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Research Article

The Evidence of Microfinance as a Tool in Poverty Alleviation in Malaysia – A Survey

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Abstract

Poverty issues are still prevalent in Malaysia and microfinance is one of the best available tools to overcome that situation because it provides loans with fewer regulations. Response from 330 respondents were acquired to bolster this fact and this paper projects strong evidences on the effectiveness of microfinance and its potential to eradicate poverty in Malaysia using Partial Least Square-Structural Equation- Modelling (PLS-SEM). The results of the study show that there is a significant relationship between loan characteristics, family status, borrowers' characteristics, business features and training development on social wellbeing, employment generation, household income and micro enterprise performance.

Keywords: Microfinance; Livelihood; Malaysia; PLS-SEM; Poverty Alleviation

1. Introduction

Microfinance is a provision of financial services like credit, saving, deposit, insurance and repayment services to the underprivileged who face difficulties to access these services due to lack of collateral [1], [2]In Malaysia, Amanah Ikhtiar Malaysia (AIM) is a well-organized pioneer of microfinance and its main agenda is to eradicate poverty by providing microcredit loans to the poor by involving the candidates in various economic activities such as entrepreneurship and livelihood improvement activities [3]. This is quite prevalent in the states of Selangor and Melaka. However, strong evidences from a rural context is needed [3].

Globalisation is one of the critical factors contributing towards poverty. The United Nation (UN) defines poverty as lack of income and resources and a state of meagre sustainable livelihood [4]. This includes hunger, malnutrition and limited access to education system and other essential services. Difficulty in accessing financial services is also one among them. The first agenda of United Nation Sustainable Development Goal (UNSDG) is to end the poverty around the globe [5], [6].

Poverty is a complex issue because it reflects the effectiveness of government policies and capabilities to reduce it. In 2020, Malaysia had revised the national poverty line income from RM980 to RM 2,208 [7]. This was achieved by using several financial tools to improve and measure the Malaysian poverty indicator index consistently throughout the fiscal year [8]. Evidence from previous studies portrays the role of microfinance to alleviate poverty. A study conducted by McGuire et al. (2015) has critically discussed the rationale behind the poverty line and the impact of microcredit towards improving poverty in Malaysia using precise understanding of the poverty line measure.

Félix & Belo (2019) stated that microcredit has a significant impact on poverty reduction as well as balancing income and distribution, improving employment, inflation and education among South East Asian countries including Malaysia. Despite discussing on the factor of poverty, this study provides a distinctive

approach from prior studies which is analysing result using PLS-SEM by retrieving data directly from AIM borrowers in particular states in Malaysia to evaluate the effectiveness of microfinance as a tool for poverty alleviation.

2. Literature review

A. Microfinance Milestones in Malaysia

Various policies have contributed towards poverty eradication in Malaysia over the past few decades. The first structured and organized microfinance institution in Malaysia is Amanah Ikhtiar Malaysia AIM which was established in 1987 under economic research program from Univesiti Sains Malaysia (USM) [10] . Bank Negara Malaysia (BNM) or the central bank of Malaysia acts as the monitoring body to supervise all financing activities in Malaysia including the microfinance initiatives. In 2006, the Microfinance system was widely applied to cooperative bank like Bank Rakyat, Agro Bank and Bank Simpanan Nasional to provide microcredit loans and help applicants start up the business [11]. This critically shown the vital role of microfinance as banks had restructured the tough requirements for loan approval.

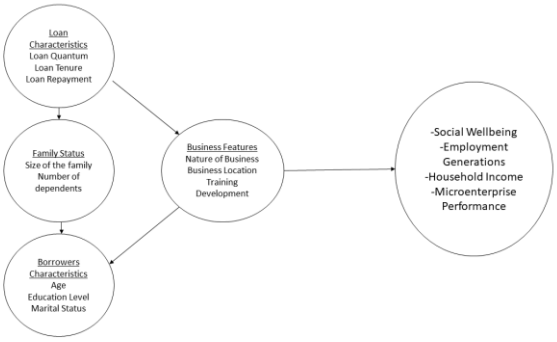
However, AIM is still relevant to the people due to fewer regulations imposed by AIM compared to banks. Alshami et al.(2019) found that majority of women participating in AIM program have successfully operated small and medium enterprises but acquired sustainability only after three years. The borrowers still are in the infant stages because of the stringent characteristics of the loan system such as lack of product diversity and process complications in the loan disbursement. So, AIM reviewed the products, especially the loan providing division to provide better financial assistance to the borrowers. Prior to that, the same authors found microcredit based financial systems had a significant impact on the women household welfare and empowerment through increasing household income and personal asset acquisition [13]. To prove this fact and to further extend the research gap, this paper captured all those highlighting features by measuring the income creation leaps and experiences of the AIM participants.

