

EFFECTS OF RECIPIENT BEHAVIOUR TOWARDS MOBILE BANKING PERFORMANCE IN MICROFINANCE INSTITUTIONS

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ABSTRACT

The general agenda of microfinance is to extend financing facilities to the population in rural and remote areas, especially to the poor. However, distance and insufficient infrastructure have always been associated with conditions at remote areas. Access roads and public transportation to most remote areas are seldom maintained and are often in poor shape. These make it difficult for microfinance recipients to commute from their home to the bank. Consequently, this will result in inefficient communication where movement of information becomes slow and easily interrupted. As such, the current study investigates how microfinance recipient behaviour could affect implementation of mobile banking in microfinance institutions (MFIs). As a leading microfinance provider in Malaysia, Amanah Ikhtiar Malaysia (AIM) was selected as a case study for the current study. Usage of the M-Ringgit mobile banking was investigated to look into its current practices as well as recipient behaviour in making repayments using the M-Ringgit. The case findings demonstrate that no matter how sophisticated the M-Ringgit technology is, *sahabats* must be educated enough to use the M-Ringgit. Therefore, by giving M-Ringgit training to *sahabats*, AIM exercises its viceregent duties in ensuring that *sahabats* are capable to use the M-Ringgit.

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INTRODUCTION

The general agenda of microfinance is to extend financing facilities to the population in rural and remote areas, especially to the poor. This group of people have no easy access to banks since they are mostly located in the city. Thus, mobile banking usage is required in dealing with issues relating to distance and infrastructure. Distance and lack of infrastructure have always been associated with conditions at remote areas. Access roads and public transportation to most remote areas are seldom maintained and are often in poor shape. These make it difficult for microfinance recipients to commute from their home to the bank. Consequently, this will result in inefficient communication where movement of information becomes slow and easily interrupted.

Issues of distance and insufficient infrastructure are expected to be resolved if mobile banking is used for microfinance. This is due to the fact that mobile banking is able to convey information faster without any obstacles (The Louis Berger Group Inc., 2011; Senthe 2012; Kauffman & Riggins 2012; Weber 2012). Also, high penetration of mobile phone usage in Malaysia has been discovered in recent years amongst lower income groups in the country. This is added with the support by the Malaysian government through BNM towards mobile banking application, as this application has an ability to offer diverse sets of delivery channels in widening access to financial services in remote areas. Introduction of mobile banking to serve populations in rural areas should therefore be considered seriously to solve the poverty problem in developing countries.

The current study investigates how microfinance recipient behaviour could affect implementation of mobile banking in microfinance institutions (MFIs). As a leading microfinance provider in Malaysia, Amanah Ikhtiar Malaysia (AIM) was selected as a case study for the current study. The usage of mobile banking, known as the M-Ringgit to AIM recipients, is investigated to look into its current practices as well as recipient behaviour in making repayments using the M-Ringgit.

This paper is organized as follows: Section 2 reviews the literature with regard to microfinance and mobile banking. The qualitative case study methodology used in this study is then described in Section 3, while findings from data analysis are discussed in Section 4. Finally, conclusions drawn are provided in Section 5.

LITERATURE REVIEW

Despite the few researches conducted on microfinancing, Mokhtar (2011) argued that the effectiveness of the subsidised microfinance system implemented by Malaysia is not well documented, specifically, on the impacts of microcredit loans on the borrower's microenterprise, household, and the borrower himself. Therefore, a few researches (e.g. Mokhtar, 2011; Mokhtar et al., 2012) studied the determinants of loan repayment problems among TEKUN and YUM borrowers. Empirical results of this study indicated that borrowers' behaviour and microcredit loan's characteristics are among the factors contributing to microcredit loan repayment problems among TEKUN and YUM borrowers in

Malaysia. Hence, it was suggested that banking technologies could become a potential solution to this problem.

