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TRANSACTION COSTS OF SMALL MICRO ENTERPRISES (SMES) FINANCING IN SHARIA MICROFINANCE INSTITUTION

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ABSTRACT

Microfinance Institution (MFI) is a hope to overcome the problems of capital for SMEs in Indonesia. In Indonesia, it is not only in the form of conventional microfinance institution, but there is also a Sharia microfinance institution in the form of Baitul Mal Wat Tamwil (BMT). Although BMT implements a system without interest, but the transaction costs of the financing should be a separate focus. This research aims to identify and analyze the transaction costs incurred in the Sharia MFIs in the SME financing, to analyze the transaction costs that dominate throughout the transaction process of SME financing, and to formulate the suggestions on minimizing the transaction costs in the Sharia financing for SMEs. The case study becomes the method to analyze the transaction cost of the Sharia financing for SMEs in BMT, with one BMT in Semarang as the location of the case study. The result research is as follows: on the side of BMT, the transaction costs incurred in the Sharia finance for SMEs are still dominated by the ex post transaction costs, which amounted to 96.7% of the total of the overall transaction cost. On the side of the members, the transaction costs for the financing process are dominated by the disbursement process.

Keywords: Islamic economics, Sharia microfinance, transaction cost, murabahah

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1. INTRODUCTION

Microfinance Institution (MFI) is a hope to overcome the problems of capital for SMEs in Indonesia. Based on the Law No. 1 of 2013, a microfinance institution is a financial institution that is specifically established to provide the business development services and the empowerment of people, whether through the loans or the micro business financing, for the community members, the management of deposits, and the provision of consulting services of business development that are not solely for profit. The microfinance institution does not only move as the institution with a profit motive but also as the social motive with community development activities without neglecting its role as a financial intermediary institution (Baskara, 2013). The role of microfinance institution as an intermediary in SME financing or business loans becomes a great hope for resolving the problems of capital for SMEs.

In Indonesia, microfinance institutions are not only in the form of the conventional one, but there are also the Sharia microfinance institutions in the form of Baitul Mal Wat Tamwil (BMT). The emergence of BMT cannot be separated from the fact that the majority of the Indonesian population is Muslim, amounted 88% or 207,176,162 inhabitants. As a country with a majority of Muslim population, the demand for the Sharia financial services especially through the Sharia microfinance institutions is reasonable enough considering the teachings of Islam prohibits the usury or interest rate application. Nationally, the indicator of rapid development is shown by the BMT asset that reached Rp 4.7 trillions, with the financing amount of Rp 3.6 trillion rupiah in 2015 (Alamsyah, 2015). The profit-loss sharing scheme is one of the SME financing schemes that is often offered by the Sharia financial institutions in Indonesia (Ferawati , Juanda , Syaukat , & Bratakusumah, 2015).

BMT development in Indonesia is still low compared with the conventional micro-finance institutions. In fact, although the Sharia microfinance institutions in Indonesia are able to develop, the development is still slower than the conventional microfinance institutions (Masyita & Ahmed, 2013). Furthermore, offering the no-interest scheme alone has no significant impact on attracting the customers to switch to the Sharia microfinance institutions (Masyita & Ahmed, 2013).

The transaction costs for the SMEs financing process in the Sharia microfinance institutions should be the particular concern. The high administrative cost is one reason why the Sharia microfinance institutions are not effective (Abdul Rahman & Dean , 2013). Other researches reveal that *murabahah* scheme is considered to have very high transaction costs due to the application of mark-up mechanism as a substitute for the system of interest (Khaled , 2011). The application of high administrative costs is an indication that the high transaction costs become a problem in the Sharia MFI. Moreover, the informal Sharia microfinance institutions in the form of cooperatives tend to pay more for their membership (Obaidullah & Khan , 2008). Transaction costs on MFIs, especially on the microfinance, are more dominated by the field workers compensation and the number of groups handled. The high transaction cost is probably the cause of the inefficiency of BMT in financing for SMEs (Shankar, 2007).

The increase in the Sharia MFI performance is required absolutely, especially in the context of financing for SMEs. The repairment of Sharia MFIs needs to be reviewed from the institutional side of the Sharia MFI itself in the form of transaction cost efficiency in SME financing mechanism. Moreover, with the background of BMT that has developed in Indonesia, the institutional improvements in terms of transaction costs in SME financing mechanisms are certainly required to fulfil the objectives of MFIs in improving the welfare and poverty alleviation. The general objective of this research is to identify and analyze the transaction cost in the Sharia MFI precisely at Baitul Maal Wal Tamwil. In particular, this

research aims to identify and analyze the transaction costs incurred in the Sharia MFIs in SME financing, to analyze the transaction costs that dominate throughout the transaction process of SME financing, and to formulate the suggestions to minimize the transaction costs in the Sharia MFI.

2. LITERATURE REVIEW

2.1. Concept of Sharia Microfinance

By definition, the meaning of microfinance is defined as lending to the poor people (especially those who never use the financial services at the commercial banks) through a program designed in accordance with their capabilities and their economic conditions (Khan, 2008). Furthermore, there are three characteristics of the loans through the microfinance institutions which consist : 1) the loan period is relatively short, usually less than 1 year and the disbursement of fund is rapid; 2) using a system of solidarity or group loans; and 3) the loan terms and procedures for disbursement of funds are designed to help the low-income borrowers (Khan, 2008).

The general concept of the Sharia microfinance institutions is not much different from what is applied by the Sharia Bank in general those are: the loans without interest (*riba*) and the priority system for the profit loss sharing (*mudharabah*) and partnership system (*musharakah*). Allah forbids the Muslims to practice the usury (*riba*); this statement is further explained in Surah Ar - Rum, 30:39 explaining that the application of interest rate (usury) will not increase the human treasures, but quite the contrary (Chaudhry, 2012). *Mudharabah* is a form of business organization in which one gives a capital to others to do business then they divide the profits with parts in accordance with the agreement (Chaudhry, 2012). *Mudharabah* scheme can also be called a system of profit loss sharing. *Musharakah* is the collaboration between two or more people in business or in the wealth that has been declared validly and legally by Islam (Chaudhry, 2012). *Musharakah* can also be called a system of cooperation (joint venture).

In Indonesia, there are two forms of Sharia MFIs having varied products. The first form is the units of Sharia (Sharia Public Credit Bank) and the second one is the Sharia cooperative or often called Baitul Maal Wal Tamwil (BMT). Compared with other countries, the products of Sharia finance in Indonesia tend to be varied, including *musharakah*, *mudharabah*, *murabahah*, *ijara*, and *qard al - hasan* (Allen & Overy, 2009).