As most participants applying for microfinancing-based loan in Malaysia are Muslims. Islamic approach in poverty alleviation is needed to be understood. Several Zakat institutions acting as an Islamic Treasury Body has also contributed to the reduction of poverty [11]. Zakat and microfinance concept is quite similar where the concept is provision of capital or fund to those underprivileged which is known as asnaf. This action had been applied by Lembaga Zakat Selangor (LKS) to fight poverty. Similarly LKS had allocated the fund of Zakat to give microcredit assistance according to Sharia Principle to the targeted number of people which is known as Al-Gharimin [11], [14].

Islamic microfinance is striving to increase the income and wellbeing of the participants. The income generated can be utilized to improve health conditions and educational level in children [15] by giving a credit access to the participants. MFI like AIM has also undertaken the microfinance program by training and developing human capital development, skills, and education to eradicate poverty.

B. Theoretical Framework

Significant evidences from McGuire et al.(1998), Mokhtar (2011) shows the previously developed frameworks that were drawn to evaluate the impact of microfinance policy. McGuire et al. (1998) discussed the policies that should be assigned for Asian based Microfinance in hid study but since the timeframe is outdated, an updated framework was needed. [17] has used the theory of Household Economic Portfolio Model (HEPM) in the same context. Similarly, this study a modified framework is projected after reaping insights from the previous authors mentioned above as shown in the FigureI



C. Hypotheses Development

H1a: Loan Characteristics, Family Status, Borrowers' Characteristics, Business Features and Training Development has a significant impact on Social Wellbeing.

H1b: Loan Characteristics, Family Status, Borrowers' Characteristics, Business Features and Training Development has a significant impact on Employment Generation.

H1c: Loan Characteristics, Family Status, Borrowers' Characteristics, Business Features and Training Development has a significant impact on Household Income

H1d Loan Characteristics, Family Status, Borrowers' Characteristics, Business Features and Training Development has a significant impact on Performance of Micro Enterprises.

3. Methodology

A cross sectional survey was carried out to investigate the effectiveness of microfinance in Malaysia. AIM branches located in five different locations around different states in Malaysia (Kuala Nerus in Terengganu, Kuala Lipis in Pahang, Kok Lanas in Kelantan, Johor Bahru and Batu Pahat in Johor) were identified as the sampling area based on the poverty index value. Nevertheless, some of the locations under study are also from urban areas. In this study a quantitative research design was developed to retain positive inter-personal connection with the research subject and in the meantime secure objective data by using objective instruments. In addition, because of the involvement of a large sample more generalizable results were obtained [1], [18].

The questionnaire for the survey was structured in such a way to evaluate the impact of microfinance loans on poverty alleviation and help the poor to escape from poverty. Insights gained from Mokhtar (2011) and Nawai & Shariff (2012) were used to build the questionnaire. A total number of 400 questionnaires were distributed and 330 usable responses were received and used in the study.

4. Result and Discussion

The results of the study are presented in form of descriptive and inferential statistics. Descriptive outcomes were obtained using Frequency, percentage, mean, and standard deviation. Relationships between variables and hypothesis testing was done using Partial Least Squares - Structural Equation Modelling (PLS-SEM) method. At first the normality test was completed to check the effect of missing values before the developing the measurement model

The demographic profile of the survey respondents includes their branch/location, age, ethnic, education level, marital status, number of children and dependents. The branch/location was divided in to five branch/location (*Kuala Nerus (51 respondent), Kuala Lipis (50 respondent), Batu Pahat (121 respondent), Johor Bharu (41 respondent), and Kok Lanas (67 respondent)*). In terms of age, highest number of respondents were from age 46- 55 years (*156 respondents (47.3%)*). According to the ethnic majority, Malay were leading with 324 respondents (*98.2%*). In the education level, highest number of respondents are with secondary level of education with 233 respondents (*70.6%*). It can be concluded that, majority of the respondents were married (*299 respondents (90.6%)*). Moreover, most of them had 1-5 children (*287 respondents (87.1%)*). Table I portrays a more detailed description on the details of respondents.

