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The Role of *Ar-Rahn* in Enhancing Financial Inclusion: A Structural Equation Modeling Approach

(*Peranan Ar-Rahnu dalam Meningkatkan Inklusif Kewangan: Suatu Pendekatan Permodelan Persamaan Berstruktur*)

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ABSTRACT

This study examines the relationship between financial inclusion and the adoption of ar-rahn financing in enhancing the well-being of its customers throughout Malaysia. Data distributed via questionnaire to 239 respondents were analyzed using descriptive and structural equation modeling. The results indicate that there is a positive relationship between financial inclusion and ar-rahn's financing adoption. In addition, the adoption of ar-rahn among customers improves the well-being of individuals and society. This paper contributes to the existing literatures and provide new insights on how financial inclusion could increase the adoption of ar-rahn financing and consequently the individual and societal well-being.

Keywords: Financial inclusion; ar-rahn adoption; individual well-being; societal well-being.

ABSTRAK

Kajian ini menganalisis hubungan yang wujud antara inklusif kewangan dan penggunaan pembiayaan ar-rahnu dalam meningkatkan kesejahteraan pengguna seluruh Malaysia. Data yang diedar melalui soal selidik kepada 239 responden dianalisis menggunakan model persamaan struktur. Keputusan kajian menunjukkan terdapat hubungan yang positif antara inklusif kewangan dan penggunaan pembiayaan ar-rahnu. Selain itu, penggunaan pembiayaan ar-rahnu juga meningkatkan kesejahteraan individu dan masyarakat. Kajian ini menyumbang kepada literatur sedia ada dan pandangan baharu bagaimana inklusif kewangan mampu meningkatkan penggunaan pembiayaan ar-rahnu dan seterusnya kesejahteraan individu dan masyarakat.

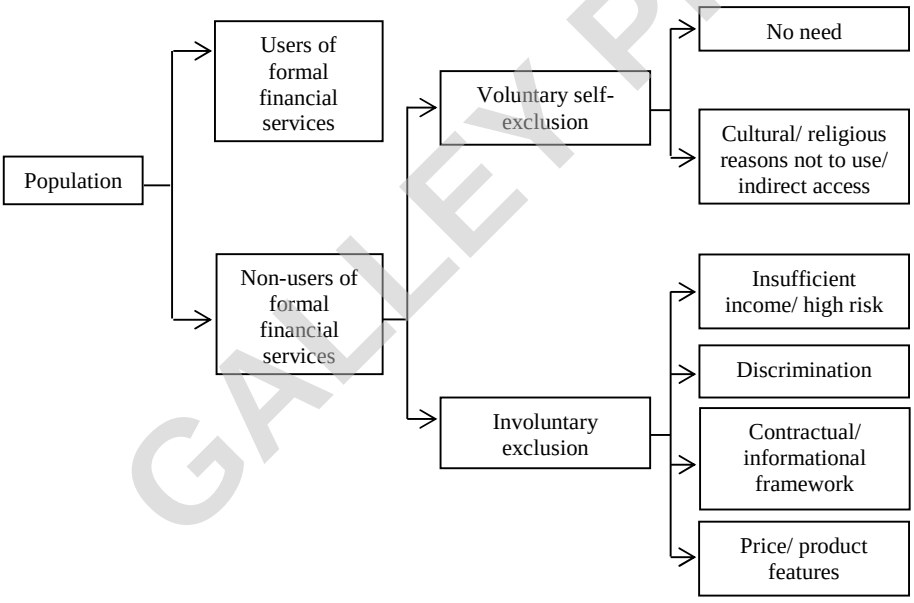
Kata kunci: Inklusif kewangan; penggunaan ar-rahnu; kesejahteraan individu; kesejahteraan masyarakat.

INTRODUCTION

Inclusive and sustainable development, greater collective access to wealth, poverty reduction and improvement in individuals' well-being can all stem from financial inclusion. Focuses and aims in relation to financial inclusion have been devised by fifty countries, while facilitating financial inclusion is incorporated into the responsibilities of around two-thirds of monitoring and governance bodies (World Bank 2014). Moreover, by 2020 global financial access has been set as a target by the World Bank. Following this goal, policymakers

increasingly promote financial inclusion as a priority, especially in emerging economies, where access to financial services tends to lag behind that of advanced economies.

The importance of financial inclusion cannot be underestimated, as it facilitates the access of low-income households/firms to finance and formal financial institutions to benefit from opportunities, including safer payment systems that are facilitated by mainstream financial providers (United Nations 2006). Alternatively, those who are financially excluded will have to rely on informal finance or non-bank financing institutions, such as pawnshops, moneylenders, shopkeepers, traders, and landlords, whereby the services can be predatory and exorbitantly expensive depending on the nature of informality. The concept of financial exclusion is shown as in Figure 1. The population is divided into users and non-users of formal financial services whereby the non-users of formal financial services comprise two types of individuals, voluntary self-exclusion and involuntary exclusion. Due to issues pertaining to religion and culture, people may voluntarily choose to opt out themselves from financial services. Many poor people in Muslim countries, for instance do not deal with traditional interest-based financial institutions due to the prohibition of *riba* by Islamic principles (Ahmed 2013). It has been claimed that in OIC countries, 51 million men and women have no bank account in formal financial institutions (Demirguc-Kunt et al. 2013). Furthermore, Karim et al. (2008) discovered more than 20 percent of Muslim countries population would not deal with conventional microfinance to avoid *riba*. Thus, financial inclusion to the poor in many Muslim countries should focus on *shariah*-compliant financial services.



Source: World Bank. (2008). Finance for All? Policies and Pitfalls in Expanding Access. A World Bank Policy Research Report, World Bank, Washington.

