Withdrawal Behavior of Malaysian Islamic Bank Customers: Empirical Evidence from Three Major Issues

By
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Abstract

As interest is prohibited, the reliance of Islamic banking towards bank deposits from depositors is higher than conventional banking. Efforts that could help in preventing funds withdrawal by the depositors thus become necessary in order to avoid bank instability. This study is aimed at investigating factors that may influence the withdrawal behavior of Malaysian Islamic banks customers. The withdrawal behavior studied here is in conjunction with three major issues which are (i) issues of non-shariah compliance, (ii) lower returns as compared to other banks, and (iii) rumors about forthcoming financial crisis that may affect the performance of the bank. The research employed a direct survey through a self-administered questionnaire handed out to Islamic banks customers in Malaysia using the multi-stage sampling technique. The intention to avoid interest, type of account, working status, bank status, and bank ownership are the significant factors that could influence withdrawal behavior in model 1. Working status and bank ownership are the factors which influence withdrawal behavior in model 2. Lastly, for model 3, factors that emerged to be significant are type of account, total deposit in bank, awareness on deposit insurance, intention to avoid interest and perception that Islamic banks are less affected by the crisis.

Keywords: Islamic bank, withdrawal behavior, consumer behavior, Malaysia

1. Introduction

At its inception, the creation of a bank is aimed to serve as an intermediary financial institution which effectively and efficiently connects the surplus group to the deficit groups in order to support the economic activities and growth through effective allocation of resources. Liquidity availability however is indispensable for banks to

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increase and deepen its financial intermediary activities so as to significantly contribute to the development of the economy. Nonetheless, reliance on the shareholders' money per se is obviously insufficient. As such, banks need to attract money from group of people with surplus in the form of deposits. The money collected can then be mobilised for loans or financing activities for people from the deficit group in order to promote productivity and economic growth.

In fact, in the case of Islamic banking, Abduh et al. (2011) explained that since interest is forbidden in Islam, the flexibility of Islamic banks in obtaining funds to cover their expenses and financing is limited. For that reason, deposits are even more important for Islamic banks compared to conventional banks. Consequently, to maintain their stability, serious attention towards factors affecting fluctuation in total deposits become imperative for Islamic banks.

There are studies like Haron and Ahmad (2000), Haron and Azmi (2008), Kasim et al. (2009), Kasri and Kasim (2009), and Abduh et al. (2011) which had utilized econometrics models to uncover the relationship between the fluctuation of the total deposit in Islamic banking with the macroeconomic and industry specific variables. However, those studies had neglected the role of the customers as the main player in Islamic banking industry. The customers become so important because the fluctuation of the total deposits solely relies upon their final decision either to withdraw or not to withdraw when they encounter unpleasant situations.

Therefore, this study differs from previous studies mentioned above in the sense that it does not utilize macroeconomic nor industry specific variables. It explores the role of individual factors of the customers towards their decision, to or not to withdraw their deposits when they encounter three major issues i.e. (i) issues of non-shariah compliance, (ii) lower returns as compared to other banks, and (iii) rumors of a financial crisis that may affect the bank in the near future. Thus, the main objective of this study is to examine the effects of individual factors or characteristics upon the intention of deposit withdrawal.

2. Literature Review

According to Bolton and Bronkhurst (1995), the definition of switching behavior is the decision of a customer to stop purchasing particular services or patronizing the service completely. To date, the term switching behavior is used interchangeably with withdrawal behavior. However, Ahmed (2002) argued that the term withdrawal behavior is more appropriate to be used in Islamic banking framework due to the fact that Islamic banking has two types of customers - those who have Islamic bank account only and those who have Islamic and conventional accounts at the same time. For those customers with Islamic banking account only, switching to conventional banks is not an option as it against their faith, and thus the term withdrawal behavior is better to be used here. One of the common scenarios of withdrawal behavior in Islamic banking is that when customers found failure of Islamic banks to generate enough income that at least matches the level of interest rate in conventional banks and service charges are too high, they withdraw their funds which result in the decrement of the total deposits (Ismal, 2011).