2.2. Concept of Transactional Fee of Micro Finance Institution

The concept of transaction costs is still very abstract and uncertain. Ronald Coase explained that transaction cost is a cost for using the market mechanisms in having transactions dealing with the way of exchange conducted in the open market (Wang, 2003). Furubotn & Richter (2005) defined transaction costs as the costs arising from the establishment, operation, maintenance, and alteration of the institutions (Furubotn & Richter, 2005). Douglas North (1992) defined transaction costs as the costs arising from imperfect information (North, 1992). Williamson (1985) divided the transaction cost into two: ex ante transaction costs or before conducting the exchange, and ex post transaction costs or the costs after conducting the exchange or transaction (Williamson, 1985).

Table 1 Components of Transaction Costs of Microfinance Institution

No	Definition and Types of Transaction Costs	Component of Transaction Costs
1	Screening Cost; the cost for selecting the potential costumers	The cost of searching for information of the potential customers; The cost of travel to meet the costumers; The cost of forming the group; The cost of group training
2	Monitoring Cost; the cost incurred to monitor the payment	The cost of checking the use of the loan; The cost associated with making billing repayments
3	Coercion Cost; the cost incurred when there are abnormalities in running the business plan that has been planned in advance	The cost of inspection; The cost of approaching to those who do not pay the installment; The cost of controlling the branch manager; The cost to approach when the borrowers deviate from the business plan that has been approved in advance
4	Recovery Cost; the cost incurred to recover the unpaid installments	
5	Other Costs; the costs that are not classified as the above ones	The cost of documentation / copier / image; The cost of assessment; The cost of disbursement; The cost of staff training

Source: Ali & Abdul Rahman (2013)

Specifically, this research uses the definition of transaction costs as formulated by Shankar (2007) who defined the transaction costs in microfinance institutions as the economic terms consisting of the cost of searching, information, bargaining, decision making, policy, and law enforcement. Furthermore, Shankar (2007) categorized the transaction costs in the micro institutions as follows: 1) the cost of information to form and train a group, 2) the administrative costs, and 3) the cost of monitoring (Shankar, 2007). In details, Ali & Abdul Rahman (2013) detailed the transaction costs in the Sharia microfinance institutions using Shankar (2007) as the reference as described in table 3.

2.3. Empirical Study and Previous Research

The need for research on the importance of research on minimizing the transaction costs in the Sharia MFIs in the SMEs financing is based on the potential of the Sharia MFI based on a research by Ali & Abdul Rahman (2013) who stated that the large transaction cost is a challenge for both the conventional and Sharia MFI. The research of Ali & Abdul Rahman (2013) and that of Ahmed (2002) have something contradictory. Ahmed (2002) stated that one potential of the Sharia MFI is being able to mitigate the asymmetric information rather than the conventional one. However, Ahmed's research (2002) is indirectly disproved by the research of Ali & Abdul Rahman (2013), which stated that the high transaction cost is still one of the biggest challenges as an indication that the Sharia MFI has still not been able to mitigate the asymmetric information. Moreover, the transaction cost is still a major problem in the microfinance institutions, especially in the compensation of the field labor costs and the number of costumers / groups addressed (Shankar, 2007).

In order to formulate the financing transaction costs of SMEs by BMT, it requires the conditions of the institution itself. Sakti (2013) revealed institutionally that the operations of BMT require the special revamping on the governance aspects of industry and the internal aspects of BMT such as the operations and management. Abdul Rahman & Dean (2013) stated that from the three challenges described, the high administrative cost becomes one of the problems in the Sharia MFIs in the SME financing. Darwanto (2014) stated that in order to improve the performance of the institutional side of the Sharia MFIs, it requires the human resource development more particularly related to the social capital. Kusuma & Darwanto (2015) stated that one of Sharia agricultural financing issues at BMT in Cilacap is the late return by the customer or a farmer and having to compete with the middlemen. Associated with the social capital, religiosity improves the adherence to the fulfillment of the contract in terms of obligation payment (El - Komi & Croson, 2013).

3. METHODOLOGY OF RESEARCH

The analytical method used in this research is the qualitative analysis method. The qualitative analysis used is the qualitative descriptive analysis using a case study approach. Kuncoro (2009) interpreted the descriptive analysis as an analysis that attempts to describe the consistent patterns in the data so that the results can be studied and interpreted briefly and meaningfully. Furthermore, Supranto (1997) explained that the descriptive analysis aims to elaborate the properties (characteristics) of a condition.

The case study of research is held in one of the BMT in Semarang City. The data is obtained through the informants by using the interviews, questionnaires, and observations. The selection of the sample used in this research is the snowball sampling method with the key informants (keyperson) as the manager of BMT. Snowball sampling is a method to identify and select a sample to a case in a network or group (Neuman, 2007). Practically, the snowball sampling method starts from a little of informants (keypersons) who later will provide other informants that possibly have more complete information.

4. RESULTS AND DISCUSSION

4.1. Transaction Costs of Baitul Mal Wat Tamwil (BMT)

4.1.1. Screening Costs

Screening costs represent the costs incurred by the BMT to make the selection of the members eligible to be funded. The screening activities are conducted entirely by the BMT without using extra energy. The marketing is fully responsible for conducting this screening, but it also may involve the managers of BMT. If the plafond of funds raises less than 10 millions, it is entirely conducted by the marketing, but if the plafond of funds raises more than 10 millions, it needs to involve the BMT manager to participate in the process of screening.

The screening activities conducted by BMT are not much different from what is conducted by the banks in general. BMT will conduct a survey after the members and the prospective members apply for financing. The process of surveying the members is an activity conducted by the BMT to check the member eligibility for funding. There are four important things in a survey by the BMT, some of which are: 1) survey of the feasibility; 2) environmental surveys; 3) site surveys; and 4) survey of collateral or guarantees[1] If the members apply it for the funding under 10 million rupiahs, the survey process is fully conducted by one person of marketing. However, if the members apply for the funding over 10 millions, the survey process will involve the manager so that this will be conducted by two people, the marketing person and the manager.