FIGURE 1. Differences between voluntary self-exclusion and involuntary exclusion

On the other hand, the crucial problem is with the involuntarily excluded because they demand financial services but do not have access to them. Thus, involuntary exclusion should be focussed by the policymakers and researchers in order to come out with proper policies in an attempts to correct market failures and increase income levels.

Ibtissem and Bouri (2013) outlined the economic theory, explaining the involuntary exclusion of the poor from access to financial services, centered on issues of moral hazards

and adverse selection in relation to screening, monitoring and enforcement. Moreover, as Ahmed (2013) explained, sustainability of products is a problem due to the comparatively expensive fees for each financial services provided, resulting from the constrained extent of the existing financial services available to the poor. Iqbal and Mirakhor (2013) elaborated on the reasons for this, suggesting that geographical isolation, greater costs of small transactions, lack of creditworthiness, as well as lack of acceptable collateral, all reduce the willingness of mainstream financial providers to provide the financing necessary for economic development. Therefore, policymakers should focus more on the involuntary exclusion by addressing economic policies which can lead to the increase in income levels and mitigate market imperfections.

Iqbal (2014) proposed that within the Islamic financial infrastructure, the primary objectives are social and economic justice, as well as economic development and growth. Modieldin et al. (2011) observed how Muslim men and women have benefitted from the desire to promote financial inclusion, with both global investors, politicians and economists exploring the advantages of the Islamic financial sector. There are several programmes found in some Muslim countries relating to *shariah*-compliant microfinance and SME programmes. These programmes are offered by either the federal government, the state government, non-governmental organizations or banking institutions. In Malaysia, one such Islamic microfinancing instrument that has the potential to achieve financial inclusion is Islamic pawnbrokering, also known as *ar-rahn*. Nevertheless, evidence shows that Islamic microfinance has not contributed much to financial inclusion as compared to the conventional microfinance sector. Based on CGAP study in 2011, Islamic microfinance products represent less than 1 percent of total microfinance outreach (Abdelkader & Salem 2013).

Despites the efforts made to increase the financial inclusion using *ar-rahn*, particularly to those involuntarily exclusion groups, one question raised here is on the extent to which the financial inclusion enhances the adoption of *ar-rahn* and consequently increases the individual and societal well-being. To date, much research has been done to investigate on how to increase financial inclusion, but research that specifically tackles on the role of non-banking financial institution such as *ar-rahn* in enhancing financial inclusion is very limited. This somewhat highlight the critical need and significance to address the issue. Accordingly, this study aims to investigate the effect of financial inclusion on the adoption of *ar-rahn* financing, which in turn affects the well-being of the customers. It is expected that the findings of this research would provide a new and useful insights not only to the academicians, but also to practitioners on how to design programs that can effectively increase the financial inclusion and increase the *ar-rahn* adoption, which consequently promotes economic well-being the society.

LITERATURE REVIEW

FINANCIAL INCLUSION

In this study, the converse definition of financial exclusion by Sarma (2008) was used to operationalise the concept of financial inclusion. It is therefore viewed as a process that ease the access, availability, and usage of formal financial services for all population in an economy. McKinnon (1973), Shaw (1973), Pagano (1993), and Demirguc-Kunt et al. (2008) among others have argued that economic growth through channels such as capital accumulation is affected by financial development. In turn, investment efficiency, productivity and the amount of investment are all impacted. This hypothesis was originally credited to Schumpeter (1911). Ayyagari et al. (2008) found that financing obstacles were the most robust constraints to growth in developing countries. In more recent years, the

discussion has been expanded to the issue of financial exclusion as a barrier to economic development and the need to structure inclusive financial systems (Beck et al. 2008).

However, there is still a relatively small amount of existing economic research on financial inclusion, despite the issue being increasingly important to reach sustainable development through international policy focuses. Most studies have looked into appropriate measures of financial inclusion both at the micro and macro levels and mostly related to the people's ability to having a formal bank account. The measurement of financial inclusion differs across the research. For example, the Global Financial Inclusion (Global Findex) database has been adopted by Demirguc-Kunt and Klapper (2012) as an indicator to measure the saving, borrowing, making payments, and managing risk behaviour of individuals across 148 countries. Their finding revealed that despite significant discrepancies depending on individual characteristics, income categories and geographical location, globally 50% of men and women have an account in a formal financial institution. On other research, Demirguc-Kunt et al. (2013) used the Global Findex and Gallup World Poll databases when comparing the use and demand for formal financial services between Muslims and non-Muslim adults based on a sample of more than 65,000 adults from 64 countries. The results show that Muslims are significantly less likely than non-Muslims to own a formal account or save at formal financial institutions.

Previous studies have also looked into the impact of financial inclusion on poverty and income inequality. Burgess and Pande (2005) found a reduction in rural poverty rates as a result of the establishment of bank branches in rural unbanked in India. Additionally, in rural areas of Malawi there was increased availability of savings for farming through individuals' greater commitment to a savings account, which improved the poor people's livelihoods (Brune et al. 2011). Furthermore, financial inclusion of the poor in Kenya was improved by commercial banks extending financial access (Allen et al. 2013). In addition, Cole et al. (2009) found that with higher levels of financial knowledge and skill, households would be inclusively financed, hence improving their wealth, education and well-being.

Although there is an increase in people access to formal financial institutions globally, this cannot always be pinned as an indication of the reduction of poverty in a country. For example, creating bank accounts that end up lying dormant and not utilized has little impact and policies that promote credit for all at any cost can actually exacerbate financial and economic instability (Asutay 2014). Additionally, having a bank account is not enough to explain financial inclusion as generating income should be the target of any such strategy.

