Digital Financial Inclusion and Self-Help Groups in Malappuram: Opportunities and Challenges

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Abstract: Digital financial inclusion is challenging to achieve, particularly among marginalised groups. SHGs, mostly known as Kudumbashree units in Kerala, play a vital role in empowering women and low-income communities through microfinance and entrepreneurial activities. Digital financial tools have transformed financial transactions, offering convenience, security, and accessibility. This paper explores awareness and adoption of digital financial tools and identifies the benefits and challenges of their use among members of Kudumbashree SHGs. The study's findings offer recommendations for capacity-building initiatives to enhance digital financial inclusion among SHG members, fostering economic empowerment and financial stability.

Keywords: SHGs, Digital financial tools, Kudumbashree

Introduction

Financial inclusion means giving people access to affordable financial services, especially those who are usually left unseen. Today, the world is becoming more digital, and using technology is becoming very important to keep up with the changes. With fast-growing technology and the use of AI, it is important to understand digital financial services and connect with Self-Help Groups (SHGs) (Khamees, 2022) (Jouya & Khayati, 2017). The transition to digital platforms has made it challenging, including a lack of digital knowledge, poor internet access, and trust issues. This study examines how digital financial services can assist SHGs in Malappuram district and identifies the challenges they face when using these services (Rachmad, 2025).

Digital financial inclusion:

Digital financial inclusion means using technology such as mobile phones, internet banking, and digital wallets to provide people with easy, affordable, and safe financial services. This also helps save money, make immediate payments, avail of loans, and improve economic stability. Some of the benefits digital financial inclusion provides are as follows:

- It helps to promote economic independence among women.
- It increases purchasing power.
- Enhance financial accessibility and affordability.
- It increases transparency and accountability in financial transactions. Common threats and challenges include a lack of trust, inadequate digital access, limited digital literacy, a lack of digital knowledge, and fear of using electronic gadgets, with a preference for conventional payment methods.

Self Help Groups in Malappuram

Malappuram is a district in Kerala with a large population and a strong presence of SHGs, primarily led by women under the Kudumbashree mission.

Malappuram is a district in Kerala that has a strong presence of SHGs, primarily led by women under the Kudumbashree mission. These groups engage in savings, credit, and small-scale business activities. The adoption of digital financial services can transform operations by reducing transaction costs and improving financial management (Huy, 2018; Rahardj et al, 2025).

It is also found that in Malappuram, there are approximately 140 SHG members, and 67.86% have an undergraduate education. The primary reasons women join SHGs are to start a business, strengthen savings habits, and meet household expenses.

Kudumbashree mission:

Kudumbashree, meaning "prosperity of the family" in Malayalam, is an essential tool to eradicate poverty and an empowerment program launched by the government of Kerala in 1998. This mission operates under the State Poverty Eradication (SPEM) and collaborates with local self-government institutions. The structure of SHGs in Kerala is given below.
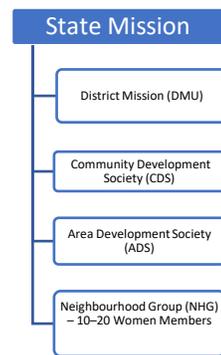
Figure 1: Structure of the State Mission

Figure 1 displays the hierarchical nature of the State Mission, which comprises levels. The highest is the State Mission, and then the District Mission (DMU). The District Mission has three significant components: Community Development Society (CDS), Area Development Society (ADS), and the Neighborhood Group (NHG), which includes 10-20 women members. This structure brings out the order and the sequence of activities in the mission, leading to the development of the community and empowerment.

The main objective of Kudumbashree is to empower women and facilitate access to microfinance and livelihood opportunities (Kapoor & Menon, 2025). Additionally, support is provided to the members in local governance and development. The primary activities carried out are supporting micro-enterprises in sectors like tailoring, food processing, and handicrafts, and also the implementation of social welfare programs targeting marginalised communities. The recent reports indicate that Kudumbashree encompasses over 3.17 lakhs NHGs, 19,470 ADSs, and 1070 CDSSs, engaging approximately 48 lakh women across Kerala. It is well recognised nationally as well as internationally. This mission has increased confidence and greater financial independence (Buteau et al., 2021). Mainly, SHGs in Malappuram have fostered community development and women's empowerment through collective action and financial inclusion initiatives (Shrivastava & Ahmed, 2024; Bhatia & Bansal, 2024).

