen business will be involved in ethical practice (Money Compas, 2010).

RESEARCH METHODOLOGY

Based on some literatures, there are two approaches in measuring the efficiency; they are non-parametric approach and parametric approach:

1. *The non-parametric approach*. This approach is utilizing the linear programming method to measure technical (technological) efficiency which requires inputs and outputs data only. This approach uses two types of analysis; Data Envelopment Analysis (DEA) and Free Disposal Hull Analysis (FDH).

2. *The parametric approach.* This approach is using econometric techniques to measure economic efficiency. Since economic efficiency requires information on technical and allocative efficiency, this method is considered broader than non-parametric approach. Based on market price, this approach involves in choosing the optimal level and structure of inputs and outputs. This approach uses three of analysis; Stochastic Frontier Analysis (SFA), Thick Frontier Analysis (TFA) and Distribution Free Approach Analysis (DFA).

The most popular approach that is widely used is Data Envelopment analysis (DEA). It is a linear programming technique where a set of the best practices or frontier observations are those for which no other decision making units or linear combination of units has a much or more every output (given inputs) or a little or less of every input (given output) (Berger and Humphrey,1997). DEA also can be defined as a

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[19] For example; if the loan that used by the poor people grows and develop, the benefits of the loan could create a wealth for the person. In Islamic principles, the wealth should be shared to other people who need it by distributing the charity (sadaqa) or could be used for opening the work field for the unemployment. Secure the benefit of loan will avoid economic discrepancy and protect the public interest.

linear programming model, assuming no random mistakes, used to measure technical efficiency (Vincova, 2005).

DEA is used to examine the relative efficiency of the selected BMTs. DEA is a non-parametric method which utilizes the linear programming method to measure technical (technological) efficiency and requires inputs and outputs data. It is calculated by using Constant Return Scale (CRS) and Variable Return Scale (VRS) model. Charnes, Cooper and Rhodes (1978) or CCR defined Data Envelopment Analysis (DEA) as a mathematical programming model applied to observational data that provides a new way of obtaining empirical estimates of relations such as the production functions and/or efficient production possibilities surfaces that are conner stones of modern economics. While, in Banker, Charnes, and Cooper (1984) or is called as BCC model, the calculation of efficiency is called Pure Technical Efficiency (PTE).

CCR assumes ratio of additional input and output is equal or constant return to scale (CRS) or DMUs is at optimal scale, while BCC argues ratio of additional input and output is non-equal or variable return to scale (VRS). In addition, CCR model represents multiplication of Pure Technical Efficiency (PTE) and Scale Efficiency (SE) while BCC model examines Technical Efficiency (TE) only.

Technical efficiency (TE) describes the ability of a business unit to maximize output given certain amount of input or minimize its input given output. Hasan and Sanchez (2009) defined pure technical efficiency (PTE) to firm's ability to avoid waste by producing as much output as input usage allows, or by using as little input as output production allows. While Scale efficiency (SE) is defined as proportional reduction if the firm or bank achieved constant return to scale (CRS) or refers to the firm's ability to work at its optimal scale.

Constant Return to Scale (CRS)

The CRS assumes when all DMUs are operating at optimal scale. To define some notation, Coelli (1996) started by assuming data on K inputs and M outputs on each of N firms or DMUs. For the i-th DMU, it stated by the vectors xi and yi. Moreover, the data of all N DMUs represented by the KxN input matrix, X and the MxN output matrix, Y. Coelli (1996) also mentioned that the best way to introduce DEA is via the ratio form. For each DMU, a measure of the ratio of all inputs,

such as u'yi/v'xi, where u is a Mx1 vector of output weights and v is a Kx1 vector of input weights. The input oriented measure of a particular DMU, under CRS, is calculated by:

Min θ, λ, θ
St   -yi + Y λ ≥ 0,s
        θxi – Xλ ≥ 0,
        λ ≥ 0

where θ is a scalar and λ is a Nx1 vector of constant (Coelli, 1996). If θ =1, the DMU is considered is efficient which lies on the frontier (technical efficient). Meanwhile, if θ < 1, DMU is inefficient, thus, it need a 1 – θ reduction in the inputs levels to reach the frontier. It should be noted that the linear programming problem must be solved N times, once for each DMU in the sample.