Based on the Financial Stability and Payment Systems Report 2015, the Financial Inclusion Index score has increased significantly from 0.77 in 2011 to 0.90 in 2015. However, this positive achievement is due to improvement in accessibility, proper usage, and satisfaction level on the financial products. Therefore, there is growing realization that while increasing outreach is a very positive step toward inclusion, more efforts are required to increase the utilization of such accounts and hence reduce poverty. Access to a well-functioning financial system, by creating equal opportunities, enables economically and socially-excluded people to integrate better into the economy and actively contribute to development, thus protecting themselves better against economic shocks (Swamy 2014). Moreover, efficiency and sustainable development can be enhanced, particularly for small and medium businesses, through risk mitigation, lending, utilization of savings, insurance and various other financial goods of high quality that better access can provide (Iqbal & Mirakhor 2012). There has been a paradigm shift on economic development and poverty alleviation, which are perceived as part of the micro dynamics of society, and changes in these can only be possible through individual empowerment, whereby the importance of human development and capacity-building is emphasized (Zaman & Asutay 2009). In this case,

financial inclusion was viewed as the cause of improvement of individual and societal well-being. The relevant hypothesis is stated below:

H_1 There is a significant relationship between financial inclusion and individual well-being.
H_2 There is a significant relationship between financial inclusion and societal well-being.

AR-RAHN

Following the global financial crisis, financial inclusion has now become part of a global agenda. Aziz (2015) stated that financial inclusion has become a more relevant tool for improving the livelihoods of the poor and disadvantaged. More importantly, greater financial inclusion enables all citizens, regardless of socioeconomic class, to participate in the economy and benefit from its progress. The role of financial inclusion in contributing to this balance and to sustainable economic growth and development is also stated in the Central Bank of Malaysia Financial Sector Blueprint 2011-2020.

One of the Islamic finance instruments that has potential in promoting financial inclusion is *ar-rahn*. The key objective of *ar-rahn* is to help those who face financial difficulties in order to protect them from getting involved with interest-based loans which are prohibited in Islam (Abdul Razak 2011). *Ar-rahn* is fundamentally a contract of pledging an item as a security that becomes binding once the possession of the pledge has taken place (Bhatt & Sinnakkannu 2008). From the view of the fact that the importance of helping the poor and the needy is emphasized and strongly encouraged in the Islamic faith, *ar-rahn* plays an important role in providing financial support for those people without being involved with elements of *riba* and *gharar* which are prohibited in Islam. In addition, *ar-rahn* also acts as an instrument to encourage saving and investment involving buying and selling gold, where customers benefit from the difference of gold prices (Hisham et al. 2013).

For the last two decades, the establishment of *ar-rahn* has successfully minimized the impact of the conventional pawn shop. A study done by Amin et al. (2007) identified five factors which determine the adoption of *ar-rahn* among customers.These are *shariah* view, pricing system, pledge asset, customer service, and locality of the *ar-rahn* institution. They found that *shariah* view, pledge asset, and customer service are significantly related to *ar-rahn* adoption, whereby the pricing and locality of *ar-rahn* institutions were insignificantly correlated. In other research, using structural equation modeling, Amin (2011) found that religious obligation, transaction cost and information on *ar-rahn* were the main factors that contribute to the intention of using *ar-rahn.* Using theory of reasoned action, Amin and Chong (2011) had found that attitude and subjective norm were significantly related to the usage of *ar-rahn* financing.

Limited work has been done in regard to financial inclusion through the perspective of Islamic finance, particularly on Islamic microfinance. In recent years, Islamic finance has been revealed to be positively related to greater financial inclusion (Global Financial Development Report 2014). Mohieldin et al. (2011) suggests that Islamic finance addresses the issue of financial inclusion from two directions such as: (i) promoting risk-sharing contracts; (ii) specific instruments of wealth redistribution within society. Various financial instruments such as *shariah*-compliant microfinance, small and medium enterprises (SMEs), micro-takaful, and *ar-rahn* are designed to provide financial assistance to the poor, thus increasing financial inclusion among the Muslim population using risk-sharing contracts. On the other hand, redistributive instruments such as *zakah, waqf, sadaqah* and *qard al-hassan* in conjunction with risk-sharing instruments will offer a holistic approach towards poverty alleviation and economic growth (Iqbal 2014; Embong et al. 2013; Mohieldin et al. 2012;

Obaidullah 2008). Therefore, it could be expected that there is a link between financial inclusion and *ar-rahn's* adoption. Accordingly, the following hypothesis is proposed:

H_3 There is a significant relationship between financial inclusion and ar-rahn's adoption.

INDIVIDUAL AND SOCIETAL WELL-BEING

According to Al-Ghazali, as cited in Chapra (2008), the ultimate objective of the *shariah* is to promote the people's well-being. A*r-rahn* has been raised as one of the Islamic financial instruments that can ensure the social and economic justice, the equitable distribution of income and wealth, and removing poverty. In the Islamic faith, *ar-rahn* plays an important role in providing financial support for those people without involving the elements of *riba* and *gharar* which are prohibited in Islam.

Over the last two decades, the establishment of *ar-rahn* has successfully minimized the impact of the conventional pawnshop. A study by Amin et al. (2007) identified five factors which determine the adoption of *ar-rahn* among customers;these are the *shariah* view, the pricing system, the pledge asset, customer service, and the locality of the *ar-rahn* institution. They found that the *shariah* view, the pledge asset, and customer service are significantly related to *ar-rahn* adoption, whereas the pricing and the locality of *ar-rahn* institutions are insignificantly related to *ar-rahn* adoption. Apart from these factors, Abdul Razak (2011) found that *ar-rahn* financing is preferable to society due to the security of the collateral being guaranteed, the transparency in the pawning procedure, and the image of the *ar-rahn* institution as compared to the conventional pawnshop.