The discussion of switching behavior is pioneered by Keaveney (1995) who then created a model which contained eight switching incidents. Those incidents are pricing, inconvenience, core service failures, service encounter failures, employee responses to

service failures, attraction by competitors, ethical problems, and involuntary switching plus seldom-mentioned incidents. Other studies, such as Colgate et al. (1996), Colgate and Hedge (2001) and Gerard and Cunningham (2004) have shown reasons why their respondents switched between banks. For instance, instead of having all eight factors to be significant, Colgate and Hedge (2001) and Gerard and Cunningham (2004) found that only pricing, service failures, and inconvenience are the significant factors which cause customers to switch between banks.

While numerous studies have been done in switching behavior area, the number of studies in withdrawal behavior is still limited. Ahmed (2002) and Ahmed (2003) are amongst the first studies in the area of depositors' withdrawal behavior in Islamic banking. Similar to what has been explained by Currie (2004) in the case of conventional banks, their findings indicated that, lower rate of return and higher service charges are the main factors that drive customers to withdraw their funds from Islamic banks. Ahmed (2003) added that other factors which were considered important in influencing withdrawal behavior of Islamic banks' customers are rumors regarding poor performance of the banks, issues related to violation of Shariah compliance procedures, and involvement in interest based income.

Abduh (2011) conducted a direct survey toward Islamic bank customers using self-administered questionnaires in Jakarta, Indonesia. Using modified SERVQUAL model and importance-performance analysis, the study concluded that Islamic bank customers are likely to withdraw their fund and if possible switch to other banks when they are not satisfy with the performance of the most important dimensions of Islamic bank service quality namely: *shariah*-aspect, tangible, and reliability.

Due to the customers' intention to protect the real value of their assets, there is withdrawal possibility in situation whereby Islamic banks are experiencing lower rate of return (Ahmed, 2002). Currie (2004) and Ismal (2011) had confirmed the importance of this aspect. However, Ahmed (2003) and Abduh (2011) provided evidence that lower rate of return is not the only cause of withdrawal action. There is also higher likelihood of customers to withdraw when there is a core service failure such as violation in Shariah principles in products and services. Since *Shariah* compliance is the main characteristic that differentiate Islamic banks from its conventional counterparts, this finding is also in line with the conclusion from Zang et al (2007). Lastly, Lambert and Simon(2000), Takemura and Kozu(2009) and Yada *et al* (2009) found that rumors in the media relating to financial or banking crisis could also trigger customers to withdraw their money.

Therefore, for an Islamic bank to be able to maintain a stable and sound condition, the implementation of risk analysis and risk management are necessary, particularly with regard to deposit withdrawal risk. One of the best ways to mitigate withdrawal risk is by having information about customers' withdrawal behavior.

In view of what has been discussed in the literatures, this study focuses on three important aspects of what can cause withdrawal action which are Shariah non-compliant issues (Ahmed, 2003; Zang et al, 2007; Abduh, 2011), lower rate of return (Ahmed, 2002; Currie, 2004; Ismal, 2011) and rumors about financial/banking crisis happening in the near future that may affect the bank (Lambert and Simon, 2000; Takemura and Kozu, 2009; Yada et al, 2009).

This study differs from previous studies such that it uses three different aspects resulted from previous studies as the situation which could trigger the withdrawal action

by Islamic bank customers. Afterwards, it examines the individual factors that may influence the respondent's withdrawal behavior under those three situations. Therefore, the following research questions (RQ) are developed:

RQ1: What factors could influence the customers to withdraw their deposits when they encounter Shariah non-compliance issues?

RQ2: What factors could influence the customers to withdraw their deposits when they receive lower rate of return?

RQ3: What factors could influence the customers to withdraw their deposits when they hear rumors about financial/banking crisis happening in the near future that may affect the bank?

3. Data and RESEARCH Method

3.1 Data

Data used in this study are obtained from Islamic bank customers through a self-administered questionnaire. In total, 450 questionnaires were distributed to the respondents; however, after selecting those questionnaires that are properly filled, this study eventually uses data from 368 respondents.