Development of mobile technology research (Mohd Daud et al., 2011) evolved from a suggestion that mobile banking will become an important service for banks with the dramatic increase in the number of mobile phone usage among Malaysians. Thus, in ensuring the success of mobile banking as an alternative to internet banking and traditional banking, the development of a robust mobile banking system must be provided to enable effective communication. In other words, failure to address clients' concerns with regard to mobile banking may result in clients not being convinced with the system and thus, wasting the banks' investment in the system. Banks have pursued strategies to encourage their clients to engage in mobile banking as a strong banking industry would be able to support the economic developments significantly through its efficient services. Hence, change from the traditional distribution channel to an electronic distribution channel is a necessity (Mohd Daud et al., 2011).

Subsequently, mobile banking researches (e.g. Masrek, Ahmad Uzir & Khairuddin, 2012; Masrek, Razali, & Omar, 2013) dealt with investigating the relationship between technology trust with mobile banking utilization and the relationship between trustworthiness and mobile banking utilization. Masrek, Ahmad Uzir and Khairuddin (2012) stated that technology trust refers to an individual's willingness to be vulnerable to information technology based on several factors, namely expectations of technology predictability, reliability and utility. However, findings showed that even though the number of retail banks providing mobile banking services has significantly increased, the adoption rate among consumers is still considered very low.

Banking services have the potential to be extended to the poor using mobile technology. Thus, currently, case and field study research is becoming more prominent, allowing researchers to understand the use of mobile banking to streamline loan repayment systems in a microfinance's environment (Kumar, McKay, & Rotman, 2010; Gant, 2012; Senthe, 2012; Weber, 2012; Reeves, 2013). In a similar line, Reeves (2013) advocated that accounting in microfinance institutions is closely associated with banking services. Therefore, this study fills the gap in knowledge by investigating mobile banking usage in streamlining the loan repayment system of AIM.

METHODOLOGY

As the current study is intended to observe behavioural aspects of AIM recipients, known as *sahabat*, in using the M-Ringggit, a qualitative approach seemed to be the best selection. Key success factors in the application of the M-Ringggit depends on human factors in applying accounting systems. Adaptation of quantitative research is hence less suitable to quantify human behaviour, as it cannot be quantified. Based on this, Tobbin (2012) stressed that a qualitative approach is more suitable, particularly on subjective matters which involves feelings, emotions, attitudes, and perceptions. Furthermore, the main objective of a qualitative research is to elucidate motivations and associations underlying the M-Ringggit usage.

Hence, a case study on AIM's M-Ringgit was the best method to obtain the emotional findings of the AIM's officers and the loan recipients. Abd Ghani (2013) had suggested in his paper that a further study should be conducted to analyze the utilisation of the M-Ringgit in streamlining the loan repayment system.

In the context of this study, usage of the M-Ringgit is focused within the ecosystem of the AIM repayment system. A qualitative approach using the single case study method hence seemed to be more appropriate in approaching the M-Ringgit users. Kumar (2012) asserted that a qualitative approach using a single case study enables researchers to present their insights regarding an issue prevalent within an entity, on which the case has been drawn.

AIM was chosen for the single case study site because it is the only full-fledged MFI in Malaysia which has tested mobile banking application in selected branches throughout Malaysia. Another leading MFI in Malaysia is the TEKUN Nasional. Based on confirmation by the executive and accounts clerk of its Monitoring and Loan Repayment department, the TEKUN is not using mobile banking for its loan repayment. On the contrary, the TEKUN is using individual loan repayment systems. This is the reason why AIM was chosen as the case study site.

Yin (2003) acknowledged the sources of evidence in gathering data which are suitable for the study. Techniques in acquiring each type of evidence must be constructed and mastered individually to ensure reliability of each source in contributing to the findings. In the context of this study, there were four techniques utilised, namely interviews, documentary analysis, archival analysis, and non-participatory observation.

FINDINGS AND DISCUSSION

The research objective was to examine how microfinance recipient behaviour could affect implementation of mobile banking in the MFIs. In the context of this study, the accounting process starts after a potential loan recipient has become a *sahabat*. Once becoming a *sahabat*, microfinance financing will be disbursed directly to the *sahabat's* bank account. This will help accountants to show integrity in simplifying and at the same time updating their accounts. This method has been proven to be a safer and more convenient method of loan disbursement. As said by the centre leader:

“Loan given to the sahabat is banked-in straight by AIM to the sahabat's BIMB account. This is not done through the M-Ringgit's process”.