In her empirical analysis, Abdul Razak (2011) revealed that 70 percent of the customers of *ar-rahn* agreed with the positive role of financing in improving their socioeconomic situation, whilst more than 80 percent of the conventional pawn shop respondents disagreed with the statement. Evidently, those who disagreed with the statement argued that pawning would only help them to be financially better-off on a temporary basis or in emergency circumstances, but not for a long-term period. Overall, *ar-rahn* is expected to be the cause of improvement of individual and societal well-being. The hypothesis is as follow:

H_4 There is a significant relationship between ar-rahn's adoption and individual well-being.
H_5 There is a significant relationship between ar-rahn's adoption and societal well-being.

Figure 2 presents the conceptual research framework for this research. The model posits that financial inclusion influences customer adoption of *ar-rahn* while individual and societal well-being are consequences of *ar-rahn's* adoption.

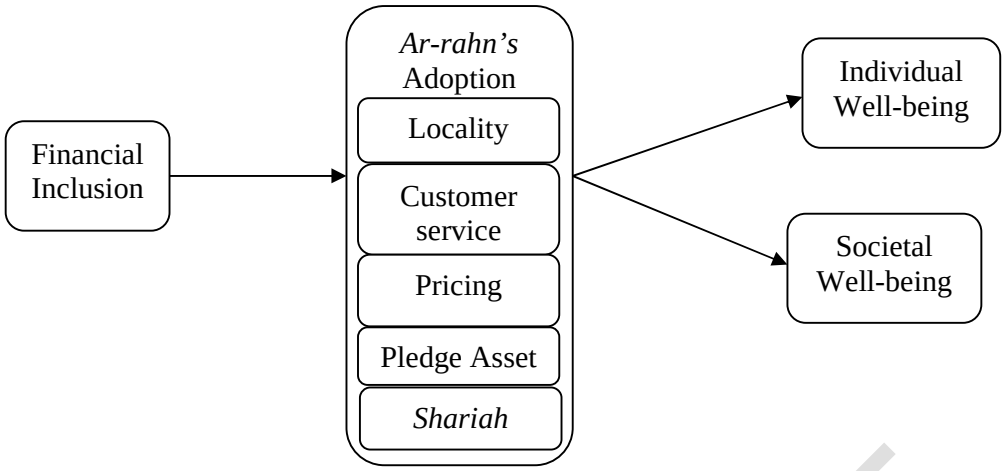


FIGURE 2. Research model

To date, there have been limited empirical works which analyses the impact of Islamic financial instruments towards enhancing individual and societal well-being. Therefore, this paper will analyze the potential of *ar-rahn* to achieve such goals.

METHODOLOGY

To fulfil the research objectives, this research adopts a quantitative research methodology since it measures the respondents' perceptions as part of their understanding of the role of *ar-rahn* in enhancing financial inclusion and its impact towards the well-being of individuals and society. It involves quantitative data collection based on purposive sampling through questionnaires distributed to the customers of *ar-rahn* throughout Malaysia. The instrument was developed based on financial exclusion barrier issues (World Bank 2008), adoption of the *ar-rahn* scheme (Amin et al. 2007), and the impact of financial inclusion towards macroeconomic goals (Abdul Razak 2011). The items for financial inclusion were reverse coded from financial exclusion measurement as proposed by Sarma (2008).

The survey questionnaire consists of four parts. The first part of the questionnaire dealt with demographic information of the respondents, and the remaining parts of the questionnaire dealt with the reasons for using *ar-rahn*, and the role of the *ar-rahn* scheme to the individual and society. The questionnaire, which consisted of a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), was used to collect data. Out of 300 questionnaires distributed to the customers of *ar-rahn*, 239 were duly completed and further analysis was summarily conducted on these.

The scales were validated in terms of construct validity and dimensionality using exploratory factor analysis (EFA) and reliability using Cronbach's alpha coefficient. Next the scales were confirmed using confirmatory factor analysis (CFA), in particular by assessing model fit, reliability of the constructs, and convergent and discriminant validity of the constructs.

In order to test the five hypotheses framework, the structural equation modeling (SEM) with a maximum likelihood estimation is employed using the AMOS version 22.0. SEM technique is a second generation technique that is widely applied in contemporary studies to overcome the limitations associated with the first-generation techniques. In particular, SEM was performed to test a set of relationships between the independent variables and dependent variables (Tabachnick & Fidell 2007) as have been proposed in the research hypotheses. In addition, SEM not only provides an assessment of the model fit in terms of the

unidimensionality, reliability and validity of each construct tested, but also allows overall model, which include the direct and indirect relationship, as well as the individual parameter estimate to be tested simultaneously (Garson 2012). In addition, SEM works with minimum measurement error as it is reduced using confirmatory factor analysis (CFA) and provides a better model visualization (Garson 2012).

The following sections present data analysis and findings with the objective of testing the hypothesized relationships above.

RESULTS

DEMOGRAPHIC PROFILE

Table 1 illustrates the demographics of *ar-rahn* customers as respondents. The majority of the respondents came from the central region (42.7%) whilst 33.1% and 18.0% respondents were from the East Coast and Northern regions respectively. In terms of gender, respondents were closely divided between females (54%) and males (46%). The majority of respondents were between the ages of 20 years old and 49 years old (64.4%), which was in accordance with the age requirement for pawning as stated in the Pawnbrokers Act 1972. Approximately 73% of the respondents of *ar-rahn* were married with 63% of them having a larger number of family members that ranged from 1 to 5 persons. As a result, the larger the family, the higher the expenditures they had to cover to make ends meet, possibly serving as their reason for making loans from *ar-rahn* institutions. As for education level, most respondents were well-educated with 42% of them holding bachelor's degrees.