Review of literature:

- Roy, S, and Singh, A. (2025) carried out research on DFI among SHG women in India: A Study on Adoption, Ability, and Attitude. In this research, an attempt was made to study SHG women of the Hooghly district of West Bengal, comprising 80 participants and five Gram Panchayats. The survey data gathered through interviews revealed that the respondents are familiar with traditional banking but lack awareness of digital financial literacy. Findings obtained in the form of interview data indicated that respondents are conversant with the conventional aspects of banking but have no knowledge of digital financial literacy. The data obtained in the process of the interviews revealed that the informants know classical banking well, but they lack knowledge about digital financial literacy. The findings are highly district-specific, which helps elucidate the general discourse on the

adoption of digital banking and financial literacy and provides relevant information to direct policymakers and stakeholders on how to bring rural women into the digital financial domain.

- Nizam and Rashidi M.Z. (2025) researched the hindrances to digital financial inclusion and digital financial services in Pakistan. The paper will examine the reasons why those users who have existing DFS accounts fail to use them. Data were collected through validated interviews with individuals of varying age groups and occupations. NVivo software was used to analyze responses. The six barriers identified in the study are dependency, illiteracy, no trust, cost, lack of access, and financial instability. A ratio of 80 percent did not know about modern e-payment systems. Awareness, as proposed by the study, is essential for education and trust-building in DFS. Also, promoting user-friendly innovations and targeted outreach can improve digital financial inclusion across Pakistan.

- Kumari et al (2025). Research on the effects of the Digital Financial Inclusion (DFI) program on SHGs (self-help groups). In the paper, it was addressed how the SHGs could be adapted to solve societal problems and economic growth, and it helps to improve and give more financial inclusion with RBI, NABARD, NBFC in empowering the socially sustainable development goals situations, and also provide a better chance to women in the rural sectors. To reach its findings, the research made use of secondary data collected by visiting different websites, journals, Newspapers, magazines, and case studies on SHGs.

- Rahman, 2023. Researched on Digital financial services and inclusion, and explains the significant challenge in financial literacy, around 76% of adults lack even basic financial knowledge. Since independence, the Indian government has consistently worked to bring more people into the banking and financial system through reforms, liberalisation, and technology-driven initiatives. The advent of digital technology has brought about digital payments as one of the means of fast-tracking financial inclusion. The current study focuses on the analysis of the situation with digital financial inclusion (DFI) in India, the difficulties that this field is challenged with, and the causes of its relative failure. The results highlight the poor education, ignorance, and the inability to access internet-enabled devices as the major obstacles. These gaps can be filled in to empower the DFI initiatives and help achieve the larger objective of inclusive financial development.

- Mhlanga & Dzingirai (2025). The research paper presented below is dedicated to the examination of the opportunities and challenges of digital financial inclusion and fintech innovation. The article was about digital financial inclusion of various stakeholders that comprise enterprises as well as women. Lack of official identification cards, discrimination laws against the ownership of an account by women, attitudes towards the employability of women in the workforce, and the access to the digital financial services, poor in the quality of digital literacy and financial capability of women, were the main concerns that were related to involving women. The research has found that the reduction of the cost of digital services, digital literacy that can kick-start the process of digital financial inclusion, and artificial intelligence will make a difference in digital financial inclusion.

- Survase, M., & Gohil, A. et al (2024) investigated the subject of the effect of financial inclusion on social well-being. It is associated with the accessibility and availability of financial services to society, especially the low-income groups. The research question also examines the extent of financial inclusion amongst the SHGs that are prevalent in the rural regions. This paper is written on the survey that was conducted on the 421 SHGs survey that was done in three districts of Maharashtra (Pune, Thane, and Palghar districts). Structural Equation Modeling (SEM) was applied in the analysis. It discusses the applicability of increasing the awareness of insurance cover through financial literacy lessons and access to such covers in time to enhance the incorporation of finances in rural areas.

- Jain, P. Upadhyay, D, &Purswani, G (2021). The paper emphasizes the importance of DFI in the financial services available using technology such as mobile phones, the internet, and digital wallets. However, this development has not put a significant portion of the population into the banking system. With growing internet and smartphone use, digital transactions are expected to rise, but financial and digital literacy remain significant barriers. The paper reviews the evolution, benefits, and challenges of DFI in India and offers suggestions to make inclusion more effective and widespread.