Table 1: Dependent Variables in Binary Logit Model

Variable	Description	Response
Y1	My Islamic bank is found to be practicing non-*Shariah* compliance products and services.	1 = I will withdraw 0 = I will not withdraw
Y2	Uncompetitive rate of return given by my Islamic bank	1 = I will withdraw 0 = I will not withdraw
Y3	There are rumors that a banking crisis will happen in the near future and I worry that my Islamic bank will be affected	1 = I will withdraw 0 = I will not withdraw

3.2 Variables

This study aims to uncover the individual factors that may lead Islamic bank customers to withdraw their money due to: (i) non-*Shariah* compliance related issues, (ii) a lower rate of return compared with other Islamic banks and conventional banks, and (iii) rumors that a banking crisis will occur in the near future that may affect the bank. The explanations of the dependent and independent variables are provided in table 1 and table 2 respectively.

Table 2: Independent Variables in Binary Logit Model

X1	:	Type of account (1 = Investment account; 0 = Otherwise)
X2	:	Amount of money deposited (1 = more than RM10 thousands; 0 = Otherwise)
X3	:	Time period of being an Islamic bank customer (1 = 3 years and above; 0 = Otherwise)
X4	:	Working status (1 = an employee; 0 = Otherwise)
X5	:	Using internet banking (1 = Yes; 0 = No)
X6	:	Bank status (1 = Full-fledged; 0 = Subsidiary)

X7	:	Bank ownership (1 = Local; 0 = Foreign)
X8	:	Having an account in conventional bank (1 = Yes; 0 = No)
X9	:	For those who have account in conventional bank, which statement is true? (1 = Most of my money deposited in conventional bank; 0 = Otherwise)
X10	:	Awareness upon deposit insurance (1 = Aware; 0 = Not aware)
X11	:	Competitive rate of return is the main reason in patronizing with an Islamic bank? (1 = Yes; 0 = No)
X12	:	To avoid bank interest is the main reason in patronizing an Islamic bank? (1 = Yes; 0 = No)
X13	:	Believing that Islamic banks are less affected towards banking crisis is the main reason in patronizing an Islamic bank? (1 = Yes; 0 = No)

3.3 Logistic Regression

Regression analysis (OLS) has become an important method of inferential statistics used with any data analysis that seek to describe the relationship between a response variable and one or more explanatory variables. Extant researches employed this technique either as an analytical tool to cut into pieces the cake of data or to develop a new advanced technique based upon OLS ideas and therefore can be applied in a particular circumstance.

Amongst the techniques developed under the regression analysis framework is logistic regression. Hosmer and Lemeshow (2000) and Studenmund (2006) enlightened what distinguishes a logistic regression model from the OLS model. The outcome variable in logistic regression is *binary* or *dichotomous*, whereas in OLS, it is a continuous numerical data. It is an estimation technique suitable for equations with dummy dependent variables that avoids the unboundedness problem of the linear probability model by using a variant of the cumulative logistic function.

3.4 Model specification

There are a number of distribution models that are suggested to be used in the analysis of a dichotomous dependent variable. However, the logistic model is the most widely used by researchers worldwide. Hosmerand Lemeshow (2000) mentioned two primary reasons for choosing the logistic distribution. Firstly, from a mathematical point of view, it is an extremely flexible and easily used function. Secondly, it lends itself to a clinically meaningful interpretation.