TABLE 1. Profile of respondent

Variables		Frequency	Percentage (%)
Region	Northern	43	18.0
	Central	102	42.7
	Southern	11	4.6
	East Coast	79	33.1
	Sabah, Sarawak and Labuan	4	1.7
Gender	Male	110	46.0
	Female	129	54.0
Age (year)	20 – 29	67	28.0
	30 – 39	44	18.4
	40 – 49	43	18.0
	50 – 59	42	17.6
	59 and over	43	18.0
Marital status	Single	37	15.5
	Married	173	72.4
	Widow/Widower	29	12.1
Number of dependents (total = 197?)	2 and below	59	24.7
	3 – 5	92	38.5
	6 – 8	40	16.7
	More than 8	6	2.5
Education	No formal education	32	13.4
	Primary school	9	3.8
	Secondary school	53	22.2
	Certificate/ Diploma	30	12.6
	Bachelor Degree	100	41.8

	Masters/ Ph.D	15	6.3
Working sector	Government	60	25.1
	Private	46	19.2
	Self employed	112	46.9
	Other	21	8.8

In terms of working sector, approximately 47% of the respondents were self-employed (businessman, farmer, mechanic, shopkeeper, *etc*.), followed by 25% and 19% who worked with the government (teacher, army, policeman, fireman, lecturer *etc*.) and the private sector (bank officer, clerk, supervisor, engineer *etc*.).The remaining 9% were housewives, students, the unemployed and pensioners.

As depicted in Table 2, the majority (75.0%) of the respondents were working adults who earned a total monthly household income of up to RM6,000, followed by 14.4% of the respondents who earned between RM6,001 and RM8,000, and the remaining (10.6%) earned more than RM8,001. Table 2 also shows that respondents whose total monthly household incomes ranged from RM4,001 to RM6,000 had various monthly expenditures: 18 persons (28.6%) spent RM2,001 – RM4,000, while 43 persons (68.3%) spent RM4,001 – RM6,000, and 1 person (1.6%) overspent more than RM6,000. In terms of saving, the result shows that 58.6% out of 171 persons who responded to this question had low levels of saving and received other sources of incomes such as beneficiaries (zakat, allowance from Department of Social Welfare Malaysia, *etc*.) as depicted in Table 3. A majority of the respondents claimed that their income was insufficient due to higher costs of living (65%), tied with debts (13.8%), children starts schooling (13.0%) and unstable income (8.4%).

TABLE 2. Crosstabulation of respondents' total income and total expenditure

		Expenditure (RM)						
		2,000 and below	2,001-4,000	4,001-6,000	6,001-8,000	8,001-10,000	10,000 and over	Total
Income (RM)	2,000 and below	61 (100.0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	61
	2,001-4,000	18 (32.9%)	34 (64.2%)	1 (1.9%)	0 (0%)	0 (0%)	0 (0%)	53
	4,001-6,000	1 (1.6%)	18 (28.6%)	43 (68.3%)	1 (1.6%)	0 (0%)	0 (0%)	63
	6,001-8,000	0 (0%)	3 (8.8%)	16 (47.1%)	15 (44.1%)	0 (0%)	0 (0%)	34
	8,001-10,000	0 (0%)	1 (8.3%)	3 (25.0%)	5 (41.7%)	2 (16.7%)	1 (8.3%)	12
	10,000 and over	0 (0%)	0 (0%)	0 (0%)	2 (15.4%)	2 (15.4%)	9 (69.2%)	13

TABLE 3. Total saving, other sources of income, income sufficient and reasons for insufficient income

Variables		Frequency	Percentage (%)
Total saving/ month (RM)	1,000 and below	140	58.6
(N=?)	1,001 – 2,000	17	7.1
(N=171)	2,001 – 3,000	6	2.5
	3,001 – 4,000	2	0.8
	4,001 – 5,000	2	0.8
	5,000 and over	4	1.7
Other sources of income	Rental	52	21.8
(N=?)	Wage	24	10.0

(N=308)	Profit	50	21.0
	Interest	55	23.0
	Beneficiary	60	25.1
	Pension	52	21.8
	Allowance	14	5.9
	Others	1	0.4
Income sufficient	Yes	106	44.4
	No	133	55.6
Reasons for insufficient income	High cost of living	155	64.9
	Children start schooling	31	13.0
	Tied with debt	33	13.8
	Unstable income	20	8.4

EXPLORATORY FACTOR ANALYSIS (EFA)

Each variable has particular core aspects that can be determined through the process of EFA, which assesses variables' composition. Adopting SPSS version 22.0, an uncorrelated extracted component expressing an eigenvalue of above 1.0 was produced, through a varimax rotation and principal component analysis. In order to determine the variables' core aspects in relation to the extracted component composition, the EFA processes of cronbach's alpha and standardized factor loading were adopted. Nunnally and Bernstein (1994) proposed that a value above 0.70 is sufficient for cronbach's alpha, while a value greater than 0.50 is sufficient for standardized factor loading (Hair et al. 2006).

0.86 was the factor's sampling adequacy index's Kaiser-Meyer-Olkin value. The information obtained for factor analysis can be considered sufficient on the basis of this value. Hair et al. (2006) proposed a value of 0.50 for factor loading, with Table 4 indicating that factor loading was found to be between 0.67 and 0.92.