The above excerpt shows that disbursement of financing to *sahabat* does not involve the M-Ringgit process. Cashless transaction, as illustrated by the MarketSpace Components Theory by Turban et al. (2010), involves AIM as a seller which disburses financing to *sahabat*, who are identified as clients. AIM interacts with the front end upon instructing direct transfer of funds to respective accounts of *sahabat*. The back end takes place when the bank, in this case Bank Islam Malaysia Berhad (BIMB), updates AIM's account.

The importance of cashless transaction was raised by Senthe (2012) in lieu of rural communities who are often excluded from financial institutions. They create their own currency storage mechanisms of saving such as storing cash in pots. Subsequently they discover that currencies are subjected to depreciation. Possibility of letting cash to be physically destroyed by vermin, such as rats or insects, is also great. In order to overcome these issues, direct transfer of funds to *sahabat* in AIM will ensure that cash is transferred safely. Additionally, Abd Ghani (2013) asserted that AIM has strived to promote cashless and paperless transactions between them and *sahabat* through the introduction of the M-Ringgit. This can be achieved by creating a platform in order to simplify *sahabat*'s daily systems to become more effective and systematic. An officer from the research and development unit emphasised that the risk of carrying cash could be mitigated by using cashless and paperless transactions as follows:

“For AIM staff, M-Ringgit lessens the burden and risk of carrying cash.”

On similar lines, Kauffman and Riggins (2012) stated that there should be a feasibility of low-cost physical devices and infrastructure for cashless transactions in order to boost financial services to the poor.

According to Senthe (2012), traditionally a loan officer from the MFIs will conduct collection of repayments at either the residence of recipients or during group meetings. Hence, user-driven innovation such as mobile banking would make microfinance as a dynamic mechanism. This can be achieved by enforcing compulsory attendance of group meetings. Otherwise it will create a ‘breakdown in repayment discipline’. Similarly, with AIM, Abd Ghani (2013) stated that weekly meetings are the time where *sahabats* would commit to their weekly repayment based on the group lending method. This is consistent with the view of Kauffman and Riggins (2012), as they contended that in group lending, which is also called joint liability, the MFIs substitute group lending for collateral to reduce risks. The idea of establishing a group based lending method by microfinance organizations was also supported by Reeves (2013), who argued that groups have a positive impact on enforcing repayment.

On the operational side of the M-Ringgit implemented by AIM, a representative for *sahabat* (SR) is responsible for the group's loan repayment, for example a centre in Kuala Selangor. According to the Marketplace Components Theory, the SR acts as an intermediate between AIM and *sahabats* for financing repayment using the M-Ringgit. The SR is a vicegerent to her group members as she is willing to spend her time to help and facilitate her fellow *sahabats* at the centre to conduct the M-Ringgit transactions. The centre leader explained this scenario as follows:

“For this centre, sahabats here opted to pay their loans in groups instead of doing it individually via M-Ringgit process”.

The centre leader added that *sahabats* at that centre have been divided into two bigger groups. The following was explained by the centre leader:

“There are two SRs in this centre. For groups 1 to 6, Kak Saadiah is handling, whilst for groups 7 to 12, I am in charge”.

Therefore, there are two SRs who are responsible to conduct the M-Ringgit transactions for repayment of the two groups' at that particular centre. Repayments made via the M-Ringgit needs to be executed on or before Wednesday each week. This is a regulation made by BIMB, being the other business partner with reference to the Marketplace Components Theory (Turban et al., 2010). The M-Ringgit transactions are not able to be done on Thursdays due to the fact that it will disturb the cut-off date for AIM in updating individual accounts of *sahabats*. If the M-Ringgit transactions failed to be executed on or before Wednesday, cash collection would need to be done manually during the following weekly meeting. As said by the centre leader:

“Every Tuesday during the centre weekly meeting, after the meeting, we collect loan repayment made by sahabats in cash. We then calculate the cash to ensure that the total collection tallies with their repayment schedule. After calculating the total of repayment and if everything is fine, I will bank-in the cash on the following day. Yes, bank-in to my account. The leader for another group will bank-in first to my account. Once the cash is banked-in, I will do i-TAP (BIMB instruction for M-Ringgit) on Wednesday”.