In linear regression, it is assumed that the mean may be expressed as a linear equation in x (or some transformation of x or Y), such as

$$E(Y \mid x) = \beta_0 + \beta_1 x \qquad (1)$$

This expression shows that it is possible for $E(Y \mid x)$ to take any value as x ranges between -∞ and +∞. However, in the logistic regression model, the specific model used is:

$$E(Y \mid x) = \pi(x) = \frac{e^{\beta_0+\beta_1 x}}{1+e^{\beta_0+\beta_1 x}} \qquad (2)$$

where, e = euler's number (2.7183)

π_x = function of x in logit model

And in order to give a meaningful interpretation, $E(Y \mid x)$ is transformed with *logit transformation* to become:

$$g(x) = \ln\left[\frac{\pi(x)}{1-\pi(x)}\right] = \beta_0 + \beta_1 x \quad (3)$$

The significance of this transformation is that $g(x)$ now has many of the desirable properties of a linear regression model. The logit, $g(x)$ is now linear to its parameter. Hence, the relationship of dependent – independent variables in this study is expressed in the following equations:

$$p = \exp[a + b_1 x_1 + b_2 x_2 + ... + b_{13} x_{13}] / (1 + [a + b_1 x_1 + b_2 x_2 + ... + b_{13} x_{13}]) \quad (4)$$

$$\log(p / 1 - p) = a + b_1 x_1 + b_2 x_2 + ... + b_{13} x_{13} \quad (5)$$

3.5 Fitting the Logistic Regression Model

In linear regression, the method used most often for estimating unknown parameters is the least squares method. In that method, concisely, values of β_0 and β_1 which minimize the sum of squared deviations of the observed values of Y from the predicted values based upon the model are selected. It is proven that the least squares method produces estimators with a number of desirable statistical properties. Unfortunately, this does not work with a dichotomous outcome model.

In a model with a dichotomous response as the dependent variable, the Maximum Likelihood Estimation (MLE) is used. The difference is that, while the least squares method seeks to minimize the sum of squared distances of the data points to the regression line, the MLE method seeks to maximize the log-likelihood. This MLE method reflects on how likely are the observed values of the dependent and may be predicted from the observed values of the independents.

Since likelihood is a probability, its values vary from 0 to 1. The log-likelihood is the log of the probability and its value varies from 0 to minus infinity because the log of any number less than 1 is negative. The log-likelihood is calculated through iteration, using the maximum likelihood estimation (Garson, 2010). The log-likelihood tests the significance of the researcher's model as a whole. In presenting information on the log-likelihood, statistical packages usually present not the log-likelihood itself but the log-likelihood multiplied by -2. The reason for this is that, the log-likelihood approximately has a Chi-square distribution when multiplied by -2 (Menard, 1995). A finding that is significant leads to the rejection of the null hypothesis which states that, all of the predictor effects are zero. In other words, if this likelihood test is significant, at least one of the predictors is significantly related to the dependent variable.

In assessing the significance of the independent variables that can be included in the model, the guiding principle is to compare observed values of the response variable to predicted values obtained from models with and without the variable question (Hosmer and Lemeshow, 2000).

$$G = -2\ln\left[\frac{(likelihood - without - the - \text{var}iable)}{(likelihood - with - the - \text{var}iable)}\right] \quad (6)$$

A non-significant likelihood ratio test indicates no difference between the full and the reduced models. Hence, it will justify the dropping of the given variable in order to have a thriftier model that works just as well. On the other hand, for the significant variables, the larger the chi-square value, the greater the loss of model fit if that term is dropped (Garson, 2010).

Table 3: Descriptive Statistics of Demography and Independent Variables

Variable	Category	Possessing Conventional Account				Total
		No (n=142)		Yes (n=226)		
		Freq.	%	Freq.	%	
Gender	Female	88	40.93	127	59.07	215
	Male	54	35.29	99	64.71	153
Age	<=35y	117	41.34	166	58.66	283
	>35y	25	29.41	60	70.59	85
Marital	Not Married	92	46.94	104	53.06	196
	Married	50	29.07	122	70.93	172
Level of Education	Diploma and below	17	27.87	44	72.13	61
	Undergraduate	26	35.62	47	64.38	73
	Postgraduate	99	42.31	135	57.69	234
Working Status	Non-employee	75	44.38	94	55.62	169
	Employee	67	33.67	132	66.33	199
Income	< RM1000	49	47.12	55	52.88	104
	RM1000 – RM5000	75	39.68	114	60.32	189
	RM5001 – RM10,000	11	21.57	40	78.43	51
	RM10,001 – RM20,000	6	40.00	9	60.00	15
	> RM20,000	1	11.11	8	88.89	9
Period of patronizing Islamic bank	< = 3 years	71	44.10	90	55.90	161
	> 3 years	71	34.30	136	65.70	207
Bank's Status	Subsidiary	47	34.56	89	65.44	136
	Full-fledged	95	40.95	137	59.05	232
Bank's Ownership	Foreign	23	34.85	43	65.15	66
	Local	119	39.40	183	60.60	302
Deposit Insurance	Don't know	65	41.67	91	58.33	156
	Know	77	36.32	135	63.68	212
Interaction with patronized bank	More than once per-month	96	37.21	162	62.79	258
	Once every month	46	41.82	64	58.18	110
Internet Banking	Don't use	100	40.98	144	59.02	244
	Use	42	33.87	82	66.13	124