Demographic characteristics	**Category or items**	**Frequency**	**Percentage (%)**
Branch/Location	Kuala Nerus	51	15.5
	Kuala Lipis	50	15.2
	Batu Pahat	121	36.7
	Johor Bharu	41	12.4
	Kok Lanas	67	20.3
Age	18-25 years	12	3.6
	26-35 years	69	20.9

	36-45 years	68	20.6
	46-55 years	156	47.3
	More than 55 years	23	7.0
Ethnicity	Malay	324	98.2
	Chinese	1	0.3
	Bumiputera	3	0.9
Education Level	No formal education	5	1.5
	Primary	62	18.8
	Secondary	233	70.6
	University Level	28	8.5
Marital Status	Single	12	3.6
	Married	299	90.6
	Separated	14	4.2
Number of Children	1-5	287	87.1
	6-10	28	8.4
	11-15	1	0.3
Number of Dependents	1-5	275	83.3
	6-10	38	11.5

The normality was assessed by examining the skewness and kurtosis values. The skewness value relates to the symmetry of the data distribution, whereas the kurtosis value indicates the 'peakedness' of the distribution. Pallant et al. (2017) and Byrne (2013)) observed that if the skewness value is between -4 to +4, and the kurtosis value is between -7 to +7, then the distribution is considered to be normal, hence, for this study, all data met the acceptable range indicating that the normality was not violated, therefore, distribution is a normal distribution. The normality result is shown in the Table II below.

Variables	**Items**	**Standard Deviation**	**Kurtosis**	**Skewness**
Loan Characteristics	Q1	1.665	-1.455	-0.491
	Q3	0.835	2.528	-1.284
	Q5	0.951	1.755	1.167
Family Status	Q27	2.000	2.797	0.703
	Q28	1.705	0.925	0.288
Borrower Characteristics	Q23	1.003	-0.627	-0.500
	Q25	0.56	1.407	-0.561
	Q26	0.341	3.555	1.811
Business Feature	Q8	1.141	-1.344	0.131
	Q22	1.298	-0.92	0.007

Training Development	Q19	0.49	-1.374	0.475
	Q20	0.467	-1.424	0.765
	Q21	0.512	-1.62	-0.224
Social Wellbeing	Q18i	0.382	5.299	0.195
	Q18ii	0.498	1.042	0.629
	Q18iii	0.593	1.753	-1.111
	Q18iv	0.36	1.746	1.933
	Q18v	0.298	6.343	-0.428
	Q18vi	0.529	-1.234	0.024
	Q18vii	0.39	6.439	-0.780
	Q18viii	0.31	4.395	-2.261
	Q18ix	0.37	4.256	0.394
Employment Generation	Q12	0.947	0.573	1.178
	Q13	0.522	-0.442	0.229
	Q14	0.789	-0.834	0.129
	Q15	0.096	6.104	-3.400
	Q16i	1.042	-1.335	0.515
	Q16ii	0.828	-1.099	0.138
	Q16iii	0.768	-0.838	0.559
Household Income	Q17i	0.235	5.343	0.397
	Q17ii	0.517	-1.528	-0.065
	Q17iii	0.486	-1.307	0.529
	Q17iv	0.49	2.172	0.051
	Q17v	0.519	1.642	-0.073
Performance of micro enterprises	Q8	1.141	-1.344	0.131
	Q9	0.111	3.366	3.055
	Q10	0.654	0.759	1.171
	Q11i	0.448	2.717	0.222
	Q11ii	0.573	-0.767	0.327
	Q11iii	0.418	1.099	-1.015
	Q11iv	0.367	4.486	-0.148
	Q11v	0.6	-0.201	-0.742
	Q11vi	0.438	8.687	-0.364

The correlation between the construct items present in the measurement model is further analysed. The comprehensive model, shown in Figure II, consists of 5 constructs, viz. the reliability indicator (factor loading), internal reliability consistency (composite reliability), convergent validity (average variance extracted or AVE), and discriminant validity (Fornell-Lacker criterion and cross loadings). The PLS-SEM has been used to generate the path model with independent variable *((i) Loan Characteristics, (ii) Family Status, (iii) Borrowers Characteristics, (iv) Business Features and (v) Training Development*). Whereas the dependent variables are (*(i) Social Wellbeing, (ii) Employment Generations, (iii) Household Income, (iv) Microenterprise Performance*). The best indicators were evaluated as shown in the Figure II.