Based on Shankar (2007) and Ali & Abdul Rahman (2013), there is the cost of group formation and subsequently followed by the training group, but BMT does not apply the group financing. Based on the informant's information, BMT does not apply the group financing because there is an assumption that the method of group financing is very risky for BMT and is equated with illegal cooperative. The absence of group formation and training activities results in no costs for the group formation and training. The followings are the costs incurred during the screening process:

Table 2 Transaction Costs of Screening Process in Rupiahs

Screening Process	Costs incurred	< 10 million rupiahs	≥ 10 million rupiahs
Costs of Survey and Information	Costs of Transportation	12,500	25,000
	Costs of Consumption	12,500	25,000
	Costs of Phone	677	677
	Costs of Opportunity	11,307	28,352
Total Cost		36,984	79,029

Source: Data processed, 2016

Table 2 shows the details of the transaction costs incurred by the BMT to conduct a screening process. The cost of survey and information are the costs incurred in the screening process of the members. Specifically, the cost of survey consists of four compenens of costs, including 1) the cost of transportation, which is calculated from the transportation allowance per day (petrol money) used for the BMT employee mobility; 2) the cost of consumption, which is calculated from the consumption allowance per day (meal money) used by the BMT employee in conducting the mobility to the members; 3) the cost of the phone, which is calculated from the pulse allowance per month given by the BMT to the employee to facilitate the communication between the BMT and the members; 4) the cost of opportunity, which is incurred by the BMT employee as a result of leaving the job in the office to conduct a survey to the members.

There is a different treatment between the members applying for funding fewer than 10 million rupiahs and those applying for funding more than 10 million rupiahs. If the members apply for funding more than 10 million rupiahs, the survey activity will be conducted by two people, the marketing and manager. Furthermore, the survey costs incurred will be greater than the survey process in the members who apply for funding fewer than 10 millions. In total, the cost of survey and information on the screening activities conducted by the BMT is Rp 36,984 for the member who applies for funding fewer than 10 millions and Rp 79,029 for the member who applies for funding more than 10 millions.

4.1.2. Monitoring Cost

Monitoring costs represent the costs incurred by the BMT to supervise the funds that have been distributed to the members. Based on the informants' information, the monitoring activities are conducted entirely by the marketing to supervise and give a warning if there is a problem in refunds or profit and loss sharing. The monitoring activities are also conducted entirely by the marketing to monitor the fund management activities by the members.

There are two ways conducted by the marketing for monitoring. First, direct monitoring, the monitoring activities are conducted by the marketing by visiting the member. The direct visit is conducted either to supervise or to provide a warning letter if there is a delay. Second,

indirect monitoring, the indirect monitoring is conducted by telephone to the members to remind the member due to the date of the refund.

Table 3 shows the amount and components of the costs incurred during the monitoring process. On the direct visit activities, the costs incurred in general are the same in the following: costs of consumption, costs of opportunity, costs of transportation, costs of phone. In total, the cost of direct visit to give the warning letters is Rp 24,484, while the visit to the member to check the financing is Rp 36,984. The indirect monitoring costs do not automatically have a lower value than the direct monitoring costs. Based on the informants' information, the transaction cost incurred to conduct the indirect monitoring is the cost of phone amounted Rp 10,000. In total, the transaction cost for the monitoring process of the members is Rp 71,468.

Table 3 Transaction Costs of Monitoring Process in Rupiahs

Monitoring Costs	Activities	Costs	Cost Breakdown	Total Cost
Direct visit	Visiting the members	Cost of consumption	12,500	36,984
		Cost of phone	677	
		Cost of opportunity	11,307	
		Cost of transportation	12,500	
Warning letter if being late		Cost of phone	677	24,484
		Cost of opportunity	11,307	
		Cost of transportation	12,500	
Indirect	By phone / SMS	Cost of phone	10,000	10,000
Total Cost of Monitoring Transaction				71,468

Source: Data processed, 2016

4.2.3. Enforcing Cost

The enforcing or coercion costs represent the costs incurred by the BMT to conduct the coercion activity to the members who have difficulty in refund and or have the bad credit. In the process of enforcing, the BMT first approaches amicably to those who have difficulty in refunding. There are four steps taken by the BMT from the amicable way until eventually foreclosing the collateral.

Table 4 Enforcing Costs (Personal Approach) in Rupiahs

Enforcing Activity	Incurred Costs	Cost Breakdown
Personal Approach (per person)	cost of phone	4,000
	cost of transportation	12,500
	cost of opportunity	11,307
	cost of consumption	12,500
Total Cost		40,307

Source : Data processed, 2016

The first one is to approach amicably. The amicable approach is conducted personally by the BMT. There are two ways conducted by the BMT to make a personal and amicable approach: by telephone and by visiting directly. If by phone, it will be directly handled by the marketing responsible for the member funded. The marketing will contact the troubled member when the payment is delayed for 1-7 days. Another option is by visiting the member to have a consultation and discuss the problem of late payment. The BMT will make a visit

when in the predetermined time the member does not respond to the notification by telephone. Furthermore, the marketing will come to member to have a consultation. The followings are the transaction costs incurred by BMT to make a personal approach to the member in question.

Table 5 Enforcing Costs (Re-contract or Reschedulling) in Rupiahs

Enforcing Activity	Incurred Costs	Cost Breakdown
Rescheduling	cost of transportation	25,000
	cost of opportunity	22,614
	cost of consumption	25,000
Total Cost		72,614

Source : Data processed, 2016.

The second one is the rescheduling or re-contracts.[2] The next option is that the marketing will be consulting with the members to conduct the re-contract option. The re-contracts can be conducted if the members have already tried as hard as possible to return the funds but still cannot afford it or they are experiencing a disaster in this case the loss of business. The process of re-contracts is completely conducted in BMT with the record has been through an agreement between the two sides. This process is conducted by the marketing that is accompanied by the manager to conduct the consultation with the members and agree on the re-contract. The followings are the costs incurred by the BMT when conducting the re-contract:

Table 6 Enforcing Costs (Giving A Warning Letter) in Rupiahs

Enforcing Activity	Incurred costs	Cost breakdown
Warning letter	cost of transportation (3x)	75,000
	cost of consumption (3x)	75,000
	cost of opportunity (3x)	67,841
Total Cost		217,841

Source : Data processed, 2016.

The third one is giving a warning letter. A warning letter is given to the troubled members three times. The warning letter is given directly by the marketing of BMT to the troubled members. The first warning letter is given if the members have been absent or ignored the notification of the BMT for two months. The marketing will visit the customer with the first warning letter with the handover stating that the troubled members have already received the first warning letter. The second warning letter will be given if there is no response from the troubled members for two weeks after the first warning letter has been issued and submitted. The second warning letter is also conducted by the BMT specifically the marketing to the members with the handover stating that the troubled members have already received the second warning letter. The third warning letter will be given if there is no response from the troubled members for one week after the second notification letter has been issued and accepted by the troubled members. The BMT represented by the marketing will visit the members for the third time to submit the third warning letter. If the third warning letter is no longer in the response, the next step is the foreclosing of the collateral.