4. Results

4.1 Descriptive Statistic

The total number of questionnaires involved in this analysis is 368 with a distribution of 215 (58.43%) and 153 (41.57%) for female and male respondents respectively. As many as 283 (76.9%) respondents are young-potential customers with the age of 35 years and below while the remaining 85 (23.1%) respondents are customers whose age is above 35 years. Meanwhile, 196 (53.26%) of the respondents are married and 172 (46.73%) aren't. In terms of level of education, most of respondents are postgraduate degree holders (63.58%), followed by undergraduate degree holders (19.84%) and diploma degree holder or below being the least represented (16.58%).

Besides, Table 3 above shows that low and middle income individuals dominate the number of respondents in this study. About 104 (28.26%) of the respondents are people with an average monthly income of below RM1000 and 189 (51.36%) of the respondents are people with an average monthly income within the range of RM1000 to RM5000. Only 20 percent from the total respondents possess an average monthly income above RM5000.

In the present banking system, deposit insurance is one of the important features of all banks. It covers up to a certain amount of deposit money to be paid back to customers if their respective banks go bankrupt. Although this is a very important matter in the current banking system, however not every customer is well-informed about the details of deposit insurance i.e. total deposit covered and claim mechanisms. In this study, only 212 (57.61%) respondents are aware about deposit insurance, while the remaining 156 (42.39%) respondents are the opposite.

With regard to the intensity of interaction with their respective Islamic banks, as many as 258 (70.11%) respondents interact more than once every month on average while another 110 (29.89%) interact only once in every month. In addition, only few of the customers use the internet banking facility. Only 124 (33.69%) respondents respond positively, while the remaining 244 (66.31%) respondents respond negatively.

4.2 Logit Models

4.2.1 Model 1: Shariah Non-compliant

For Model 1 where Y1 is non-*Shariah* compliance, the significant predictors are type of account X1(1), working status X4(1), bank status X6(1), bank ownership X7(1), and the main reason of patronizing Islamic bank is to avoid *riba*X12(1). In addition, its Nagelkerke R-Square is 0.57, its Hosmer-Lemeshow Test is 8.49, and its classification is 88.7% correct. The Nagelkerke R-Square is similar to the R-square in OLS and it indicates that 57% of variation in Y1 can be explained by the predictors. The Hosmer-Lemeshow test is like the F-test in ANOVA of regression, which is to measure the goodness of fit of the overall model. The null hypothesis of the Hosmer-Lemeshow test is that 'the model fits the data'. Therefore, since the Hosmer-Lemeshow statistics is not significant, it can be concluded that the hypothesis of 'model fits the data' cannot be rejected statistically. In term of the result of classification, it can be said that, by using the significant predictors, discriminating methods developed by the logit model can classify the variation in Y1 correctly as high as 88.7%, which can be considered as very good.

4.2.2 Model 2: Uncompetitive Rate of Return

In Model 2, only working status (X4) and bank ownership (X7) are significantly affecting withdrawal behavior due to uncompetitive rate of returns. Positive relationship of X4(1) denotes that employees have a tendency to withdraw their fund from Islamic banks due to an uncompetitive rate of return as compared to non-employees. This is consistent with the findings in previous models that show a negative relationship of employee (X4(1)) with *Shariah*-compliant related issues (Y1).