M-Ringgit's cut-off date is explained by AIM accounts manager as follows:

“The example is like this. In this M-Ringgit method, payment for the next weekly meeting will be made this week. The cut-off date is Thursday. Ok, it means that for the next week's payment at today's meeting, sahabat will be given payment schedule by the Amanah (AIM) Officer. Sahabat will pay the amount based on the expected payment given earlier. So on the following week, sahabats just have to verify what they have already paid. Verification of the amount made can be done either through SMS for sahabats using the M-Ringgit, or whatever means of payment which they had done earlier”.

However, before repayments made through the M-Ringgit can be performed, collected cash should first be transferred to the SR's bank account. As such, the SR must be righteous, accountable, and sincere in handling *sahabats*' money. This was expressed by an SR:

“Yes. Money must be firstly transferred to my account. Kak Saadiah who is also an SR, has BSN (Bank Simpanan Nasional) account. That amount must be transferred to my BIMB account. If I am not able to go to BIMB in Sungai Buloh due to time constraint, I have to bank-in the cash to my BSN account and transfer to my BIMB account for i-TAP. That is why charges become RM4.00; that is due to transferring using IBFT (Instant Interbank Fund Transfer) twice”.

Apart from the cost involved during cash transfer, each repayment executed to AIM via the M-Ringgit would cost an additional 10 cents for service charges. If *sahabat* transfers her cash using GIRO IBFT, each transaction will be charged 10 cents. However, if they use IBFT, each transaction will be charged RM2.00. As there is a cost factor involved in the usage of the M-Ringgit, 20 cents is collected from each *sahabat* in order to finance the costs. This is also to cover the cost incurred by the SR, namely petrol charges, bank charges, and other related costs. By showing integrity and righteousness, the SRs would solve the bank

charges issue collectively. This is done through mutual consultation with *sahabats* at the centre. *Sahabats*' willingness to pay for the additional cost as part of their repayment using the M-Ringgit may be able to mitigate risks of handling large amounts of cash by the AIM officer if repayment is done during weekly meetings. As explained by the SR:

“Due to the fact that usually RM4.00 is required for the fund transfer, 20 cents is collected from each sahabat in order to bear for bank charges and also for mileage”.

Recipient Behavioural Aspect of Performing M-Ringgit

In an attempt to address the objective of the current study, findings showed that human factors play an important role within the M-Ringgit process. This is supported by Senthe (2012), who found that human mediation is fundamental in ensuring proper usages of mobile banking. Kauffman and Riggins (2012) also raised the issue on complementary help for ICT-enabled projects to be successful. The issues, among others, are the ability of the microfinance institutions to increase physical access to ICT if certain digital, human, and social resources are lacking.

In considering the importance of human factors, this section discusses the behavioural aspect of clients while executing the M-Ringgit and its performance in streamlining AIM's repayment system. In order to have a closer look at the process, the centre leader was interviewed. The following was explained by the centre leader in lieu of triggering the M-Ringgit process by using mobile phone:

“After I have chosen the mobile banking application from my hand phone, the hand phone screen will require the user to enter the 4 digit pin number. Every sahabat who is using M-Ringgit has a pin number. Once the pin number is entered, the 18 digits code number will be displayed. This code number represents the sahabat. Payment menu to AIM had been set in the hand phone. After the payment has been made, it will display the balance in the account. Everything can be checked through M-Ringgit”.

The above excerpt elaborates the centre leader's response to the process involved using a mobile phone in performing the M-Ringgit transactions. The M-Ringgit application is embedded in *sahabats*' mobile phone by having a special chip affixed to the SIM card of their mobile phone. From the response, it shows that the M-Ringgit process is initiated with the involvement from the front end of the market space components. The back end, as described by Turban et al. (2010), is BIMB's payment gateway.

Another behavioural aspect discovered is that, the centre leader will not change her mobile phone due to the special chip affixed to the SIM card of the mobile phone which she is currently using. The following supports this:

“Everything has been set in the mobile phone as there is a chip attached to the SIM card of the mobile phone. That is why I will not change to other mobile phone”.