TABLE 4. Factor loading and cronbach'salpha

Item		Description	Loadings	Construct	Cronbach's Alpha
1	INC10	No credit check	0.88	Financial inclusion	0.877
2	INC11	Lower cost of loan	0.90		
3	INC12	No discrimination	0.74		
4	R27	Location near residential area	0.78	Location	0.880
5	R28	Location near workplace	0.82		
6	R30	Location near business centre	0.67		
7	R34	Less procedures	0.83	Customer service	0.929
8	R35	Speed in loan approval	0.86		
9	R36	Simple documentation	0.83		
10	R5	Lower safekeeping fee	0.80	Pricing	0.940
12	R6	High loan margin	0.86		
13	R7	High loan maximum limit	0.83		
14	R10	Accepting jewellery	0.83	Pledge asset	0.933
15	R11	Accepting gold bar	0.87		
16	R12	Accepting gold dinar, gold coin	0.86		
17	R1	Lending based on Islamic principle	0.89	*Shariah*	0.962
18	R2	Interest free loan	0.91		
19	R3	Free from uncertainties	0.87		
20	HY13	Finance education expenses	0.85	Individual well-being	0.900
21	HY14	Help me to be an entrepreneur	0.89		

22	HY15	Generating income	0.86		
23	BET4	Narrowed income gap	0.88	Society well-being	0.923
24	BET5	Reduced unemployment	0.92		
25	BET6	Reduced social problem	0.88		

FIRST-ORDER CONFIRMATORY FACTOR ANALYSIS (CFA)

Although EFA found the factors to be statistically meaningful, alterations may have an influence. To guarantee that data non-normality and outliers are not impacting on the data, alterations are particularly necessary. Therefore, based on Adewale's (2014) approach, AMOS 22.0 was used to carry out a confirmatory factor analysis (CFA), with a maximum likelihood estimation being utilised, to assess eight underlying variables. The determination of the degree to which the factors are closely incorporated in to the eight underlying structures was the primary objective of the assessment. In accordance with Kline (1998), the chi-square/degrees of freedom ratio, comparative fit index (CFI) and root mean square error of approximation (RMSEA) were adopted to determine model fit.

CFI compares the hypothesized model with the independent model in which nothing is related (Byrne 2009). A CFI of 0.95 or above indicates good fit. The RMSEA estimates how well the model fits with the estimated population covariance matrix. RMSEA should be well under 0.10 and preferably under 0.08 (Tabachnick & Fidell 2007). A good fitting model is assumed to be when the chi-square is non-significant. However, the chi-square is extremely sensitive to sample size. To minimize this problem, the chi-square is divided by the degrees of freedom with a chi-square/*df* ratio of 3 or less indicating acceptable fit (Kline 1998).

Based on Table 5, our initial model was below the acceptable fit. Several items such as INC12, BET6, HY15, R29, R36, R7, and R2 were removed due to several high standardized residual covariances which indicated that they did not fit well in the model. Our final model fit the data well (CFI = 0.99; RMSEA = 0.03; χ^2 = 116.63, *df* = 91, χ^2/df = 1.28).

TABLE5. Fit indices

	Before modification	After modification	Recommended values
Chi Square (χ^2)	410.46	116.63	
df	224	91	
GFI	0.88	0.95	≥ 0.90
AGFI	0.84	0.92	≥ 0.80
NNFI (TLI)	0.96	0.99	≥ 0.90
CFI	0.97	0.99	≥ 0.90
RMSEA	0.06	0.03	≤ 0.08
NORMEDCHISQ (χ^2/df)	1.832	1.28	≤ 3.00
p-value	0.00	0.04	

RELIABILITY AND VALIDITY

The constructs' convergent validity and internal reliability outcomes are outlined in Table 6. The extent that there is concordance within the various measurement efforts is called the convergent validity. Fornell and Larcker (1981) explained how average variance extracted (AVE), composite reliability (CR) and factor loading are utilised to determine convergent validity.

TABLE 6. Result of CFA for first-order factor model

Construct	Item	Loading	Convergent validity	
			AVE	CR
Financial inclusion	INC10	0.902	0.84	0.913
	INC3	0.931		
Locality	R28	0.857	0.762	0.865
	R30	0.889		
Customer service	R34	0.906	0.847	0.917
	R35	0.934		
Pricing	R5	0.933	0.865	0.928
	R6	0.927		
Pledge asset	R10	0.882	0.825	0.934
	R11	0.951		
	R12	0.891		
Shariah	R1	0.883	0.854	0.921
	R3	0.964		
Individual well-being	HY13	0.87	0.78	0.876
	HY14	0.896		
Society well-being	BET4	0.916	0.824	0.903
	BET5	0.899		

Chin et al. (1997)'s suggested factor loading level of 0.6 was surpassed by each factor in this research. Gefen et al. (2000) proposed level of 0.7 for CR, being the determination of the extent that latent construct is suggested by construct indicators, was also surpassed with values between 0.865 and 0.934. Hair et al. (2010) had determined that 0.5 was the threshold value for AVE, being the latent construct's incorporated indicators' the overall amount of variance, with values between 0.762 and 0.865. Consequently, convergent validity is achieved.

Following this, there was the determination of the degree to which another variable is not a reflection of some other variable, or the discriminant validity. If the measure of other constructs and the relevant variables have low correlation, then discriminant validity is determined. Furthermore, it has been proposed that discriminant validity can be determined if the other variable's correlations with the mean variance are lower than the mean variance's square root (Fornell & Larcker 1981). For the first order factor model discriminant validity is apparent, as indicated in Table 7. Therefore, the measurement model fitted the data well.

TABLE 7. Discriminant validity of constructs (First-order model)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Individual well-being	**0.883**							
Financial inclusion	0.294	**0.917**						
Locality	0.367	0.438	**0.832**					
Customer service	0.367	0.323	0.666	**0.920**				
Pricing	0.351	0.439	0.647	0.480	**0.930**			
Pledge asset	0.275	0.399	0.586	0.540	0.521	**0.909**		
Shariah	0.241	0.376	0.503	0.449	0.590	0.462	**0.924**	
Society well-being	0.449	0.157	0.376	0.321	0.197	0.280	0.216	**0.908**

SECOND-ORDER FACTOR MODEL

The construct of *ar-rahn's* adoption is considered a second-order construct. In the questionnaire, the sub construct of *ar-rahn's* adoption was measured by the dimension of locality (3 items), security (3 items), customer service (3 items), pricing (3 items), pledge asset (3 items), and *shariah* (3 items). The customer adoption of *ar-rahn's* instrument in this study was adapted from Amin et al. (2007). Based on Table 8, the average variance extracted is above 0.50.