The Nagelkerke R-Square of 0.209 indicates that 20.9 percent of variation in Y2 can be explained by the model. The Hosmer-Lemeshow goodness of fit test of 12.185 indicates that the model is acceptable. With regard to the classification method, Model 2 can classify 71.8% of observations correctly.

4.2.3 Model 3: Rumor about Banking Crisis in the Near Future that will affect the Islamic bank

From Table 4, there are five explanatory variables that are significant in model 3 i.e. type of account (X1), total deposits (X2), awareness on deposit insurance (X10), reason is "to avoid riba" (X12) and reason is "Islamic bank is less affected by banking crisis" (X13). Estimated coefficient for X1(1), X10(1), X12(1) and X13(1) is negatively correlated with Y3 which indicates that the reference category of these variables will reduce the log-odds of the model.

The model fit measurement indicates that the model fits the data and approximately 71.5 percent of variation in Y3 can be explained by the model. Moreover, 86.6 percent of the observations can be classified correctly, which is a very good classification process.

Table 4: Estimated Coefficients (β) and Odd-ratios (Exp(β)) for All Logit models

Variable	Y1 = Non-*Shariah* compliance (1 = will withdraw)		Y2 = Uncompetitive Rate of Return (1 = will withdraw)		Y3 = Rumor about Banking Crisis (1 = will withdraw)	
	β	Exp(β)	β	Exp(β)	β	Exp(β)
X1(1) (Investment acc.)	2.55**	12.82	-0.53	0.59	-1.96*	0.14
X2(1) (deposit > RM 10K)	-0.37	0.69	0.73	2.08	2.28*	9.79
X3(1) (IB cust. > 3 years)	-0.58	0.56	-0.06	0.94	0.78	2.19
X4(1) (Employee)	-2.25**	0.09	1.54***	4.66	0.13	1.14
X5(1) (Use Internet Banking)	1.35	3.87	0.47	1.61	0.06	1.06
X6(1) (Full-fledged IB)	4.20***	66.75	-0.35	0.71	-1.08	0.34
X7(1) (Local IB)	3.62***	37.16	-0.97*	0.38	-0.76	0.47
X10(1) (Aware Deposit Ins.)	N/A	N/A	N/A	N/A	-4.58***	0.01
X11(1) (Main reason: return)	0.09	1.10	0.12	1.12	0.19	1.20
X12(1) (Main reason: no Riba)	1.56**	4.74	-0.29	0.75	-1.27**	0.28
X13(1) (Main reason: less affected by banking crisis)	0.19	1.22	-0.18	0.84	-1.83***	0.16
Nagelkerke R-Square	0.57		0.209		0.715	
Hosmer-Lemeshow Test (Chi-Square)	8.49		12.185		5.298	
Correctly Classified (%)	88.7		71.8		86.6	

Note. * significant at alpha 10%; ** significant at alpha 5%; *** significant at alpha 1%.
IB = Islamic Banking.

5. Discussion

From the descriptive analysis results, it is believed that the respondents are well familiar with Islamic banking and they may have already possessed basic knowledge on Islamic banking principles and products. This is due to the fact that most of the respondents are already customers of Islamic banks for more than three years (56.25%). About half of the respondents patronized full-fledged Islamic banks and 82 percent of the respondents had chosen local Islamic banks instead of foreign Islamic banks. This, somehow, shows that people are trying to support their local bank to grow and develop particularly in term of assets size.

For Model 1, the directions of relationships between dependent and significant independent variables reveal quite an interesting result. For X1(1), investment account holders tend to make a withdrawal with a probability of 12.82 times higher as compared to non-investment account holders e.g. saving account. This indicates that investment account holders are really concerned about the *Shariah*-compliance of their investments and any breach committed by bank will destroy their trust, thus motivating them to withdraw their funds. Variables X6(1), X7(1) and X12(1) also significantly influence the withdrawal behavior in Model 1 positively. This indicates that customers who consider avoiding *riba*, patronizing full-fledged Islamic banks, and choose local Islamic banks will have higher probability to withdraw their money when their Islamic banks breach *Shariah* principles as compared to customers that have opposite characteristics. These findings support the results found by Ahmed (2003) and Abduh (2011).