Table 7 Enforcing Costs (Withdrawal of Foreclosure of Collateral) in Rupiahs

Enforcing Activity	Incurred costs	Cost breakdown
Collateral	cost of transportation	37,500
Withdrawal/Foreclosure	cost of meal	37,500
	cost of opportunity	33,920
	cost for renting equipments	100,000
Total Cost		217,557

Source : Data processed, 2016.

The last one is the withdrawal of collateral or foreclosure. If the troubled members do not agree for rescheduling and ignore the third warning letter of the BMT, the BMT will visit them to take or foreclose the collateral. The BMT, represented by the marketing, manager, and administration will come to members to foreclose the collateral. If the collateral used is in the form of BKBP of motorcycle or car, the motorcycle or the car as the collateral will be foreclosed by the BMT to later be used as the unit of fund recovery. If the collateral is in the form of certificates of land or buildings, the BMT will foreclose the land or building certificate to later be auctioned and cashed for the fund recovery.

Table 8 Total of Enforcing Cost in Rupiahs

Enforcing Activity	Total Cost	Percentage of the whole cost (%)
Personal Approach	40,307	7.4
Rescheduling	72,614	13.2
Warning Letter	217,841	39.7
Withdrawal/foreclosure of collateral	217,557	39.7
Total of Transaction Cost	548,318	100

Source : Data processed, 2016.

When viewed in the total cost, the biggest transaction cost incurred by the BMT is when giving the warning letter and foreclosing the collateral. When the warning letter has been given to the troubled members three times, the transaction cost incurred by BMT is Rp.217,841. The costs to give the warning letters account for about 39.7% of the total cost of enforcing. The biggest transaction cost in the enforcing process is when foreclosing the collateral. The collateral foreclosure by three representatives of BMT probably causes the additional costs for renting equipments for transporting the collateral that cannot be operated. Based on the informants' information, the BMT has ever had one case in which the collateral is in the form of motorcycle that has been off totally and cannot be operated anymore, so BMT needs to rent an additional equipment to bring the unoperated collateral. The total of transaction cost for foreclosure is Rp 217,557 or equivalent to 39.2% of the total cost of enforcing. Table 8 shows the details of each and the total cost of the overall transaction costs for enforcing the process:

4.2.4. Recovery Cost

Recovery costs are the costs incurred by the BMT for the recovery of funds because of the troubled members or the stalled funding. There are three things conducted by BMT for the fund recovery those are the application of fines, auctions, and buying and selling. Associated with the fines, the informants regret that there are the fines set by the officials of BMT because in the Islamic system the fines included in the revenue are *riba*.

The use of fines is conducted by BMT for the recovery of funds from the stalled financing. The fines are imposed directly if the members are late to pay and it has been written in the contract. The fines are imposed when a member has been late one day. One of the informants deeply regrets the imposition of this fine system containing the element of usury. Furthermore, when the fines are inserted into the revenue of BMT, the element of usury of fines arise. If the troubled member is not able to pay the fines, the member is required to make a dispensation letter addressed to the General Manager (GM). The fine practice in BMT is still enforced.

Furthermore, the BMT will conduct the land auctions in the local State Auction Agency. The auction process is fully conducted through the legal procedure. Based on the information, the whole process involves the BMT, the Notary, and the State Auction Agency. At first, the BMT will be heading to the Notary to perform the name reversal of land or building certificate that has been foreclosed into the name of BMT. The notary will perform the name reversal followed by processing the SPPT to the accountants. The SPPT process in the accountant is fully conducted by the notary. After the SPPT is stated to be not problematic, the notary will ask the state auction agency for further processing. The state auction agency will issue a certificate or statement that will be submitted by BMT and the initial owner (the troubled member). After accepting the certificate, BMT will visit the troubled members to submit the certificate from the state auction agency stating that the auction process will take place. The followings are the transaction costs incurred in the process of fund recovery:

Table 9 Transaction Costs of Recovery Process (Land or Building Certificate Auctions) in Rupiahs

Recovery Activity	Incurred Costs	Cost Breakdown
Auction (land or building certificate)	Cost of transportation (2x)	50,000
	Cost of phone (2x)	6,000
	Cost of meal (2x)	50,000
	Cost for Notary	3,100,000
	Cost for auction payment	1,800,000
	Cost of opportunity by the manager and head of administration to the notary	62,500
	Cost of opportunity by the head of administration to the member by giving the auction letter	14,205
	Total Cost	

Source : Data processed, 2016

Another activity is the trading of vehicles derived from the assurance of the troubled members. Based on the information from the informant, the trading of this vehicle is conducted informally, without the intermediary, for example, by offering to the employees or to the other members to avoid the additional costs.

When viewed as a whole, only the certificate auction process incurs the cost in this recovery process. At the same time, compared with the previous process, the transaction cost incurred from the auction process becomes the biggest. The transaction costs incurred to conduct the auction reaches Rp 5,082,705 for once of the land certificate auction process, in the sense that each troubled member commits to ensuring the land certificate as the collateral of financing. However, unfortunately the application of fines is imposed by BMT and classified as the revenue. When referring to the Sharia system, if the fines are categorized as

the revenue of BMT, it is usury. Moreover, one goal of BMT is to eliminate the slightest usury on its financing system.

Allah says in the Quran that clearly defends against the usury system on financing or debt-receivable. Allah says in QS. Ali Imron (3):10, "O ye who believe, do not take usury doubled and fear Allah and that ye may prosper. Keep yourselves from the Fire, which is reserved for those who disbelieve." The other prohibition is included at QS. Al-Baqarah 287, Allah says, "O ye who believe, fear Allah and give up what remains of usury (which is not collected) if you are people who believe. "

4.2.5. Other Costs

Table 10 Additional Transaction Costs (Stamp Duty Cost) in Rupiahs

Other Costs	Incurred Costs	With BPKB	With Certificate
Cost of stamp duty	Cost of stamp duty	12,000	24,000
Total of Transaction Cost		12,000	24,000

Source : Data processed, 2016

Other costs are the costs incurred by the BMT for the operations of financing. In connection with BMT researched, other costs consist of the disbursement and administrative costs. According to the informant, the cost of disbursement consists of the stamp duty cost of Rp 6,000 as much as 2-4 pieces for each determination of the contract or agreement. If the member uses BPKB as the collateral, the stamp duty required is two pieces, whereas if using a land certificate, the stamp duty required is maximum four pieces. The costs incurred by the BMT for the stamp duty shown on Table 11.