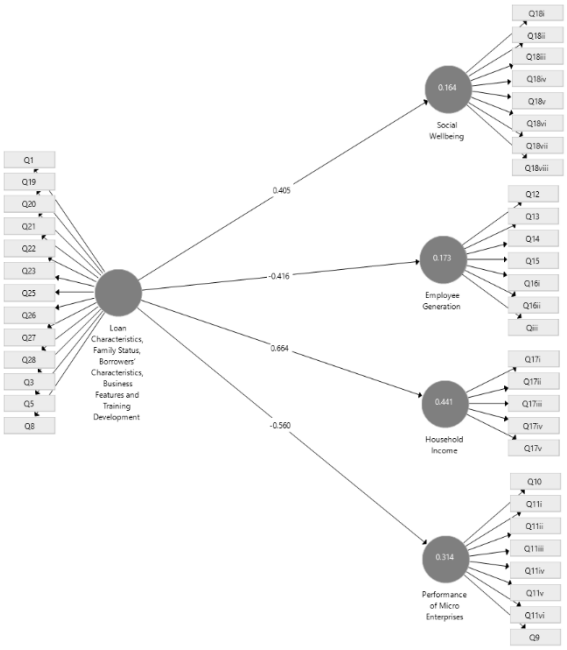


Fig II. Path Model generated from PLS-SEM software

The construct validity of specific indicators were assessed by examining the respective cross loadings and factor loadings (Aibinu & Al-Lawati, (2010) stated that indicators having lower values, i.e. lesser than 0.4 should be eliminated as they have very little effect on the model. The indicators having loadings between 0.4 and 0.7 were considered [23]. From Table III, it is evident that items of few particular variables are greater than 0.50, and some are less than 0.50, thus confirming construct validity [24]. Table III also shows the outer loadings of all the items of the variables from beginning to the end of the measurement model. All other items are removed except those measurement items that are loaded significantly between 0.500 and 0.932.

Furthermore, convergent validity test assesses the extent to which a measurement correlates positively with other Discriminant validity on the other hand assesses the extent to which a construct is truly distinct from other constructs in the model and thus captures a single unique phenomenon [25]. The discriminant validity was assessed by using measurement criteria suggested by (Fornell & Larcker (1981). Therefore, a construct should not project the same variance as any other construct that is more than its AVE value. Table IV shows the Fornell and Larcker criterion test conduction where the squared correlations were compared with the correlations of other latent constructs. Table IV shows that all of the correlations were smaller relative to the squared root of average variance along the diagonals, showing satisfactory values for discriminant validity. However, the indicators of the cross loading are higher compared to the measurement of another construct.

measures of the same construct [27]. To establish convergent validity, the Average variance Extracted (AVE) must be higher than 0.500.[25], [28] Table III shows that the AVE is less than 0.500, however, the AVE is still accepted, according to (Fornell & Larcker (1981) if CR is more than the recommend value (0.600), AVE which is less than 0.500 can be tolerated.

Table III. Convergent Validity Result

Variables	**Items**	**Initial model**	**Modified Model**	**AVE**
Loan Characteristics, Family Status, Borrower Characteristics, Business Feature and	Q1	0.423	0.632	0.400
	Q3	-0.084	0.511	
	Q5	-0.369	**deleted**	
	Q27	0.212	**deleted**	
	Q28	0.05	0.655	
	Q23	0.111	**deleted**	
	Q25	-0.055	0.570	