Negative relationship for X4(1) will reduce the log-odds of the model. In term of the odds ratio of 0.09, it indicates that the probability of employees to withdraw because of the violation of *Shariah* principles is only 0.09 as compared to non-employee customers. In other words, the probability of non-employee customers to withdraw due to this situation is 11 (i.e. 1/0.09) times greater than employees.

In Model 2, negative and significant relationship between X7(1) and Y2 shows that local Islamic bank customers have less probability to withdraw if the Islamic bank that they patronize cannot give them a competitive return for several periods. The probability of foreign Islamic bank customers to withdraw is 2.63 (i.e. 1/0.38) times compared to local Islamic bank customers. The reason for this is perhaps due to people who had patronized foreign Islamic banks assumed that foreign banks are more stable, thus resulting in them to expect a higher return as compared to local Islamic banks. However, when they realized that their bank could not fulfill their expectation for certain periods they would rather move to other banks instead of staying with the current bank. This result supports findings from Ahmed (2002), Currie (2004), and Ismal (2011).

Lastly, Model 3 presents the result for X1(1) which indicates that those with investment accounts are more reluctant to withdraw deposits due to the rumor of banking crisis that may affect the respective Islamic bank. In contrast, the likelihood of other account holders (e.g. savings account) to withdraw due to this rumor is 7.14 (i.e. 1/0.14) times greater as compared to investment account holders. A similar relationship applies to X10(1), X12(1) and X13(1). Customers who are not aware of deposit insurance (X10) have a probability to withdraw in equivalent of 100 (i.e. 1/0.01) times greater than those who are aware about deposit insurance. This result supports findings from Lambert and Simon (2000), Takemura and Kozu (2009), and Yada et al (2009). It will also strengthen the argument that media can significantly influence someone's decision when they have not enough information or awareness regarding the issue.

Customers who attempt to avoid bank interest (X12(1)) as well as those who indicated 'less affected by banking crisis' as their main reason in patronizing Islamic bank (X13(1)) also have less probability to withdraw because of the banking crisis rumors. However, as anticipated, large fund customers (X2(1)) have a greater possibility to withdraw as compared to small fund customers of up to almost 10 times. One of the implications from these results is that Islamic banks and regulators should have educational and awareness program for the public on certain issues, particularly the issue of Islamic banking resilient towards banking crisis. Other important issues such as the similarities and dissimilarities between Islamic and conventional banks, basic intention of the Islamic contracts, and deposit insurance are also necessary to be informed to the public.

6. Conclusion

This study discusses factors affecting withdrawal behavior of Islamic bank customers based on the logistic regression model framework for three different dependent variables i.e. non Shariah compliance, uncompetitive returns, and rumor on a banking crisis happening in the near future that will affect the bank.

Model 1 confirms that intention to avoid bank interest (X12), type of account (X1), working status (X4), bank status (X6) and bank ownership (X7) are the factors that influence withdrawal behavior due to violation in *Shariah* principles by the bank. In Model 2, only the working status (X4) and bank ownership (X7) are significantly affecting withdrawal decision of the customers. Lastly, for Model 3, type of account (X1), total deposit in bank (X2), awareness on deposit insurance (X10), intention to avoid bank interest (X12) and perceiving that Islamic banks are less affected by banking crisis (X13) are the significant factors influencing withdrawal decision of the customers. As a contribution, these models can be used by bankers and academia to predict the withdrawal probability of one Islamic bank customer by collecting the required information in the model.

As a limitation of this study, it incorporates only individual customers who have an Islamic banking account only. Therefore, in order to enhance the analysis, suggestions for future researches are: (i) to include the corporate customers and (ii) those who have accounts in Islamic as well as conventional banks.