Variable Return to Scale (VRS)

The use of CRS which considered all DMUs are at optimal scale might encourage the result of TE confounded by SE. It can happen when DMU is in imperfect competition, constraints on finance, etc. Therefore, the use of VRS which was promoted by Banker, Charnes, and Cooper (1984) attempted to calculate TE that devoid the SE effects. Based on CRS linear programming problem, the VRS can be calculated by adding the convexity constraint: N1'λ = 1 to provide:

Min θ, λ, θ
St   -yi + Yλ ≥ 0
        Θxi – Xλ ≥ 0,
        N1'λ = 1
        λ≥ 0,

where N1 is an Nx1 vector of ones. This model provides TE scores which are greater than or equal to CRS model, it caused by a convex hull intersecting planes which envelope the data points more tightly than the CRS conical hull.

DEA method is choosen for this study due to its useful features when it applied each decision making unit (DMU)[20] is assigned to a single efficiency score and highlights the areas of improvement for each single DMU. The formula of DEA method is as follows:

Efficiency of DMU =

p
Σ μk yk0   DMU = decision making unit
$k=1$ m   = different inputs
m p   = different *outputs*
Σ vi xi0 n   = number of DMU evaluated
$i=1$ xij   = number of input I consumed by DMUj
 yij   = number of output k produced by DMUj

The concept of DEA considers that the most efficient firm is indicated by the score of 1 and generating best practice outputs among the rest of firms in the given sample. To measure the efficiency of an MFI, DEA method requires the approach in production or intermediation. Production approach considers financial institutions as a production unit, whilst intermediation approach deliberates financial institutions as intermediating between savers and borrowers. Moreover, DEA method also requires the inputs and outputs to measure the efficiency. This study argues that intermediating approach is suitable to measure the efficiency of BMTs due to its role as an intermediary between the borrowers and MFI. Two inputs and two outputs will be analyzed to measure BMT's efficiency by using DEA method. The inputs and outputs that proposed by this study are as follows:

Table 1: The inputs and outputs of the study

INPUTS	OUTPUTS
Fixed assets: represents the support of fixed assets to BMT's operations **Total Capital:** represents total funds that have been collected to support BMT's activities	**Disbursement of loans:** represents the BMT's activities in distributing the loan **Total profit sharing:** represents the achievement of BMTs to acquire profit and financial sustainability

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[20] DMU on this study is BMTs

FINDINGS

Data Analysis

The data needed for the empirical analysis comes from 14 BMT's financial statement. These fourteen BMTs are chosen as the sample of the study as it represents the biggest BMT's operation in the poorest provinces. Most of these BMTs have established well where they have operated more than five years, have asset more than Rp 1 billion and have served more than 500 borrowers (poor people).

In order to calculate the level of efficiency of BMTs, this study applies DEAP version 2.1 proposed by Coelli (1996). Data is taken from BMT's annual report 2009-2011. Table 2 provides the technical efficiency of BMTs.

Table 2: Technical efficiency in BMTs: 2009 – 2011
(Constant and Variabel Return to Scale)

Year	Sample Size	TE Mean of sample CRS	TE Mean of sample VRS	SE Mean of sample
2009	14	0.593	0.667	0.898
2010	14	0.628	0.743	0.842
2011	14	0.729	0.825	0.89
Mean		0.65	0.745	0.877

Table 2 provides the means of TE under the assumption of CRS, while PTE and SE under the assumption of VRS. Between 2009 to 2011, the mean TE under the assumption of CRS ranged from 59.3 % and 72.9%. Taking the TE in 2009 as example, the conclusion can be explained that the BMTs on average have produced the same level of output by actually using only 65 % of the input mix. In other conclusion, it can be explained that in 2009, on average the BMTs were still 35% technically inefficient.

Moreover, under the assumption of VRS, between 2009 and 2011 the PTE ranged between 66.7% and 82.5%. VRS rating is obtained when we control for the scale size of the DMU. Furthermore, the TE in BMTs seems increases every year from 2009 to 2011. As it is noted that TE 62.8 % in 2010 as compared to the mean TE in 2009 that only

59.3%. The same trend is showed by the mean of PTE that the number is growing every year. On the other hand, the mean of SE is decreasing in 2010 compared to 2009, then, it further increasing again in 2011. In order to find the efficient BMTs in three provinces, Table 3 will explain the efficiency measures of each BMTs.