The accounts manager was also asked on the behavioural aspect of the *sahabats* in responding to the front end during the M-Ringgit process. This aspect focused on whether the *sahabat* has any phobia in using the M-Ringgit. As explained by the accounts manager:

“I do not know how the situation is actually for the phobia matter. It should be fine, I supposed. But I think it depends on the individual. As some of the sahabats are already old, this will create a problem also for them. Yes phobia, most probably. But this thing as I have said earlier, it is not obligatory for sahabats. It is optional for sahabats as there are alternative payment methods. Whether sahabats pay by cash during centre meeting or they want to go to the bank to make payment, it is up to them to choose any method which is easy for them”.

By relying on the above information, it shows that the *sahabats* are given the option on how to execute the loan repayment. The mode of loan repayment chosen by *sahabats* depends on the *sahabats*' behavioural aspect.

The accounts manager was also asked on the training provided by AIM for the M-Ringgit usage by the *sahabats*. This was stressed by the accounts manager through the following:

“Yes, we indeed give training to the sahabats on technology. Actually, this thing is straight forward. We teach the sahabat once and then they are able to proceed with the M-Ringgit”.

It is hoped that the training will improve the behavioural aspect of the *sahabats* in terms of enhancing their positive reaction towards the M-Ringgit application. It is also envisaged that more *sahabats* would be ready to use and choose the M-Ringgit as the mode of loan repayment due to the positive reaction on the M-Ringgit usage.

Based on behavioural aspect of using the M-Ringgit, the discussion is extended in the next section towards analysing the performance of the M-Ringgit.

Effect of Recipient Behaviour towards Performance of M-Ringgit

AIM introduced the M-Ringgit in 2011 (Abd Ghani, 2013). Ever since then, loan repayment has been made by the *sahabats* in selected centres throughout Malaysia by using the M-Ringgit. This is how the M-Ringgit streamlines AIM's loan repayment system. The total of loan repayment made up to 31st December 2013 is stated by AIM's accounts manager as follows:

“During the three-year implementation period, AIM managed to collect a total of approximately RM361 million through 203,000 transactions made by sahabats by the end of 2013”.

The above excerpt shows the application of a cashless transaction through the M-

Ringgit by AIM. These can be seen by looking at the collection performance of the M-Ringgit in individual years. The evidence is as follows:

“The total number of branches involved with M-Ringgit in 2013 was 24, 33 branches in 2012, and 31 branches in 2011. Branches involved with M-Ringgit loan repayment program are those located near BIMB, which covers 11 regions”.

By looking at the number of branches involved with the M-Ringgit, it indicates that there is an upward trend from 2011 to 2012 but a downward trend from 2012 to 2013. As explained by the accounts manager:

“Last year, 2013 there was a drop in M-Ringgit usage. We started in 2011, there was increase up to 39% in 2012, and then in 2013 it dropped about 61%. Viewing the number of M-Ringgit transactions been performed according to years, about 69,000 were done in 2011, 96,000 for 2012, and 37,000 in the year 2013”.

In addition to the above, he added the following:

“This is the AIM M-Ringgit data by branch. We had 33 branches using M-Ringgit in 2012 but in 2013, the vacant column means that M-Ringgit system had already stopped for those branches”.

On that respect, the accounts manager, who is in charge of financial reporting, was asked about the factors contributing to the declined usage of the M-Ringgit. The following answer was given by the accounts manager:

“The first reason why there is decrease in M-Ringgit usage is due to cases of embezzlement committed by a few sahabat representatives. At first when we introduced M-Ringgit in 2011, a sahabat representative was likely representing a centre. The problems occurred when one of the sahabat representatives committed a fraud. She was supposed to bank-in right to her account the amount she received from sahabat for loan repayment. Unfortunately, the actual fact is she did not transfer from her account to AIM account for loan repayment. However, the embezzlement only happened there, to that particular centre, not all centres. Unfortunately, she did not even pay back the amount. The case was confirmed by AIM Internal Audit Department but no police report been made. However, AIM updated sahabat accounts. The loss was absorbed by AIM and becoming our cost. So that is one reason”.