- Akanfe et al (2025). The provenance of Digital financial inclusion: next frontiers- challenges and opportunities was researched. This paper discusses what has already been accomplished in financial inclusion, what is expected to take place, and how digital technologies can be leveraged to create a more inclusive society. The paper also speaks about numerous issues that currently exist in the attempt to attain an inclusive culture. The paper describes

some schemes that have been encouraged by the government of India through the Digital India movement and the Pradhan Mantri Jan Dhan Yojana.

- Rahman & Sadik (2025). The topic that was studied is an overview of digital financial services in India: concept, initiatives, and advantages. It is a research paper in which the data were gathered primarily with the help of secondary data, and it concluded that the Digital India initiative would be suitable to connect the different classes of society, and it would assist in achieving the goal of financial inclusion through digital banking. In this paper, the author elaborates on how the DFS are making financial inclusion and enhancing financial health with digital technology. The resultant idea is to sensitize the citizens, particularly in the rural and semi-urban settings, to the foundations of DFS.

Research gap

Talking of financial inclusions, plenty of studies have been conducted, but in the following sections, a different picture will be presented. Most have concentrated on traditional methods like bank linkage programs and insurance schemes, particularly in the contribution towards alleviating poverty. Such efforts have increased the reach of formal financial systems, definitely. What is yet to be highlighted, however, is the contribution of Self-Help Groups (SHGs) in promoting digital financial inclusion, particularly in the hinterland and in semi-urban locations. In such districts as Malappuram, where SHGs are entrenched in the community and actively involved in the empowerment of women and their local growth, there is a strong opportunity to invest in digital awareness and the consumption of financial services. Nevertheless, there is minimal research on how SHGs can be efficient action agents in the dissemination of the utilization of electronic platforms in offering financial services. This analysis will address this gap by analyzing the opportunities and challenges SHGs can encounter in the promotion of digital finance in Malappuram. The study seeks to make SHGs more inclusive, accessible, and technology-driven through the identification of them as grassroots enablers to enable more people to participate in the region financially.

Statement of The Problem

Self-Help Groups (SHGs) in Malappuram are essential for economic growth. The members of the SHG, most of whom are referred to as Kudumbashree in Kerala, are economically disenfranchised segments and do not have ease of using digital financial means such as mobile banking, UPI, and digital wallets because of their low digital literacy rates, low internet connectivity, and safety concerns. Such obstacles do not allow SHGs to maximize the benefits of using digital financial services, reducing economic growth. The proposed study is going to evaluate the digital awareness of SHGs, the primary challenges they face, and offer the means of enhancing the digital financial inclusion.

Scope of The Study

The area covered is various municipalities in the Malappuram district, Kerala. The study on online monetary inclusion and self-help groups in Malappuram: opportunities and challenges. The research focuses on finding out the effectiveness of the digital financial products available, such as mobile banking, UPI, and digital wallets, among SHGs in Malappuram. It will also discuss the advantages of using such tools, including ease in saving money, quick payment, and improved access to loans. The research will also examine the issues of members of SHG. The results would be used to enhance digital financial inclusion for the members of SHGs.

Objectives of The Study

- To determine how SHG members in the Malappuram area are aware of digital financial tools and their adoption.
- To determine the impact of digital financial inclusion on members of SHG,
- To determine the obstacles to the digital adoption of financial tools by SHGs.

Research Methodology

The descriptive research design was used in the study to evaluate awareness, adoption, benefits, and challenges of digital financial tools among SHG members of Malappuram. Structured questionnaires, interviews, and focus group discussions will be administered to collect primary data. Government reports, research papers, and SHG records will be used to get secondary data. The study applies a simple random sampling technique. Descriptive statistics such as percentages, mean, and frequency distribution will be used in the analysis of the data, and tools like SPSS or Excel will be used for better interpretation. This study will be based on the Malappuram district, where SHGs will be categorized according to their digital awareness and adoption.

The 150 respondents sample was chosen to make sure that the variety of experiences and issues concerning digital financial inclusion was covered. This sample was deemed adequate to conduct qualitative research, as it is possible to examine the most problematic aspects and still remain within the limits of the research. The study was able to use a simple random sampling technique, which meant that every member of SHG had an equal chance of participating in the study, thereby increasing the representativeness of the information. This sample size was sufficient to give meaningful results and make credible conclusions owing to the population size in Malappuram.