Table 11 Administrative Costs in Rupiahs

Administrative Costs	Incurred Costs	BPKB (< 10 juta)	Certificate (≥ 10 juta)
Cost of Survey	Cost of survey and information	36,984	79,029
Cost for Submission of Certificate to Notary	Cost of transportation (fuel) Cost for going to the notary	0 0	12,500 377
Total of Administrative Cost		36,984	91,906

Source : Data processed, 2016.

Besides the stamp duty, the members will also be charged the administrative cost adjusted to the time of financing, which is 2-3%. Based on the information, the administrative cost consists of the cost of services (survey and submission of certificate to the notary) and the cost of document procurement. The informant explained what are included in the cost of document procurement documents: the costs of the survey form, contract form, the form of financing account opening, deposit slips, books of installment, envelopes, submission form.

Table 12 Total of Other Costs (Administration + Disbursement)

Other Costs	Total Cost (BPKB)	Total Cost (Certificate)
Cost of Administration	36,984	91,906
Cost of Disbursement	12,000	24,000
Total Cost	48,984	115,906

Source : Data processed, 2016

In total, other costs incurred by the BMT in the disbursement process is the cost of stamp duty and the cost of administration or the cost of service. The amount of other costs depends on the collateral used by members who apply for financing. Total of other costs overall for the members using BPKB as the collateral are Rp 489,834, while other costs for the customers using the certificates as the collateral are Rp 115,906. The following is a breakdown of other costs incurred by the BMT:

4.2.6. Transaction Cost of Members

Besides the BMT, the members also incur various costs associated with the financing transaction process. Various researches regarding the transaction costs incurred by the borrower in a financing loan transaction activity is already conducted. In the case of BMT, the transaction costs incurred by the members in performing the financing in BMT are: 1) the cost to register as a member; 2) the cost of document procurement; 3) the cost to apply for loans and negotiation; 4) the cost of going to BMT for disbursement; and 5) the cost of disbursement.

Table 13 Transaction Costs of Members in Rupiahs

No.	Cost of Being a Member	Cost of Document	Cost of Applying for Document and Negotiation	Cost of Going to Get Disbursement	Cost of Disbursement	Total
1	5,286	4,286	12,590	13,150	1,051,650	1,086,961
2	1,286	4,286	2,728	6,774	1,353,239	1,368,312
3	3,500	5000	0	21,667	3,158,333	3,188,500
4	2,983	7,143	0	3,439	2,352,917	2,366,482
5	929	3,429	2,304	747	60,938	68,345
6	0	1,000	0	11,357	112,500	124,857
7	0	5,196	0	1,393	104,250	110,839
8	4,571	2,020	0	3,571	200,000	210,163
9	4,571	2,020	0	3,571	100,000	110,163

Source : Data processed, 2016.

Based on table 14, the transaction cost in the fund disbursement process dominates the costs incurred by the member. The amount of the transaction cost incurred by the members at the disbursement process cannot be separated from the BMT policy that charges the large enough administrative cost to all the ceilings, which is 2-3%. The amount of disbursement cost also depends on the collateral used. If the collateral used by members is the land certificate, there is an extra cost to tie the collateral by the notary of Rp 750,000. Even so, the fund disbursement process is quite fast, the fastest is 15 minutes and the longest is 30 minutes. The costs incurred during the disbursement phase are: 1) the cost of administration; 2) the cost of opportunity; and 3) the cost for notary.

In connection with the cost to become the member, the prospective member is only required to submit a photocopy of ID card (KTP) and to fill out a form that has been taken by the marketing. Someone does not pay at the time of registration to become the member because he/she already has the identification card previously. The cost in this process consists of the cost of transportation to the copier place and the cost of copying the identification card.

Another convenience provided by BMT is that a member does not require a business license, either SIUP or the certificate of business (SKU). BMT only requires the members to prepare two copies of family card (KK), two copies of identity cards (KTP) for husband and wife, two copies of proof of collateral, two proofs of payment of land tax (STTP) if the

collateral is in the form of land or building certificate, and two copies of marriage certificate (husband-wife). For the microentrepreneurs, the requirements are easy enough for them because they do not have to have a business license and an NPWP for their business. The costs incurred by the members for the document collection process are the cost of copying and the cost of transport.

In connection with the cost of applying for the loan and the negotiation, the member who does not pay is the close relative of the informant, who is the employee of BMT. Based on the information from the members who are the close relatives of the employee of BMT, the applying for document is supported by the informants to deliver the documents to BMT, so they do not need to pay an extra cost to go to BMT to perform the application of document. Similarly, the negotiation process is also conducted informally in the residence of the informant of BMT. However, some members have to leave their work or business only to apply for the document to BMT and to have the negotiation. For the members who pay for the document application and the negotiation, the costs incurred are the cost of transportation, the cost of opportunity, and the cost of negotiation.

The disbursement process is conducted entirely at the BMT office. After the members apply for the documents and have the negotiation, and have been approved by the BMT, the BMT will contact them to come to BMT to make the disbursement. In this phase, the members unavoidably have to leave their work or business to go to BMT to make the disbursement of fund. The costs incurred on the way to BMT to make the disbursement of fund are the cost of transportation and the cost of opportunity.

5. DISCUSSION

The analysis of the transaction costs needs to be viewed from two sides, ex-post and ex-ante. Williamson (1985) explained that the analysis of the transaction costs could be viewed through two conditions, ex post and ex ante. Furthermore, Wallis and North (1986) explained that the terminology ex post and ex ante refer to the dimension of time, ex post is the transaction costs after the transaction process, while ex ante represents the transaction costs incurred prior to the transaction process. In the case of BMT, the cost of the survey and information is the ex ante transaction costs, while the cost of monitoring, enforcing, and recovery are the ex post costs.

Table 14 Ex Post Transaction Cost in Rupiahs

No	Types of Transaction Costs	BPKB (< 10 millions)	Certificate (≥ 10 millions)
1	Cost of monitoring	71,468	71,468
2	Cost of enforcing	548,318	548,318
3	Cost of recovery	0	5,082,705
	Total of ex post Cost	619,786	5,702,490

Source : Data processed, 2016.