The above finding raises the issue that malpractice, namely embezzlement, still occurs among some of the sahabat upon the usage of technology. These findings show that human factors are involved directly in the utilization of technology, namely the M-Ringgit. According to Abu-Musa (2006), embezzlement is classified as a crime and it is an intentional man-made disaster. Other intentional acts are fraud, theft, extortion, larceny, and mischief.

Apart from embezzlement, the decrease in mobile banking usage is due to the robbery

faced by the SR. According to Abd Ghani (2013), mistakes, fraud, and robbery are operational challenges faced by AIM. The accounts manager described the situation as follows:

“Secondly, a robbery happened to an SR while travelling to the bank. Unfortunately, before she could manage to bank-in the money to perform M-Ringgit, she was being robbed. The money was gone”.

In view of robbery, Morduch and Graduate (2002) stated that directly supporting agricultural livelihoods such as creating grain or stock banks are an alternative way to combat the challenges of limited cash economies and high inflation. These are the situations where people known to have cash are at risk of robbery. On similar lines, Khaled (n.d.) contended that people who underestimate the value of truth might sometimes even try to imitate untruth, and they are likely to have a lucrative business built on theft, fraud, and deceit. It is worrying that these acts may look like common practice and many people would deem that there is no harm in following suit.

Robbery has impacted AIM by stopping the usage of the M-Ringgit in the branches involved. The accounts manager elaborated more on this in stating branches which have been closed due to the malpractices:

“There are several cases in the North where we had three branches using M-Ringgit which are in Kubang Pasu, Kota Setar, and Perlis. We shut down the places because of cases like this. Immediately we close them in 2012 to stop the centre or branch making collections through M-Ringgit”.

Apart from the issues of malpractices involving the *sahabats*, specifically the the SR, a branch manager also stated the issue of distance between the centre and BIMB branches. The issue of distance is associated with the risk exposed *sahabats* are exposed to in carrying the cash to be banked in to the bank account before the M-Ringgit can be performed. The following is the explanation by the branch manager on distant locations of centres involved with the M-Ringgit:

“Those centres which are situated in or near the town area, in the radius of five km, of course we really promote the usage of M-Ringgit there. But of course in the remote areas, it is very dangerous for them to bring cash and bank in at the town. We do not advise them to do M-Ringgit”.

Senthe (2012) stressed that it is important for microfinance institutions to manage their risk by executing liability allocation with respect to fraudulent or impermissible transactions. Supporting this notion, the centre leader also stressed the risk of carrying a lot of cash by the SR which is explained as follows:

*“Many other centres other than us are not using *sahabat* representative for the purpose of payment through M-Ringgit. By right, each group should be doing the payment through M-Ringgit by themselves. But for this centre, the centre leader is doing it for them. Centre leader got to go to the bank and perform the BIMB's TAP Mobile Banking-i (M-Ringgit) for them. This centre just wants to take it easy by letting the centre leader to do it”.*

Kauffman and Riggins (2012) and Senthe (2012) also discussed the issue of security during the delivery of cash to the bank. For AIM, there have been several concerns regarding the safeguard of cash that are collected in each centre's weekly meetings. The SR's safety while carrying cash to be deposited to BIMB is seldom questioned, more so with the many cases of robbery being reported to the R&D unit of AIM. There are cases that are under investigation by the Royal Malaysian Police. There were also cases of fraud and breach of trust done by the person in charge of handling the M-Ringgit transactions. These worry the recipients, who had put their trust in the SR to handle their money in an honest manner. These worries have been expressed by the centre leader, who is also the SR for that centre:

"We are worried as not all sahabats are sincere. People outside know that the centre leader is carrying a lot of cash to the bank. They have already marked us. I am also afraid of going to the bank".

By analyzing issues of carrying cash to be deposited to BIMB accounts before the execution of the M-Ringgit, the centre leader was asked on the comparison between the conventional modes, i.e. cash collection during the weekly meeting and, the loan repayment made through the M-Ringgit. Thus, the following comment was made by the centre leader:

"It is easier actually, if we perform the loan repayment by cash during the centre meeting. We do not have to go out to the bank and bank-in the cash as it is dangerous".