To counter the internal bias in the qualitative data that I gathered in this research, various measures were put in place. First, in order to reduce the researcher bias in interpreting verbal and textual data, several data collection techniques were used, which included structured interviews, focus group discussions, and surveys. This method of triangulation will provide a more in-depth picture of the digital experience of financial inclusion among members of SHG. Also, to check the correctness of the information, the member checks were carried out, enabling the respondents to check the answers in the follow-up discussions. With visual data, emphasis was on bringing objective and transparent representations of visual data in a way that any visual representation was never a mere impression of subjective interpretations. Coding and analysis using software further contributed to the consistency and reliability of the data interpretation and minimized the possibility of personal bias affecting the findings.

Research Design

This study follows a descriptive research design, and it mainly aims to assess the level of awareness, benefits, and challenges of digital financial tool adoption among SHG members. This approach helps to understand and analyze digital financial inclusion by capturing the current status.

Sample Design

The sample for this study consists of SHG members in Malappuram district. There are mainly seven taluks in Malappuram. A simple random sampling technique is used to select the respondents from the Angadi Puram panchayat. Nearly 50 respondents have responded to the study.

Analysis and Interpretation

- To analyze the accessibility and level of awareness and adoption of digital financial tools among SHG members in Malappuram, the awareness score was calculated as the sum of digital financial tools and services (e.g., mobile banking, UPI, digital wallets) and the adaptability score of SHG members. The ANOVA method was applied, with awareness score as the dependent variable and education level and income level of SHG members as independent variables. The analysis results are provided below.

- Ho: There is no significant difference between educational level and income level for the adoption of digital financial products and tools.

Table 1: Tests of Between-Subjects Effects					
Dependent variable: awareness score					
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	48.731[a]	13	3.749	4.403	.000
Intercept	151.456	1	151.456	177.885	.000
Education level	4.804	4	1.201	1.410	.251
income level	18.455	3	6.152	7.225	.001
Education level * income level	7.652	6	1.275	1.498	.208
Error	29.800	35	.851		
Total	233.000	49			
Corrected Total	78.531	48			
a. R Squared = .621 (Adjusted R Squared = .480)					

Based on Table 1 above, the p-level of the effect of the variable's education level is 0.251, and it falls beyond the 0.05 level. This implies that there is no meaningful impact of the level of education on the adoption of digital financial

instruments. However, in the income level effect, the p-value is 0.001, which is below 0.05. This indicates that income level has a significant impact on the use of digital financial tools.

 These two effects, such as education and income effects, are plotted below.
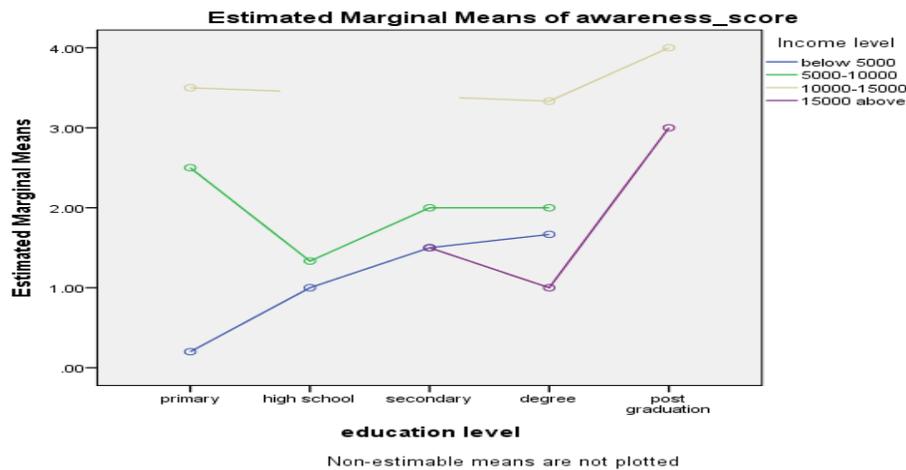
Figure 2: Chart on education and income effects.

Figure 2 shows that the more income a person has, the more they are aware of digital financial tools, especially when the level of education is higher. The graph illustrates the various income levels, whereby there are higher awareness scores among those who are better off in terms of income and education. Inadequate data do not amount to the plotting of non-estimable means.

To analyze the benefits of digital financial inclusion for SHG members, we used a ranking method. For this, we ranked strongly disagree as rank 1, " disagree as rank 2, and so on. This is analyzed using the Friedman test.

Table No. 2: Ranking on the benefits of digital financial inclusion	
	Mean Rank
Easier access to banking services	4.40
Faster transactions	4.38
Reduction in travel time to banks	5.32
Access to government subsidies and schemes	3.85
Digital financial services have helped me save money	3.79
Digital financial services have helped me access loans or credit.	3.51
Digital financial services have helped me start or grow a business.	2.77

Source: Primary data.