The data shows the ex post cost is the most dominant transaction cost incurred by the BMT in the process of financing transaction. In total, the ex post cost incurred by the BMT is more dominant than the ex ante cost. In total, the ex post cost is Rp 5,702,490 millions with the details as follows:

The recovery cost becomes the most dominant one of the total of the ex post transaction cost. Furthermore is the enforcing or coercion cost to the members to pay the installment of

financing. The recovery cost incurred in the financing with a rate of more than 10 millions with the land certificates dominate 89% of the total of the ex post transaction cost, while the enforcing or coercion cost dominates 9% of the total of the ex post transaction cost. If using BPKB, the ex post costs are dominated by the enforcing or coercion cost.

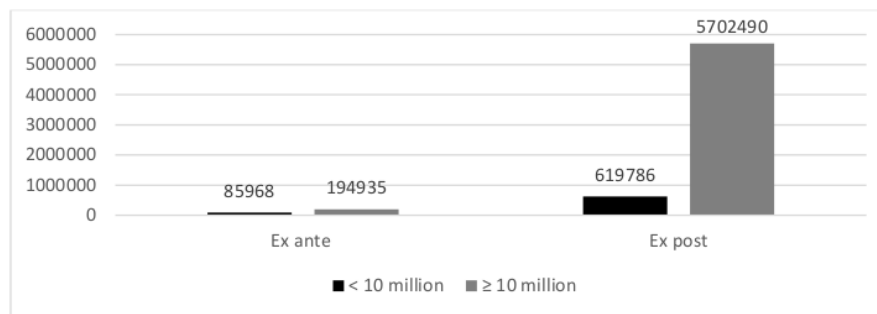
Table 15 Ex Ante Transaction Cost in Rupiahs

Ex ante Costs	BPKB (< 10 millions)	Certificate (≥ 10 millions)
Cost of Screening	36,984	79,029
Cost of Administration + Disbursement	48,984	115,906
Total Cost	85,968	194,935

Source : Data processed, 2016.

The ex ante cost only dominates a little part of the total transaction costs incurred by BMT in the process of SME financing transactions, which amounted Rp 85,967.64 with the total financing of fewer than 10 million rupiahs and Rp 194,935.27 for the total financing of more than equal to 10 million rupiahs.

Table 16 Comparison of Ex ante and Ex post Transaction Costs in Rupiahs



Source: Data processed, 2016

In general, the transaction cost incurred by BMT in the financing transaction process is dominated by the ex post transaction cost. On the financing under 10 millions, the ex post cost dominates as 87.8% of the total of the overall transaction cost and the ex ante cost is only 12.2% of the total of the transaction cost. It is different from the financing over 10 millions. The ex post cost is very dominating on the total of the transaction cost, which amounted to 96.7%, while the total of the ex ante cost is only 3.3% of the total of the transaction cost.

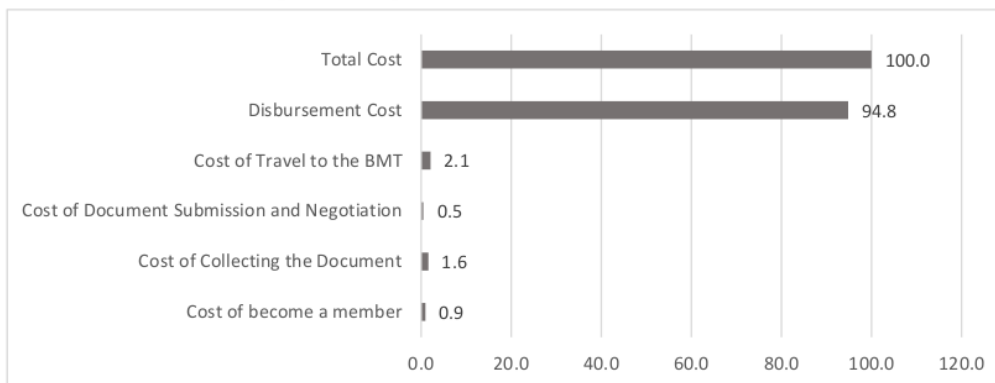
In contrast to Shankar (2007) who stated that the transaction cost dominating the microfinance is the compensation for the field workers and the number of groups addressed, the BMT, on the contrary, is dominated by the costs of monitoring, enforcing, and recovery. This difference is because the system of BMT is the cooperative, not a micro institution in the form of cooperatives. The cooperative system applied at BMT does not apply the Grameen system or the group financing applied in the microfinance institutions in India. The absence of the application of the Grameen system eliminates the transaction costs to form and train the group.

However, it does not mean that the Grameen system is worse than the cooperative system. The Grameen system by using the group financing gives even more impact on the SMEs. Kar (2010) stated that the system of group financing has lower transaction costs by saving the cost

for travel. Other research, Attanasio et al (2011) stated that using the system of group financing would have a positive impact on the development of entrepreneurship and improvement of SMEs. Swamy & Tulasimala (2011) stated that the funding model of SMEs with group financing model have the lower transaction costs. It is necessary to develop a new financing scheme for BMT, such as applying the Grameen system or even combining the cooperative system with the Grameen system. Application of the Grameen system or the Sharia group financing can be collaborated with the social security in the form of religiosity and cooperation with the Islamic non-governmental organizations (NGOs), such as FPI (Islamic Defender Front), GP Ansor, or NU institution to help develop a business group with a social capital in the form of religiosity or Islam as the main capital to improve the services of BMT and also to increase the financing and development of SMEs. Relating to the social security in the form of religiosity, El-Komi & Croson (2013) proved that religiosity increases the adherence to the fulfillment of the contract in terms of payment of obligations.

For the members of the cooperative, the transaction costs are dominated by the administrative costs. In general, the cooperative members spend the greatest transaction cost in the disbursement process. The cost during the disbursement process is dominated by an average of 94.8% of the total of the whole transaction costs. The amount of the disbursement cost is dominated by the administrative cost that can be said to be very high, which is 2-3%, according to the time of period. Interesting cases occur when there are members who receive more services than the other members, which is not incurring the cost of going to BMT to make an application to BMT. Although the transaction cost for applying for the documents to BMT is only an average of 2.1%, if they get the same service, it will certainly help the members in terms of minimizing or eliminating the cost to apply for the documents. The document application process can be done in informal way when the BMT conduct a survey to the location of business, in a sense that the members have been told earlier to prepare for the documents required. The amount of transaction costs on the members of BMT shown on Table 17.