Training Development	Q26	-0.076	0.500	
	Q8	-0.784	**deleted**	
	Q22	-0.21	**deleted**	
	Q19	-0.152	0.810	
	Q20	0.232	0.650	
	Q21	0.739	0.810	
Social Wellbeing	Q18i	-0.357	**deleted**	0.445
	Q18ii	0.422	0.593	
	Q18iii	0.66	0.651	
	Q18iv	0.181	0.556	
	Q18v	0.731	0.797	
	Q18vi	0.296	0.525	
	Q18vii	-0.195	0.813	
	Q18viii	0.584	**deleted**	
	Q18ix	-0.810	**deleted**	
Employment Generation	Q12	0.721	0.679	0.538
	Q13	0.199	**deleted**	
	Q14	0.448	0.528	
	Q15	-0.041	**deleted**	
	Q16i	0.873	**deleted**	
	Q16ii	0.78	0.877	
	Q16iii	0.843	0.845	
Household Income	Q17i	0.134	**deleted**	0.515
	Q17ii	0.847	0.837	
	Q17iii	0.817	0.765	
	Q17iv	0.167	0.510	
	Q17v	0.346	**deleted**	
Performance of micro enterprises	Q8	-0.784	**deleted**	
	Q9	-0.143	**deleted**	
	Q10	0.582	0.584	0.405
	Q11i	0.605	0.846	
	Q11ii	-0.082	**deleted**	
	Q11iii	-0.032	**deleted**	
	Q11iv	0.674	**deleted**	
	Q11v	-0.174	0.540	
	Q11vi	0.665	0.932	

T**able IV.** Fornell Larcker – Discriminant Validity

	Employment Generation	Household Income	Loan Characteristics, Family Status, Borrowers' Characteristics, Business Features and Training Development	Performance of Micro Enterprises	Social Well-being
Employment Generation	**0.733**				
Household Income	-0.299	**0.718**			
Loan Characteri	-0.491	0.392	**0.657**		

stics, Family Status, Borrowers' Characteristics, Business Features and Training Development					
Performance of Micro Enterprises	0.421	-0.131	-0.332	**0.637**	
Social Wellbeing	-0.176	0.449	0.346	0.166	**0.667**

The reliability of the reflective measurement model is checked by applying the composite reliability. Composite reliability is used instead of Cronbach Alpha because composite reliability covers those indicators only with different loadings. Therefore, the composite reliability was interpreted the same way as Cronbach's Alpha [30] . Composite reliability values reflects the level up to which construct indicators are capable of maintaining the latent variables greater than 0.70 [31]–[33]. As shown in Table V, all displayed composite reliability between 0.831 and 0.967 is well above the threshold value of 0.70.

Table V. Composite Reliability

	Composite Reliability
Employment Generation	0.843
Household Income	0.754
Loan Characteristics, Family Status, Borrowers' Characteristics, Business Features and Training Development	0.624
Performance of Micro Enterprises	0.638
Social Wellbeing	0.842

After running this structural model to validate the proposed hypothesis five hundred resample for bootstrapping were conducted in order to generate the t-value. This is to get a good level of estimating regarding the structural model. The function of t-value is to specify how well are the latent variables related to each other and to show the constructs and path between the items. A T-value of 1.64 or higher is said to be significant at 10% level of significance ($t>1.64$; $p<.1$). A t-value greater than 1.96 is significant at 5% level of significance ($t>1.96$; $p < .05$) and t value greater than 2.57 means a significant path is present at 1 % level ($t>2.57$; $p<.01$) [34]. The results of bootstrapping are as in Table VI below.

Table VI. Structural Model Assessment Result

H	Relationship	Direct Effect (β)	Standard Error	T-Statistics	Decision
H1a	Loan Characteristics, Family Status, Borrowers' Characteristics, Business Features and Training Development -> Social Wellbeing	0.346	0.033	10.411**	Accepted
H1b	Loan Characteristics, Family Status, Borrowers' Characteristics, Business Features and Training Development -> Employment Generation	-0.491	0.039	12.586**	Accepted
H1c	Loan Characteristics, Family Status, Borrowers' Characteristics, Business Features and Training Development -> Household Income	0.657	0.038	17.106**	Accepted
H1d	Loan Characteristics, Family Status, Borrowers' Characteristics, Business Features and Training Development -> Performance of Micro Enterprises	0.332	0.058	5.746**	Accepted

Note: t-value more than 1.645 at *p<0.05, t-value more than 2.33 at **p<0.01

Based on the assessment of path coefficient, five (5) relationships are found to be positive and significant having t-value ≥ 1.645, thus significant at 0.05 and t-value ≥ 2.33, significant at 0.01. As per H1a: There is significant relationship between loan characteristics, family status, borrowers' characteristics, business features and training development with social wellbeing since β = 0.346, t-value = 10.411**. Thus, H1a is supported. Similarly, there is a significant relationship between loan characteristics, family status, borrowers' characteristics, business features and training development with employment generations. The result indicated that there is a relationship between two variables, as the result is β = -0.491, t-value = 12.586**. Therefore, H1b

is supported.

