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Original Article

Evaluating the Economic Impact of Interest-free Microfinance Institutions in Kerala: An Analysis of Variance

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Abstract *- The success of microfinance is measured based on the impact on its beneficiaries at the micro level and the community at large. The present study has examined the performance of Interest-free microfinance institutions (IFMFIs) in Kerala in impacting Household Expenditure, Household Assets and Employment Generation on its beneficiaries. The study used a stratified random sampling method to collect data from 454 respondents from 32 sample institutions. The study found that the IFMFIs in Kerala have a positive economic impact on its beneficiaries. The study has also tried to examine whether there is any significant difference between the Society Model, Trust Model and Nidhi Model. Interest-free Microfinance in economic impact and the Society Model of interest-free microfinance institutions perform better in all economic impact parameters than the Trust Model and Nidhi Model of Interest-free Microfinance. So, it recommends following the principles of the Society model to serve the poor better.*

Keywords *- Analysis of Variance, Economic Impact, Employment Generation, Household Expenditure, Household Assets, Interest-free Microfinance.*

1. Introduction

Over the last few years, Interest-free microfinance (IFMFI) has been considered an ethical way of microfinancing to alleviate poverty and bring about financial inclusion and sustainable growth. (Ubaidullah, 2008; Rahim and Rahman, 2015; Muhammed, 2016; Ameer, 2017). Poverty Alleviation, Income Growth, Functional Distribution of Income, Equal Opportunity, Control of Ownership, and Prevention of Malpractice are the primary objectives of setting up interest-free microfinance (Obaidullah, 2008). "Interest-free finance is defined as the provision of financial services in accordance with Shariah law, principles and rules. It does not permit receipt and payment of interest, excessive uncertainty, gambling, or financing activities that it considers harmful to society. Instead, the parties must share the risks and rewards of a business transaction, and the transaction should have a real economic purpose without undue speculation and not involve any exploitation of either party" (International Monitory Fund, 2017).

Very often, people misunderstand interest-free microfinance with Islamic banking. However, it differs from Islamic banking in several aspects like interest-free microfinance emphasises financial inclusion of the unbanked segment of the community, and it advocates collateral-free loans. According to the available literature, Interest-free microfinance institutions have been operating since the early 70s in many Asian and Middle east countries, and there are more than 350 interest-free microfinance institutions (IFMFIs) and around 4000 interest-free SHGs operating in Kerala (INFAC, 2018). Despite its spread, demand and growth rate, interest-free microfinance represent less than 1% of global microfinance outreach (Global Islamic Microfinance Report, 2016). Alam et al., 2015 found that interest-free microfinance institutions are a viable alternative for maximising social benefit, and it could solve the problem of lack of access to financial services, which actually prevents poor microentrepreneurs from contributing to economic development (Alam et al., 2015).

2. Literature Review

Over the past decades, interest-free microfinance has become a development tool for poverty alleviation and socio-economic development (Shamsuddin et al., 2016). Interest-free microfinance institutions provide financial services such as micro-credit, micro-saving and micro-insurance to low-income beneficiaries. Plenty of literature reveals the contribution of interest-free microfinance in improving the welfare and overall standard of living of the poor (Shamsuddin et al., 2016). Rokhman gives evidence of the positive impact on children's education and microenterprises development (Rokhman, 2013). Better sales revenue after joining microfinance, adoption of innovative business strategy, introduction of new products and innovative marketing techniques (Riwajanti, 2014) and more employment generation (Mohamed & Ahmed, 2015).

Adnan & Ajija (2015) found that BMT financing effectively increases beneficiaries' income after joining BMT microfinance program. Similarly, Jariya (2013) conducted a study in Sri Lanka and found that beneficiaries have generated comparatively more incomes with the support of interest-free microfinance in Sri Lanka. Zaidah (2011) also came up with a positive finding that

(AIM) program contributes to reducing poverty among low-income households in rural areas in Malaysia. Samir et. All (2015) also found a positive impact on household income after availing loan facility from AIM.

The impact study of the Rural Development Scheme (RDS) by Rahman and Ahmad (2010) found that the household income of RDS clients increased significantly after joining the microfinance program. Similar results are to be delivered by Bhuiyian et. All (2013), Uddin (2008), and Ahmad (2002), in various studies conducted with the same microfinance institution and sample beneficiaries. Widiyanto (2010) from Indonasia and Hassan, A. (2014) from India and Ullah et. All (2011), Khan and Usman (2010) from Pakistan found that IFMFI improved borrowers' income.