Table 17 Average Percentage of Transaction Costs of BMT Members in Percent



Source: Data processed, 2016

The high administrative costs imposed by BMT to the members are in line with the research of Abdul Rahman and Dean (2013) and Khaled (2011), which stated that the high administrative cost and the *murabahah* system tend to have the high transaction costs (Abdul Rahman & Dean, 2013). The high transaction cost on the members is characterized by the high cuts for the transaction costs and the members are still required to come directly to BMT to conduct the application of documents. In the case of BMT, the base of the charging of

administrative costs is according to the length of the financing year, and this would make the administrative cost the cost that dominates the total of transaction cost for the members of BMT, not because of the mark-up system. The contract used on *murabahah* here is the system of profit and loss sharing, but it still more likely to the profit sharing and has not applied the profit loss sharing system for the financing of SMEs.

6. CONCLUSION AND SUGGESTION

On the side of the BMT, the transaction cost incurred in the Sharia finance to SMEs is still dominated by the ex post transaction cost, which amounted to 96.7% of the total of the overall transaction (ex ante + ex post) cost. The ex post costs include the cost of monitoring, enforcing, and recovery. On the financing of more than 10 millions, mainly using the land certificate as the collateral, the cost of recovery dominates 89% of the total of ex post cost. The ex ante transaction costs, such as the cost of screening, disbursement, and administration, amounted to only 3.3%.

The amount of the ex post costs, especially at enforcing, demonstrates that the Sharia financing system in BMT is still not fully optimized. The *murabahah* financing with a contract of profit and loss sharing does not necessarily reduce the transaction costs on the side of enforcing. As well, BMT still applies the system of fines that at the initial contract has been in the form of profit and loss sharing system, or more precisely the profit sharing. However, BMT prefers the process of rescheduling or recontract system in solving the problems in the stalled financing. The high recovery cost is because the fiduciary or collateral system in the form of goods applied by BMT. The cooperative system by placing the borrower as a member of the cooperative and the use of Sharia contract is not able to fully foster or strengthen the trust that binds in the form of social security.

On the side of the member, the transaction cost for the financing process is dominated by the disbursement process. The transaction cost in the disbursement process dominates at 94.8% of the total of transaction cost to conduct the financing process. The imposition of the administrative cost of 2-3% depending on the time of period makes the disbursement process dominate the high transaction costs during the financing process. Although not dominating, at the document application process there is still a difference of treatment among the members. There are members who are not required to come to apply for the documents directly to BMT, on the other hand, there are members who are required to come to apply for the documents directly. This different treatment affects the amount of transaction costs on each individual, especially in the costs of opportunity and transportation to go to BMT to do the document application.

BMT needs to study and apply the Grameen system or the group financing using the Sharia contract and the collateral in the form of social security. Based on the existing research, the group financing would give greater benefits for the members who have the SMEs. The group financing system will also be conducted through the cooperation with other agencies for the distribution of funds, such as Damandiri or through the Sharia banks in general. To do the group training, BMT may cooperate with the Islamic LSM by the principles of mutual help and cooperation with religiosity as the main capital.

Besides, BMT also needs to return to the real Sharia system. BMT needs to prioritize the *mudharabah* contract to conduct the financing for SMEs with a system of profit loss sharing (PLS) and also needs to eliminate a system of fines that go into the cash of BMT as a revenue because it is a usury. Obviously, the use of the name of BMT with the Sharia system must be accompanied by the commitment and responsibility to implement the real Sharia financing

system. It needs a synergy between the world and the hereafter destination as a form of responsibility of using the Sharia system. The institutional BMT based on religion and religiosity needs to be re-improved.

In terms of service to the members, BMT needs to perform the equalization of services, especially in the imposition of administrative costs and the process of filing the documents. The document filing process should be conducted simultaneously when the BMT conducts a survey and the member does not need to visit the office directly. If it is implemented, the members can save the costs such as the cost of transportation and opportunity to perform the document filing directly to the office of BMT. Relating to the imposition of the administrative costs, it would be better if the imposition of the administrative costs is in accordance with the the amount of loans and with the costs incurred to perform the service. To apply it, BMT can divide the particular financing plafond with the different administrative costs, such as the microfinancing with a plafond of fewer than 10 million rupiahs, the small financing with a plafond between 11 and 20 million rupiahs, the medium financing with a plafond between 21 to 50 million rupiahs, and the major financing with a plafond of more than 50 million rupiahs.

The results of this research do not represent BMT as a whole because it is a case study. This research only focused on one BMT and examined it in accordance with the conditions and circumstances of the BMT without intending to generalize BMT as a whole. The existing data cannot be used as a benchmark as a whole because there is confidentiality of information that is feared to spread the confidentiality of BMT.

KEYNOTES

[1] Environmental survey is conducted by seeing how the personality and behavior of members are on the environment and the condition of the people around the members. Feasibility survey is to see how the efforts of members are. Site survey is to see whether it is the strategic location or not or how the condition of the business location is. Survey of collateral, feasibility and value of collateral

[2] Based on the informants' explanation, re-contract or rescheduling agreement is to renew the contract or pre-contract with the new one without reducing the amount of funds on the loan or that have been received. Furthermore, the contract will be reassembled with the new requirements, which reduce the installment of refund and extend the duration of repayment.

REFERENCES

- [1] Abdul Rahman, R., & Dean , F. Challenges and Solution in Islamic Microfinance. *Humanomics*, Vol. 29, Issue 4 , 293 - 306 . 2013.
- [2] Ahmed, H. Financing Microenterprises : An Analytical Study of Islamic Microfinance Institutions. *Islamic Economies Study*, Vol. 9, No. 2 , 27-64. 2002
- [3] Alamsyah, I. E. *Aset BMT Indonesia Capai Rp 4,7 Triliun*. Retrieved from Republika: www.republika.co.id/berita/ekonomi/Sharia-ekonomi/15/03/22/nlmh1b-aset-bmt-indonesia-capai-rp-47-triliun accessed Tuesday, May 10th, 2016. 2015.
- [4] Ali, Norli, & Abdul Rahman, R. Financing The Poor, Sustaining The Provider : Issue on Transaction Cost In Microfinance Program, *Middle-East Journal Of Scientific Research* 18(4), 512-516. 2013.
- [5] Attanasio, O., Augsburg, B., De Haas, R., Fitzsimons, E., & Harmgart, H. Group Lending or Individual Lending ? Evidence From Randomise Field Experiment in Mongolia. *IFS Working Paper W11/20*, 1-47. 2011.