Similarly there is significant relationship between loan characteristics, family status, borrowers' characteristics, business features and training development with household income of the microfinance borrowers in Malaysia which is evident from the result is β = 0.657, t-value = 17.106**.Thus, H1c is supported. Furthermore, there is significant relationship between loan characteristics, family status, borrowers' characteristics, business features and training development with microenterprise performance of the microfinance borrowers. The result indicated that there is a relationship between two variables, as the result is β = -0.322, t-value = 5.746**. Thus, H1d is supported.

In addition to evaluating the path coefficients, regression results of the dependent variable which is employment generation, household income, performance of micro enterprises and social wellbeing was determined. The most commonly used measure in evaluating a structural model is the coefficient of determination (R^2), which shows the measure the model's predictive accuracy. The R2 represents the amount of variance in the endogenous construct explained by all of the exogenous construct linked to it [34], [35]. In PLS path models, the squared correlation values of 0.67, 0.33 and 0.19 are considered as substantial, moderate and weak respectively.[36] As shown in Table VII below, R^2 value for household income is greater than 0.33 and it is considered to be substantial. As for employment generation, performance of micro enterprise and social wellbeing, the R2 value are rather weak.

Table VII. Regression Results

	R^2	**Adjusted R^2**	**Effect size**
Employment Generation	0.241	0.238	Weak
Household Income	0.432	0.430	Substantial
Performance of Micro Enterprises	0.110	0.107	Weak
Social Wellbeing	0.120	0.117	Weak

Other than R^2, blindfolding is also used to cross-validate the model's predictive relevance for each of the individual dependent variables, as mentioned in the Stone-Geisser Q^2 analysis.[37] As per, the model has predictive relevance when Q^2 is greater than 0 whereas the model lacks predictive relevance when Q^2 less than 0. Moreover, the guidelines for evaluating the Q^2 value indicates that values of 0.02, 0.15, 0.35 represent small, medium, and larger relevance with a specific endogenous latent variable.[38] Based on the result as shown in the Table VII, the Q2 value for employment generation (Q2 = 0.067), household income (Q2=0.202), performance of micro enterprise (Q2=0.045) and social wellbeing (Q2=0.026) is more than 0, indicating that the model has a sufficient predictive relevance. The satisfactory values of predictive relevance for the dependent variable of loan characteristics, family status, borrowers' characteristics, business features and training development demonstrates the small and medium validity of the model.[36]

Table VIII. Q^2 result

	SSO	**SSE**	**Q^2 (=1-SSE/SSO)**	**Effect Size**
Employment Generation	248.072	231.406	0.067	Small
Household Income	124.704	99.546	0.202	Medium
Loan Characteristics, Family Status, Borrowers' Characteristics, Business Features and Training Development	371.413	371.413		
Performance of Micro Enterprises	183.035	174.764	0.045	Small
Social Wellbeing	325.735	317.121	0.026	Small

5. Conclusion

The objective of this study was to evaluate the effectiveness of microfinance in poverty alleviation in Malaysia by analysing 330 number of respondents from selected states in Malaysia. The framework model was developed based on the depth review of previous literature especially according the insights derived from. Mokhtar (2011) has also proposed a framework related to this and proposed an enhanced framework based on the Household Economic Portfolio Model (HEP-M).

The effectiveness of microfinance in poverty alleviation can be seen from the value of the validity results that strongly in accordance with previous research conducted by Samer et al., (2015). From the analysis, 3 dependent variables, Y, had Cronbach's Alpha more than 0.70 which shows the effectiveness of selected variables as possible ways of poverty reduction such as Social Wellbeing (0.842), Employment generation (0.843) and Household Income (0.754).

This study has highlighted the issues related to poverty which has remained a sensitive issue because it reflects the effectiveness of the government policies. One of the government proactive policy is to combat poverty using microfinance. Therefore, as per the new poverty line introduced in Malaysia this study has considered the crucial aspects of poverty reduction like social wellbeing, Household income and Employment generations. Hence this study has briefly analysed the policies undertaken by the government through Amanah Ikhtiar Malaysia (AIM) and further improves the understanding of microfinance related research in Malaysia.

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