TABLE 8. Result of CFA for second-order factor model

Construct	Item	Loading	Convergent validity	
			AVE	CR
Ar-rahn Adoption	Locality	0.85	0.549	0.858
	Customer Service	0.721		
	Pricing	0.758		
	Pledge asset	0.705		
	Shariah	0.655		
Financial Inclusion	INC10	0.908	0.84	0.913
	INC11	0.925		
Individual Well-being	HY13	0.89	0.78	0.876
	HY14	0.876		
Societal Well-being	BET4	0.926	0.74	0.83
	BET5	0.789		

The average variance extracted is also greater than its correlations with all other constructs, as indicated on Table 9. Therefore, the reliability, convergent validity and discriminant validity were achieved.

TABLE 9. Discriminant validity of constructs

Constructs	(i)	(ii)	(iii)	(iv)
(i) Societal well-being	**0.908**			
(ii) Financial inclusion	0.162	**0.917**		
(iii) Individual well-being	0.448	0.293	**0.883**	
(iv) *Ar-rahn's* adoption	0.381	0.536	0.440	**0.741**

STRUCTURAL EQUATION MODEL (SEM)

In this study, the relationship between financial inclusion and individual and societal well-being was analysed using structural equation modeling (SEM). SEM is a statistical model explaining the relationships among variables. Hair et al. (2006) outlined how the statistical approach of SEM aims to determine all of the various relationships among latent variables and can be pictorially to understand the underlying theory (Hair et al. 2006).

For this study, the model is shown in Figure 1. It consists of four latent variables; namely, (i) financial inclusion, (ii) *ar-rahn's* adoption, (iii) individual well-being, and (iv) societal well-being. The indicator variables listed in the questionnaire adopted a 5 Likert scaled items. As shown in Figure 3, latent variables are labelled in the four circles while the indicator variables are presented by the rectangles.The smaller circles are the measurement

errors in the variables. The arrow line pointing from latent variable to the indicator variable shows the direct effect of the latent variables on the indicator variable. This study analysed the effect of financial inclusion towards *ar-rahn's* adoption, the well-being of the individual and society.

The test of the overall model fit yielded a chi-square of 165.917 with 109 degrees of freedom and a p-value of less than 0.000. The suggested values for the various fit indices were excelled (AGFI = 0.90; CFI = 0.98; TLI = 0.98; RMSEA = 0.05; χ^2/df = 1.52). The R^2 values for the relationship between financial inclusion and *ar-rahn's* adoption was 0.29 which indicates that 29 percent of the variance in *ar-rahn's* adoption can be explained by financial inclusion. On the other hand, 22 percent and 17 percent of the variance in individual well-being and societal well-being can be explained by *ar-rahn's* adoption respectively.

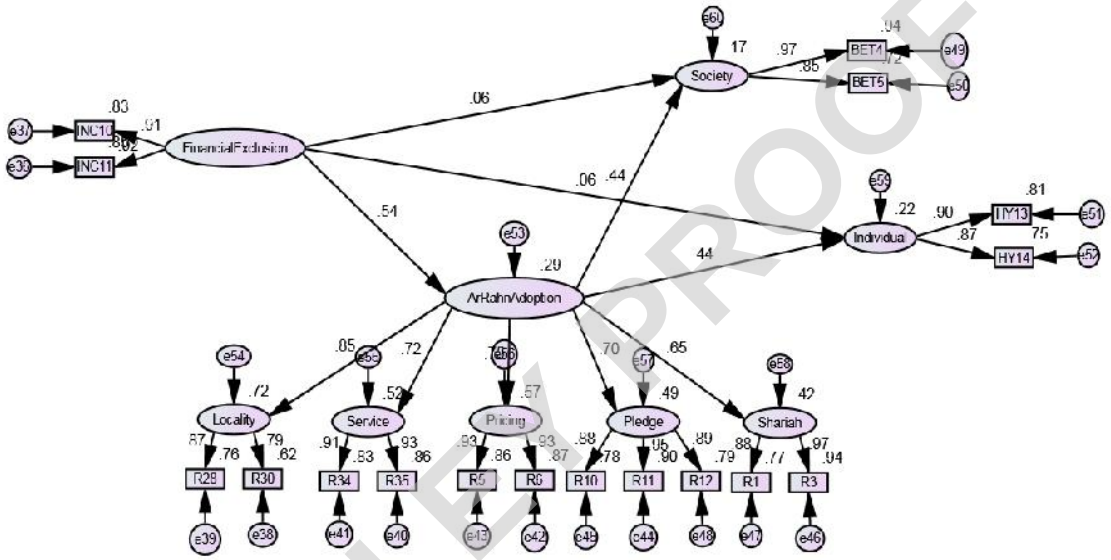


FIGURE 3. Structural model

HYPOTHESES TESTING

Table 10 depicts the summary of the structural model. Two of the hypotheses, H_1 and H_2 expected that financial inclusion had a direct effect on individual and societal well-being, respectively. The influence of financial inclusion with individual (β = 0.056, p > 0.01) and societal well-being (β = -0.065, p > 0.01) were not found to be significant.