- [6] Baskara, I. Lembaga Keuangan Mikro Di Indonesia. *Jurnal Buletin Studi Ekonomi*, Vol. 18, No. 2, 114-125. 2013.
- [7] Chaudhry, M. S. *Sistem Ekonomi Islam : Prinsip Dasar. Terjemahan Oleh : Suherman Rosyidi*. Jakarta : Kencana. 2012.
- [8] Darwanto. Strategi Penguatan Microfinance Sharia Berbasis Ekonomi Kelembagaan. *INFERENSI, Jurnal Penelitian Sosial Keagamaan*, Vol. 8, No. 2, 501-522. 2014.
- [9] El-Komi, M., & Croson, R. Efficiency of Islamic Finance Contracts: Microfinance Experiments. *8th International Conference on Islamic Economics and Finance* (pp. 1-22). Doha: Qatar Faculty of Islamic Studies. 2011.
- [10] Ferawati , R., Juanda , B., Syaikat, Y., & Bratakusumah, D. S. Domination of Murabaha Finance of Islamic Microfinance In Developed and Underdeveloped Areas in Bogor Regency. *International Journal of Research in Social Sciences*, Vol. 5, No. 5, 1-18. 2015.
- [11] Furubotn, E. G., & Richter, R. *Institutions & Economic Theory, The Contribution of The New Institutional Economics*, 2nd ed. Ann Arbor: The University of Michigan Press. 2005.
- [12] Gujarati, R. The Role of SME's In The Economic Development . *Masters International Journal of Management Research and Developoment*, Vol. 1, Issue 1, 86-97. 2013.
- [13] Hosseini , S. S., Khaledi, M., Ghorbani, M., & Brewin , D. K. An Analysis Of Transaction Cost Of Obtaining Credits In Rural Iran. *Journal Of Agricultural Science And Technology*, Vol. 14, 243-256. 2012.
- [14] Kar, J. Institutional Credit, Transaction Cost And Informal Sector : A Case Study Of Indian Villages. *The Indian Journal of Labour Economics*, Vol. 53, No. 2, 397-408. 2010.
- [15] Khaled , M. Building a Succesful Business Model For Islamic Microfinance. *Commissioned Workshop Paper*. 2011.
- [16] Khan, A. A. *Islamic Microfinance : Theory, Policy and Practice*. Brimingham: Islamic Relief Worldwide. 2008.
- [17] Kuncoro, M. *Metode Riset untuk Bisnis Dan Ekonomi : Bagaimana Meneliti dan Menulis Tesis ?*. 3.ed. Jakarta: Penerbit Erlangga. 2009.
- [18] Kusuma , M. I., & Darwanto. Pembiayaan Lembaga Keuangan Mikro Sharia Baitul Maal Wa' Tamwil (BMT) Terhadap Usaha Petani Di Kabupaten Cilacap (Studi Kasus : Kecamatan Cilacap Tengah). *Jurnal Ekonomi dan Bisnis Islam*, Vol. 5, No. 2, 882-895. 2015.
- [19] Masyita, D., & Ahmed, H. Why is Growth of Islamic Microfinance Lower Than It's Conventional Counterparts in Indonesia. *Islamic Economic Studies*, Vol. 21, No. 1, 35-62. 2013.
- [20] Neuman, W. L. *Basics of Social Research : Qualitative and Quantitative Approach*, 2. ed. New York: Pearson Education Inc. 2007.
- [21] North, D. C. Transaction Cost, Institutions, And Economic Performance. *Occasional Paper no. 30*, 1-35. 1992.
- [22] Obaidullah, M., & Khan , T. Islamic Microfinance Development : Challenges and Initiatives. *Islamic Development Bank Policy Dialogue Paper No. 2*. 2008.
- [23] Sakti, A. Pemetaan Kondisi dan Potensi BMT : Kemitraan Dalam Rangka Memperluas Pasar & Jangkauan Pelayanan Bank Sharia Kepada Usaha Mikro. *Jurnal Al Muzara'ah*, Vol. 1, No. 1, 1 - 17 . 2013.
- [24] Shankar, S. Transaction Costs in Group Microcredit In India. *Management Decison*, Vol. 45, No. 8, 1331 - 1342. 2007.

- [25] Supranto, J. *Metode Riset : Aplikasi dalam Pemasaran*. Jakarta: Rineka Cipta. 1997.
- [26] Swamy, V., & Tulasimala, B. K. Financial Intermediaries and Economic Development : Evidence on Transaction Cost of Borrowing By The Poor. *International Journal of Banking and Finance*, Vol. 8, Issue 3, 54-72. 2011.
- [27] Wallis, J. J., & North , D. Measuring The Transaction Cost In The American Economy, 1870-1970. Dalam S. L. Engerman, & R. E. Gallman, *Long Term Factors in American Economic Growth* (hal. 95-162). Chicago: University Of Chicago Press. 1986.
- [28] Wang, N. Measuring Transaction Cost : An Incomplete Survey. *Ronald Coase Institute Working Paper Series Number 2*, 1-13. 2003.
- [29] Williamson, O. E. *The Economic Institutions of Capitalism : Firms, Markets, Relations, Contracting*. New York: The Free Press A Division of Macmillan, Inc. 1985.
- [30] Atul K. Shrivastava, Satyam Kumar, Dr. S.K. Kumara Swamy, Anil Midathada and Uday K. Ravella Analysis of The Barriers for Implementin g Green Supply Chain Management (GSCM) Practices on Organic Irrigation: An Interpre tive Structural Modelling (ISM) Approach. *International Journal of Mechanical Engin eering and Technology*, 8(7), 2017, pp. 1446–1456
- [31] M. Charles Dayana and Dr. S. Nadarajan . The Impact of Quality of Work Life Factors on Organisational Excellence Among Employees in Msmes - A Pragmatic Analysis . *Journal of Management* , 4 (2), 2017 , pp. 81 – 86 .
- [32] Dr. S. Nadarajan, M. Charles Dayana , The Impact of Quality of Work Life Factors on Organisational Excellence among Employees in MSMES - A Pragmatic Analysis . *International Journal of Management* , 8 (5), 2017 , pp. 61 – 66
- [33] Green Innovation Capability as Driver of Sustainabl e Competitive Advantages and SMEs Marketing Performance, Elia Ard yan, Andri Nurtantiono, Budi Istiyanto, Ginanjar Rahmawan. *International Journal of Civil Engineering and Technology*, 8(8), 2017, pp. 1114–1122.

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