3. Objectives of the Study

The present study conducts with the following objectives:

1. To Understand how Interest-free Microfinance Institutions impact their beneficiaries on Household Expenditure, Household Assets and Employment Generation.
2. To examine whether there is any significant difference between the Society Model, Trust Model and Nidhi Model of Interest-free Microfinance in Economic Impact.

4. Methodology

Impact on Household Expenditure, Impact on Household Assets and Impact on Employment Generation are the three variables used in the study to measure the economic impact of interest-free microfinance institutions in Kerala. The study for at least five years in Kerala. IBM SPSS- Version 23 has been used to process the data collected through the questionnaire method. The economic impact of IFMFIs has been described using descriptive statistical analysis such as mean and standard deviation. The One-way collected 454 data from 32 sample institutions using a stratified random sampling technique. The sample institutions have been operational ANOVA test is used to test whether there is any significant difference between the Society Model, Trust Model and Nidhi Model of Interest-free Microfinance in terms of economic impact aspects.

5. Data Analysis and Findings

The economic impact of IFMFIs on its beneficiaries was assessed using parameters like Household Expenditure, Household Assets and Employment Generation. The results of the Paired t-test and ANOVA tests and major findings are below.

5.1. Impact on Household Expenditure

To assess the impact on household expenditure, responses collect from sample IFMFI beneficiaries on various sub-parameters of household expenditure to measure the level of household expenditure before and after joining IFMFI. It is observed from the primary analysis that the household expenditure before joining the interest-free microfinance programme reports as INR 1077.27. Moreover, household expenditure has reportedly increased to INR 1705.18 after joining the interest-free microfinance programme. So, the household expenditure of most IFMFI members increased after joining microfinance.

The Paired Sample t-test shows that the household expenditure of beneficiaries after joining IFMFI is higher than the household expenditure of beneficiaries before joining IFMFI, and the result is significant, $t\ (452) = 20.54$, $p < 0.000$. Therefore, it can be concluded that there was a positive impact on the household expenditure of IFMFI beneficiaries due to the intervention of Interest-free microfinance programmes.

The mean values of variables were taken to understand whether there is any significant variation in 'household expenditure across different types of IFMFIs, namely the Society Model, Trust Model and Nidhi Model. It finds that household expenditure of beneficiaries is higher for IFMFIs in Society Model (mean=1267.08, SD=517.24) than in Trust Model (mean=1144.85, SD=515.67). The mean values were lowest for the Nidhi Model of IFMFIs (mean=858.22, SD=264.02).

Table 1. ANOVA Statistics

		N	Mean	Std. Deviation
Average Monthly Household Expenditure Before Joining IFMFI	Society	158	1267.08	517.24
	Trust	175	1144.85	515.67
	Nidhi Model	120	858.22	264.02
	Total	453	1077.26	474.47

Source: Data Analysis using SPSS

One-way ANOVA is used to examine whether there is a significant difference between the Society model, Nidhi model and Trust model of IFMFIs in impact on household expenditure. The result of One-way ANOVA is given below:

Table 2. ANOVA-Types of IFMFIs

		Sum of Squares	df	Mean Square	F	Sig.
Average Monthly Household Expenditure	Between Groups	16062435.038	2	8031217.51	13.11	.000
	Within Groups	275677874.01	450	612617.49		
	Total	291740309.051	452			

Source: Data Analysis using SPSS

The one-way ANOVA results showed a significant variation in the Average monthly household expenditure of IFMFI beneficiaries ($p<0.00$, $F= 13.11$) across different types of IFMFIs, namely the Society Model, Trust Model and Nidhi Model. They found that the Society model (mean=1267.08, SD=517.24) performs better in Impact on Average monthly household expenditure compared to the other two models of interest-free microfinance in Kerala.

5.2. Impact on Household Assets

It is also observed from the primary analysis that the value of household assets before joining the interest-free microfinance programme reports as INR 4641.78. Moreover, the value of household assets has reportedly increased to INR 9057 after joining the interest-free microfinance programme. So, it finds that most IFMFI beneficiaries' household assets increased after joining microfinance.

The Paired Sample t-test shows that the value of household assets of beneficiaries after joining IFMFI (mean=9057.39, SD=4641.78) is higher than the value of household assets of beneficiaries before joining IFMFI (mean=4693.15, SD=6769.28) and the result is significant, $t(452) = 16.360$, $p < 0.000$. Therefore, it can be concluded that there was a positive impact on the value of household assets of IFMFI beneficiaries due to the intervention of Interest-free microfinance programmes.

The mean values of variables would be taken to understand whether there is any significant variation in the 'value of household assets" across different types of IFMFIs, namely the Society Model, Trust Model and Nidhi Model. It finds that the value of household assets of beneficiaries is higher for IFMFIs in Society Model (mean=9938.33, SD=4597.60) and Nidhi Model (mean=9122.15, SD=7878.75). The mean values were lowest for the Trust Model of IFMFIs (mean=8394.85, SD=6898.41).