The third hypothesis, H_3, proposed that financial inclusion has a positive influence on the customer's adoption of *ar-rahn*. Based on Table 10, the standardized parameter estimates between financial inclusion and customer adoption of *ar-rahn* was positive and statistically significant (β = 0.537, p < 0.01), indicating that H_3 was supported

The fourth hypothesis, H_4, expected that *ar-rahn's* adoption would positively influence individual well-being. The standardized parameter estimates between *ar-rahn's* adoption and individual well-being was positive and statistically significant (β = 0.436, p < 0.01), indicating that H_4 was supported. The fifth hypothesis, H_5, expected that *ar-rahn's* adoption ould positively influence societal well-being. Consistent with the expected outcome, the standardized parameter estimates between *ar-rahn's* adoption and societal well-being was positive and statistically significant (β = 0.438, p < 0.01), indicating that hypothesis 5 was supported.

TABLE 10. Summary of the structural model

Description	Hypothesis	Path coefficient	Critical ratios (CR)	p-value	Decision
Financial inclusion => Individual well-being	H_1	0.056	0.671	0.502	Not supported
Financial inclusion => Societal well-being	H_2	-0.065	-0.792	0.428	Not supported
Financial inclusion => *Ar-rahn's* adoption.	H_3	0.537	6.496	0.001	Supported
Ar-rahn's adoption => Individual well-being	H_4	0.436	4.562	0.001	Supported
Ar-rahn's adoption => Societal well-being	H_5	0.438	4.720	0.001	Supported

DISCUSSIONS

The objective of this study is to examine the significant role of *ar-rahn* financing as a tool for financial inclusion for the well-being of individual and society. Based on the profile of the customer that patronises *ar-rahn* financing, this type of financing is not only desired by the less developed regions and those with low income levels, but also by those developed regions such as Kuala Lumpur, and those from middle and high incomes group. The higher cost of living in Malaysia in recent years has shrunk each person's income, which is mainly due to the government imposed goods and services tax on most transactions in the production process in 2015. As a result of their insufficient income, those individuals who have been affected people would patronise *ar-rahn* financing in order to make ends meet.

In this study, 'lower price of loan' had high loadings (0.93) as compared to 'no credit check' (0.91), which indicated its relative importance as a reflective indicator of financial inclusion. This result shows that people are inclusively finance via *ar-rahn's* financing, and otherwise they may not access financial services if they are too costly, which is in line with Kempson et al.'s (2004) study.

Unlike the findings of Amin et al. (2007), the locality factor is the most important determinant in reflecting customer's adoption of *ar-rahn* with high factor loadings (0.85). The present study's finding is in line with that of Nik Azman et al. (2015), which suggests that with a small loan, customers will generally patronise the closest *ar-rahn* institution in order to reduce the transportation and waiting cost.

The findings in this study also established that 'finance education activity' is a key indicator of individual well-being, while it is found that 'narrowed income gap' is the major factors that reflect societal well-being.

As hypothesized in this study, financial inclusion is expected to improve the well-being of the individual and society. The insignificant result is not as expected, which is inconsistent with the results of Burgess and Pande (2005) and Brune et al. (2011). The only possible explanation for this result could be that having a bank account is not enough to relate financial inclusion and well-being. Households should strategize on how to utilize the money they obtain from savings or loans to generate income and hence improve their well-being.

The positive and statistical significance between financial inclusion and customer adoption of *ar-rahn* indicates that people who are excluded from mainstream financial institutions, or the so-called 'unbankable', will obtain loans from non-banking financial institutions such as *ar-rahn* which is consistent with Mohieldin et al. (2011). Moreover, this result indicates that there is a significant potential role in Islamic microfinance for such as *ar-rahn* to support financial inclusion.

The statistical significance of individual and societal well-beings in this study is an indication of the fact that a relationship exists between *ar-rahn's* adoption and individual and societal well-beings. These findings are in line with Abdul Razak (2011), which indicates the positive impact of *ar-rahn* on individual and societal well-being. Furthermore, this study found that the well-being of individual and society will be improved if *ar-rahn* facility is used to finance production purpose rather than consumption purpose.

IMPLICATIONS AND CONCLUSION

The findings of this study have managed to provide theoretical and practical implications. Based on the theoretical perspective, this study has given additional empirical evidence to the existing literature on how financial inclusion through Islamic microfinance instrument such as *ar-rahn* financing could improved the poor people's livelihoods as well as individual and societal well-being (Brune et al. 2011; Allen et al. 2013; Cole et al. 2009). Since limited empirical evidence has been provided on the role of *ar-rahn* financing in enhancing individual and societal well-being, this study contributes to the existing literature by demonstrating *ar-rahn* as one of the financial instrument that effectively supports the financial inclusion. Accordingly, this study also contributes to the methodological aspect of the literature by providing empirical evidence on the relationship between financial inclusion and, individual and societal well-being and highlighting the role of *ar-rahn* financing as the key instrument to promote financial inclusion.

From a practical perspective, financial inclusion is seen as an important consideration due to the recent global financial crisis and importantly to achieve the 17 Sustainable Development Goals (SDGs). It has been seen by policy makers as a way to achieve inclusive growth as part of SDGs by providing financial service access to all strata of society. It is expected that the findings of this research would provide a new and useful insights not only to the academicians, but also to practitioners on how to design programs that can effectively increase the financial inclusion and increase the *ar-rahn* adoption, which consequently increase the individual and societal well-being. Therefore, policy makers and *ar-rahn* institutions should play a role in improving the provision and the outreach of microcredit such as *ar-rahn* financing, particularly in remote and rural areas, which consequently increases their income and reduces vulnerability through inclusive finance. Nevertheless, the strategy to expand financial inclusion throughout the world is not necessarily an indication of the improvement of societal well-being since generating income and individual empowerment should be the target of any such strategy.

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