References

Abduh, M. (2011). Islamic banking service quality and withdrawal risk: The Indonesian experience. *International Journal of Excellence in Islamic Banking Finance*, 1(2), 1-15.

Abduh, M., Omar, M. A., & Duasa, J. (2011).The impact of crisis and macroeconomic variables towards Islamic banking deposits. *American Journal of Applied Science*. 8(12), 1413-1418.

Ahmed, H. (2002). *A Microeconomic Model of an Islamic Bank*.Jeddah: Islamic Research and Training Institute.

Ahmed, H. (2003). Withdrawal risk in Islamic banks, market discipline and bank stability. Proceedings of the International Conference on Islamic Banking: Risk Management, Regulation and Supervision, September 13-14, 2003, Jakarta, Indonesia.

Bolton, R.N. &Bronkhurst, T.M. (1995).The relationship between customer complaints to the firm and subsequent exit behavior.*Advances in Consumer Research*, 22, 92-100.

Colgate, M. &Hedge, R. (2001).An investigation into the switching process in retail banking services.*International Journal of Bank Marketing*, 19(5), 201 - 212

Colgate, M., Stewart, K., &Kinsella, R. (1996). Customer defection: a study of the student market in Ireland. *International Journal of Bank Marketing*, 14(3), 23-29.

Currie, L. (2004).The behavior of deposits.*Journal of Economic Studies*, 31, 340-346.

Garson, G.D. (2010). *Logistic Regression*.North Carolina: College of Humanities and Social Sciences, North Carolina State University.

Gerard, P.&Cunningham, J.B. (2004).Consumer switching behavior in the Asian banking market.*Journal of Services Marketing*, 18(3), 215-223.

Haron, S. & Ahmad, N. (2000). The effects of conventional interest rates and rate of profit on funds deposited with Islamic banking system in Malaysia. *International Journal of Islamic Financial Services*, 1, 1-7.

Haron, S. &Azmi, W.N.W. (2008).Determinants of Islamic and conventional deposits in the Malaysian banking system.*Managerial Finance*, 34, 618-643.

Hosmer Jr., D.W. &Lemeshow, S. (2000). *Applied Logistic Regression* (1st Edn.). New York: John Wiley and Sons.

Ismal, R. (2011). Depositors' withdrawal behavior in Islamic banking: Case of Indonesia. *Humanomics*, 27, 61-76.

Kasim, S.H., Majid, M.S.A. &Yusof, R.M. (2009). Impact of monetary policy shocks on the conventional and Islamic banks in a dual banking system: Evidence from Malaysia. *Journal of Economic Cooperative Development*, 30, 41-58.

Kasri, R. &Kassim, S.H. (2009). Empirical determinants of saving in the Islamic banks: Evidence from Indonesia. *Journal of King Abdulaziz University: Islamic Economics*, 22, 181-201.

Keaveney, S. (1995). Customer switching behaviour in service industries: An exploratory study. *Journal of Marketing*, 59(2), 71-82.

Lambert, R.B. & Simon, A. (2000).An ideal regulatory model for dealing with retail financial institution runs and failures. *Journal of Financial Regulation and Compliance*, 8, 309-325.

Menard, S. (1995).*Applied Logistic Regression Analysis*. California: SAGE Publications.

Studenmund, A.H. (2006). *Using Econometrics: A Practical Guide* (5th Edn.). New York: Pearson Education Inc.

Takemura, T. &Kozu, T. (2009). An empirical analysis on individuals' deposit-withdrawal behaviors using data collected through a web-based survey. *Eurasian Journal of Business and Economics*, 2, 27-41.

Yada, K., Washio, T., Ukai, Y.,&Nagaoka, H. (2009). Modeling bank runs in financial crises. *Review of Socionetwork Strategies*, 3, 19-31.

Zang, R., Wang, K., Chen, K., &Rong, R. (2007). Customer switching intention in service industries and the effect of customer perceived value. Proceedings of the IEEE International Conference on Service Operations and Logistics and Informatics, August 27-29, 2007, Philadelphia, PA., USA..