Table 3: DEA Technical Efficiency, Pure Technical Efficiency and Scale Efficiency for BMTs: 2009-2011

Province	BMT	2009			2010			2011.000		
		TE	PTE	SE	TE	PTE	SE	TE	PTE	SE
West Java	Al Amanah Sumedang	0.345	0.345	0.998 irs	0.396	0.425	0.932 irs	0.525	0.536	0.979 drs
West Java	Al Amin Sumedang	0.333	0.374	0.891 irs	0.297	0.427	0.696 irs	0.659	0.668	0.987 drs
West Java	Al Anhar	0.376	0.424	0.887 irs	0.318	0.437	0.727 irs	0.393	0.418	0.940 irs
West Java	Al Bina Tasikmalaya	0.399	1.000	0.399 irs	0.327	1.000	0.327 irs	0.939	1.000	0.939 irs
West Java	Al Falah Cirebon	0.291	0.295	0.988 drs	0.455	0.486	0.936 irs	0.956	1.000	0.956 drs
West Java	Al Ikhlas Majalengka	1.000	1.000	1.000 -	0.770	0.773	0.996 drs	0.637	0.672	0.948 drs
West Java	Al Ishlah Cirebon	0.294	0.396	0.742 irs	0.390	0.590	0.661 irs	0.688	0.705	0.975 irs
West Java	Al Ittihad	0.408	0.468	0.871 irs	0.789	0.899	0.878 irs	1.000	1.000	1.000 -
Central Java	Al Hikmah Bangsri	1.000	1.000	1.000 -	1.000	1.000	1.000 -	1.000	1.000	1.000 -
Central Java	Amanah Bukateja	0.625	0.689	0.907 irs	0.830	1.000	0.830 irs	0.690	0.945	0.730 irs
Central Java	As Salam Demak	0.334	0.340	0.984 irs	0.344	0.369	0.933 irs	0.455	0.610	0.747 drs
East Java	MMU Sidogiri	0.899	1.000	0.899 drs	0.872	1.000	0.872 drs	0.548	0.996	0.550 drs
East Java	Syirkah Lumajang	1.000	1.000	1.000 -	1.000	1.000	1.000 -	0.709	1.000	0.709 drs
East Java	UGT Sidogiri	1.000	1.000	1.000 -	1.000	1.000	1.000 -	1.000	1.000	1.000 -
Mean		0.593	0.667	0.898	0.628	0.743	0.842	0.729	0.825	0.890

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It can be summarized that the most efficient BMT is UGT Sidogiri at East Java and BMT Al Hikmah Bangsri at Central Java with the score 1 achieved in every year and every efficiency measurement. It means that they have optimized the inputs to get the maximum output by requiring the capital and fixed asset to create the optimum income and disburse as much of loan. On the other hand, the BMTs that have less result of efficiency are due to inefficiency to optimize their inputs. BMT Al-Anhar, for instance, the number of TE and PTE are very low. It might be due to the lack of quality of human resources and also the absence of supporting funds (third parties funds).

To understand the operational of efficient BMT and the application of Islamic wealth management in BMT, this study attempts to describe the operations of BMT UGT Sidogiri in the next section.

The Application of Islamic Wealth Management in Efficient BMT

Based on table 3, BMT UGT Sidogiri is one of BMT that achieved fully efficient. It indicates the ability of BMT UGT Sidogiri to optimize their capital and fixed asset in order to maximize disbursement of loan and profit. BMT UGT Sidogiri was developed by Pesantren (Traditional Islamic Boarding School) Sidogiri at East Java. In 2011, it has 183,061 customers with asset Rp 322 billion, and has served 71,048 micro-entrepeneurs. The study attempts to get some information by interviewing the manager of BMT UGT Sidogiri as the main person who understands the whole activities in BMT. The great size and the huge number of microentrepreneurs have attracted the study to analyze further.