From the findings, it shows that the main issue of the M-Ringgit faced by the *sahabats* is that money should be there inside the BIMB account first before the M-Ringgit transaction can be performed. As money is not always available in the account, the *sahabats* are facing problems to go to the bank and bank-in the money. The evidence was given by the centre leader as follows:

"It is easier to do the M-Ringgit individually in order to lessen the amount of cash to be carried by the SR. Furthermore, it is easier if we have the money in the BIMB bank so that it will be easier to transfer the payment to AIM's BIMB account".

The accounts manager supported the above view. He added:

"But if for me...honestly I think by using the M-Ringgit, sahabat has got to go to the bank to bank in the money. And then, she got to have a mobile phone and use M-Ringgit to transfer the money. Like having redundancy and doing things twice. Better still if sahabat go to the bank, bank in directly to AIM accounts. No redundancy. And then, there is no charge for SMS".

He also added that it is not an easy task to simplify the M-Ringgit loan repayment process to suit the *sahabats'* circumstances. Performing the loan repayment using the M-Ringgit requires the availability of cash in the *sahabats'* BIMB's account. On that factor, the *sahabats* prefer the conventional method which involves cash and loan repayment being made during the weekly meetings. When asked on the overall opinion of the M-Ringgit, the centre leader said that:

“I feel that M-Ringgit should be abolished. It should be done like last time where we paid by cash during the weekly meeting”.

The accounts manager supported the notion. However, he is of the view that payment by cash during the weekly meeting will expose the Amanah officer (AIM officer) to risk. This is evidenced as follows:

“Payment by cash is easy for sahabats but risky for Amanah officers. For Amanah officers, the risk is high as they will carry a big amount of cash collected from several centre meetings”.

Due to the involvement of risk in carrying cash faced by the AIM officer, the centre leader also suggested the following:

“So in the near future we suggest that sahabat who take a loan of RM20K, bank-in straight their loan repayment to AIM's BIMB account. Especially if the loan repayment amount is RM3,000. It is advisable for her to bank-in straight to AIM's BIMB account individually”.

Another issue of the M-Ringgit is the technical issue, namely 'timing difference' in its implementation. According to the centre leader, the loan repayment amount to be paid for a particular week is actually meant for the following week of the loan repayment schedule. This sometimes creates problems for the *sahabats*. The following explanation was made by the centre leader who supports this:

“We bank-in according to the amount of the total that we should pay next week. At the hand phone, it indicates the total that has been paid via TAP (M-Ringgit). Firstly, we collect the amount that should be paid for next week. Payment to AIM BIMB account through M-Ringgit must be done on Wednesday the latest 12 midnight. M-Ringgit cannot be done on Thursday as the system is closed for that day. The problem is that sahabat who pay this week, is actually meant for payment next week. That is why the amount paid is sometimes not the same as scheduled. The difference is sometimes RM2.00 or RM20.00. The Cikgu (AIM's officer) will collect the difference from the sahabat”.

The transmission line also plays an important factor in usage of the M-Ringgit. As the *sahabats* are staying in rural areas, sometimes the transmission signal is unclear at their homes. The evidence is as follows:

“The telephone line also is sometimes not good. If I fail to do the M-Ringgit on Wednesday due to poor transmission signal at my area, cash got to be collected during the next week meeting”.

Apart from issues raised on M-Ringgit usage in a centre at Kuala Selangor, Selangor, different findings were obtained from the telephone interviews at the selected branches in the East Coast of Malaysia. The notion of conducting telephone interviews was based on the findings of an interview with the accounts manager and the R&D executive at the head office

in Damansara, Kuala Lumpur. They had advised the researcher to interview some of AIM's branches in the East Coast as the usage of M-Ringgit there is still high. The following was said by the accounts manager who supported this:

“Branches that are highly using the M-Ringgit are at Kelantan and Terengganu. It is better if you go and interview them in knowing how they operate”.

Based on the above finding, telephone interviews were conducted with the branch managers of selected branches in the East Coast. This matches the concept elaborated by Yin (2003) where findings on the earlier interview will give input to move on with the subsequent interview. Further telephone interviews were carried out to investigate the high usage of the M-Ringgit in the particular branches.