Table 3. ANOVA Statistics

		N	Mean	Std. Deviation
Value of Household Assets After Joining IFMFI	Society	158	9938.33	4597.60
	Trust	175	8394.85	6898.41
	Nidhi Model	120	9122.15	7878.75
	Total	453	9057.39	6769.28

Source: Data Analysis using SPSS

One-way ANOVA is used to examine whether there is a significant difference between the Society model, Nidhi model and Trust model of IFMFIs an impact on the value of household assets. The result of One-way ANOVA is given below:

Table 4. ANOVA- Types of IFMFIs

		Sum of Squares	df	Mean Square	F	Sig.
Value of Household Assets	Between Groups	170606219.820	2	85303109.91	1.869	.156
	Within Groups	20541501506.45	450	45647781.12		
	Total	20712107726.26	452			

Source: Data Analysis using SPSS

The results of the One-way ANOVA show there was no significant variation in the value of household assets of IFMFI beneficiaries ((p 0.156)) across different types of IFMFIs, namely; the Society Model, Trust Model and Nidhi Model, but based on the mean value, the society model (mean=9938.33, SD=4597.60) is performing better in impact on the value of household assets compared to other two models of interest-free microfinance in Kerala.

5.3. Impact on Employment Generation

It is also observed from the primary analysis that the number of days of employment before joining the interest-free microfinance programme reports as 81.44 days. Furthermore, the number of days of employment has reportedly increased to 138.28 days after joining the interest-free microfinance programme. So, it was found that s number of days of employment of most IFMFI members increased after joining the microfinance.

The Paired Sample t-test shows that the number of days of employment of beneficiaries after joining IFMFI (mean=138.28, SD=109.70) is higher than the number of days of employment of beneficiaries before joining IFMFI (mean=81.44, SD=78.79). A paired t-test found this difference to be significant, $t(452) = -20.15$, $p < 0.000$. Therefore, it can be concluded that there was a positive impact on the number of days of employment of IFMFI beneficiaries due to the intervention of Interest-free microfinance programmes.

To understand whether there is any significant variation in 'the number of days of employment across different types of IFMFIs, namely the Society Model, Trust Model and Nidhi Model, the mean values of variables can take. The Employment Generation is higher for IFMFIs in Society Model (mean=159.38, SD=94.48) than in Nidhi Model (mean=128.04, SD=123.33). The mean values were lowest for the Trust Model of IFMFIs (mean=126.26, SD=110.37).

Table 5. ANOVA Statistics

		N	Mean	Std. Deviation
Employment Generation After Joining IFMFI	Society	158	159.38	94.48
	Trust	175	126.26	110.37
	Nidhi Model	120	128.04	123.33
	Total	453	138.28	109.70

Source: Data Analysis using SPSS

To examine whether there is a significant difference between the Society model, Nidhi model and Trust model of IFMFIs an impact on the number of days of employment, where One-way ANOVA is used. The result of One-way ANOVA is given below:

Table 6. ANOVA- Types of IFMFIs

		Sum of Squares	df	Mean Square	F	Sig.
Employment Generation	Between Groups	108234.54	2	54117.27	4.568	.011
	Within Groups	5331486.15	450	11847.74		
	Total	5439720.69	452			

Source: Data Analysis using SPSS

The results of the One-way ANOVA showed a significant variation in the number of days of employment of IFMFI beneficiaries ($p<0.00$, $F= 8.36$) across different types of IFMFIs, namely the Society Model, Trust Model and Nidhi Model. They found that the Society model (mean=159.38, SD=94.48) performs better in the number of days of employment compared to the other two models of interest-free microfinance in Kerala.

6. Conclusion

Interest-free microfinance is a subset of the interest-free banking system, and it primarily focuses on community well-being, financial inclusion, and poverty alleviation through employment generation. The present study evaluates the impact of Interest-free Microfinance institutions (IFMFIs) on Household Expenditure, Household Assets and Employment Generation of beneficiaries in Kerala. The study found a positive impact on Household Expenditure, Household Assets and Employment Generation of IFMFI beneficiaries due to the intervention of Interest-free microfinance programmes. The study has also tried to examine whether there is any significant difference between the Society Model, Trust Model and Nidhi Model of Interest-free Microfinance in economic impact and found that the Society Model of interest-free microfinance institutions is performing better in all economic impact parameters compared to other two models. The study proved the practical viability of interest-free microfinance in Kerala as a tool for economic transformation.

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