Based on manager's views, the study concludes that there are some unique strategies used by BMT UGT Sidogiri. There are activating role of alumnies to increase the number of microentrepreneurs and assisting the customers based on spiritual approach[21]. As it has mentioned before, this BMT born by Islamic traditional schools where they have graduated many alumnies that spread to many provinces in Indonesia. In addition, the manager of BMT Sidogiri did not act as manager only but he was also the main person in school[22]. Therefore, every alumnus

[21] Based on interview with Manager Marketing of BMT Sidogiri on April 2011
[22] In general school, the main person in school is called principal. While in Islamic traditional school, the main person is called Kyai. But, the position of Kyai is not considered only as principal, but he is also respected as the person who is very knowledgeable and advanced in shariah.

has a duty to promote the products and services of BMT UGT Sidogiri. Some alumnies open BMT branches to ease customers to achieve BMT. This strategy is successful. Open branches are in line with the increase number of microentrepreneurs. Furthermore, the huge assets indicate the success of optimizing the capital by opening the branches.

The application of Islamic wealth management in BMT Sidogiri started from the application of spiritual approach to its customers. This approach includes full assistance to recipients to manage their wealth in Islamic way. The objective is not only to help the recipients to be able to manage the loan in line with shariah principles but also to encourage them to change their condition from mustahiq to muzakki[23]. This objective becomes the main objective of BMT UGT Sidogiri where full assistance to recipients as one of BMT services.

When BMT disbursed the financing, they selected customers only to person who has completed all the requirements. One requirement is, the business is not harmful and must operate in line with shariah principles. Then, BMT assisted the recipients by educating them to manage the loan efficiently. The assistance was done regularly daily, weekly or monthly. Usually, the BMT staff will come to recipient's house, market or any place that has been agreed between staff and recipients. The staff visited recipients either for collecting the payment or educating them.

For example, when the customers received the microfinancing, BMT Sidogiri assisted them to manage the loan (as the wealth) of the recipients properly from how to manage the money, record every transaction until how to manage the profit or loss of business. When they earned the profit, the BMT will remind them to distribute 2.5% of the profit as an obligatory charity for Muslim (read; *Zakat)*. BMT also suggested expanding the business that might recruit more staffs. Hence, it might reduce the number of unemployment. Therefore, this application represented the nature of Islamic wealth management which avoided harm business and secured benefits of loan that were useful for recipients and also public.

Furthermore, by using spiritual approach that focuses on the responsibility of a human to Allah SWT, most customers are aware of

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[23] Mustahiq is calling for a person who lack in economy and considered as a poor person that may receive sadaqa, whereas, muzakki is a person who is independent in economy and able to pay the sadaqa.

their responsibility to pay the loan on time. If a customer cannot pay on the due date, BMT Sidogiri's staff will visit and remind some verses in the Qur'an about the compulsory of paying the loan for every Muslim. This approach is effective to reduce the number of non-performing loan of BMT. Actually, the spiritual approach is not only applied by BMT UGT Sidogiri but most BMTs also practice this approach. However, BMT with low result of efficiency could not optimize the Islamic Wealth Management due to the lack of quality staffs and the lack of supporting funds. Contrary to BMT UGT Sidogiri which has qualified staffs hired from alumnies of pesantren and have the ability to optimize the capital.

In other word, BMT's efficiency is consistent with the effective application of Islamic Wealth Management. In conclusion, based on case study of BMT UGT Sidogiri, other BMTs that have low result of efficiency can learn from this efficient BMT by optimizing its function and educating the customers to manage their wealth efficiently.

CONCLUSION

Islamic wealth management helps to ensure that a person's wealth is managed in such a way that consistent with the Islamic norms and value. BMTs in Indonesia have applied the Islamic wealth management by focusing on customer's welfare as the priority and educating the customers to manage the wealth properly. However, only BMTs with high result of efficiency could optimize the application of Islamic wealth management. The result of DEA method proposed by Coelli (2006) to measure the efficiency found that BMT UGT Sidogiri and BMT Al Hikmah Bangsri have the highest score of efficiency.

BMT UGT Sidogiri as a case study proves that by assisting the customers to manage their wealth (read; loan) based on Islamic approach is effective to reduce inefficiency of operation in BMT such as non-performing loan and may secure the benefits of loan. It also affected the business expansion and open recruitment for unemployment. Inefficient BMT might be due to the lack of quality staffs and financial support. It was indicated by the low TE and PTE in general. In conclusion, the study suggests to learning from the efficient BMT in order to enhance the quality of Islamic wealth management.

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