On that respect, two active branches in Kelantan and two active branches in Terengganu were selected for the telephone interviews. Branches selected for the telephone interviews were based on the report of AIM's M-Ringgit usage. From the report, representatives from these four branches were interviewed as they showed a high usage of the M-Ringgit.

A branch manager of an active branch in Terengganu elaborated the M-Ringgit trend as follows:

“The M-Ringgit usage does not involve the whole centre. Nevertheless, there is high usage of M-Ringgit here. The high usage in 2013 is still the same with this year, 2014. We are not going to stop using M-Ringgit. We are going to continue using it. Altogether, there are 76 centres with one centre dormant. There are 10 blocks and we have one AIM staff in charge for every block”.

The high usage of the M-Ringgit in the East Coast is in line with the view of Kauffman and Riggins (2012) where technology has been seen as an instigator to the microfinance fraternity. Similarly, Kumar, McKay, and Rotman (2010) supported the view by stressing that mobile banking provides clients with the flexibility in executing payments. From the findings of this study, it is shown that mobile banking shortens the duration of the group meetings and decreased the cases of theft or fraud which are beneficial to the microfinance institutions' clients.

CONCLUSION

The main objective of this study was to investigate how microfinance recipient behaviour could affect implementation of mobile banking in microfinance financial institutions (MFIs). The environment such as the nature of an organization's business systems contributes a lot of impact on the accounting systems of that particular organization. To achieve this objective, this study looked at the loan repayment system of AIM.

AIM's business system applies the group lending method as part of its loan repayment method. Researches (e.g. Mokhtar, 2011; Mokhtar et al., 2012) indicated that the unique characteristics of functioning under the theory of group lending, weekly meeting attendance, and peer pressure, has made microfinance an innovation that has lifted millions of people out of poverty. In this method, AIM's *sahabats* are required to attend the weekly meetings where a small amount of weekly repayments are collected by each group leader; number of members in each group ranges from five to twelve. The group lending method has proven to be an effective mechanism for loan repayment. In Malaysia, AIM has shown a far better loan repayment rate (Mokhtar, 2011; Mokhtar et al., 2012) compared to other microfinance institutions in the country such as Tekun and YUM that are using the individual lending method for loan repayment. Furthermore, Senthe (2012) was of the opinion that the group lending method is able to trim down transaction costs.

This study found that loan repayments by group members at AIM can be made either manually (i.e. cash basis) or through the use of the M-Ringgit. It was explained that the M-Ringgit technology requires clients and infrastructure for its operation. In the context of this study, clients refers to *sahabats*. The case findings demonstrate that no matter how sophisticated the M-Ringgit technology is, *sahabats* must be educated enough to use the M-Ringgit. Therefore, by giving M-Ringgit training to *sahabats*, AIM is exercising its vicegerent duties (Abdul Rahman, 2010) in ensuring that *sahabats* are capable to use the M-Ringgit. Case findings demonstrate AIM's M-Ringgit infrastructure by prescribing how *sahabats* interact with the front end (Turban et al., 2010) through their mobile phones using the M-Ringgit application. Once payment has been executed by *sahabats*, the back end process of updating AIM's account will be done by BIMB, AIM's other business partner. Hence, the M-Ringgit infrastructure makes it suitable for the microfinance fraternity to use the technology since the M-Ringgit can be used without having access to the Internet line.

As the application of technology, namely the M-Ringgit, is the core of this research, it is hoped that usage of the M-Ringgit will continue to be the basis for cashless transactions for AIM. The study highlights that the M-Ringgit is able to minimise the risk of handling a large amount of cash by the officers through the reduction of the amount of cash collected from the *sahabats*. Furthermore, the introduction of the latest banking technology to the *sahabats* will enable AIM to increase its operational efficiency, thus creating better opportunities for its sustainable development.

A limitation in this study is the time constraint which did not allow the researcher to interview all *sahabats* and observe the meetings of many more centres. Hence only two centres were selected for the weekly meeting observations and only a limited number of *sahabats* were interviewed. Although this study has limitations, the findings are sufficient for it to suggest future research opportunities on MFIs' accounting information systems.

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