From the above table 2 of ranks, it is understood that the highest mean rank shows that they strongly agree with the benefits of particular digital financial inclusion among SHG members in Malappuram. Among the SHG members in Malappuram, the highest benefit is gained in the reduction in travel time to banks, whereas fewer benefits are achieved in digital financial services, which help with business growth. Generally, we can conclude that, through digital financial inclusion, the SHG members are the beneficiaries of the easiest accessibility to banking services, faster transactions, saving money, etc. Particularly in the accessibility of government subsidies and schemes, the members are the highly benefited persons. To analyze the challenges faced by SHGs in adopting digital financial tools, used the correlation and regression techniques. From the correlation analysis, highly affected challenges faced by the SHGs members in Malappuram for adopting digital financial tools are a lack of digital literacy, a language barrier, and poor internet connectivity.

Table 3: Correlations			Adoption_ level	Lack_of_smart_ phones	Poor_internet_ connectivity	Lack_of_digital_ literacy	Fear_of_fraud_ cyber_crime	High_ transaction_ cost	Language_ barrier
Spearman's rho	Adoption_level	Correlation Coefficient	1.000	.155	-.227	-.019	.147	.119	-.186
		Sig. (2-tailed)	.	.286	.117	.897	.315	.415	.201
		N	49	49	49	49	49	49	49
	Lack_of_smart_ phones	Correlation Coefficient	.155	1.000	.034	.112	.294*	-.031	-.037
		Sig. (2-tailed)	.286	.	.817	.443	.040	.834	.802
		N	49	49	49	49	49	49	49
	Poor_internet_ connectivity	Correlation Coefficient	-.227	.034	1.000	.176	.227	.425**	.430**
		Sig. (2-tailed)	.117	.817	.	.227	.117	.002	.002
		N	49	49	49	49	49	49	49
	Lack_of_digital_ literacy	Correlation Coefficient	-.019	.112	.176	1.000	.484**	.248	.279
		Sig. (2-tailed)	.897	.443	.227	.	.000	.086	.052
		N	49	49	49	49	49	49	49
	Fear_of_fraud_ cyber_crime	Correlation Coefficient	.147	.294*	.227	.484**	1.000	.429**	.432**
		Sig. (2-tailed)	.315	.040	.117	.000	.	.002	.002
		N	49	49	49	49	49	49	49
	High_transaction_ cost	Correlation Coefficient	.119	-.031	.425**	.248	.429**	1.000	.412**
		Sig. (2-tailed)	.415	.834	.002	.086	.002	.	.003
		N	49	49	49	49	49	49	49
	Language_barrier	Correlation Coefficient	-.186	-.037	.430**	.279	.432**	.412**	1.000
		Sig. (2-tailed)	.201	.802	.002	.052	.002	.003	.
		N	49	49	49	49	49	49	49

Correlation is significant at the 0.05 level (2-tailed).

Correlation is significant at the 0.01 level (2-tailed).

Table 3 shows the correlation coefficient of different factors that affect the adoption of digital financial tools. Among the major findings, there are significant levels of positive relationship between fear of fraud/cybercrime and lack of smartphones (0.294 at 0.05), poor internet connectivity and fear of fraud/cybercrime (0.429 at 0.01), and high transaction cost (0.425 at 0.01). Also, the absence of digital literacy has a significant positive relationship with fear of fraud/cybercrime (0.484) and high transaction cost (0.429), which explains the enormous role in the digital adoption. Negative correlations also involve the poor internet connectivity and the adoption level (-0.227), and language barriers and the adoption level (-0.186), though not all correlations are found to be statistically significant.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.413[a]	.171	.052	1.24515	.171	1.442	6	42	.222

a. Predictors: (Constant), language barrier, lack of smartphones, lack of digital literacy, poor internet connectivity, high transaction cost, fear of fraud, crime

Table 4 shows the model summary of the regression analysis. The R value of the model is 0.413, which shows that the predictors (language barrier, lack of smartphones, lack of digital literacy, poor internet connectivity, high cost of transaction, and fear of fraud/cybercrime) are moderately related to the adoption level of digital financial tools. The model explains the variation in the adoption levels by 17.1% which can be determined by the R Square value of 0.171. The adjusted R-squared is equal to 0.052, which is relatively low when considering the number of predictors adjusted. The value of F Change of 1.442 with a Sig. F Change of 0.222 shows that the model is not found to be significant at the 0.05 level.

Table 5: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.414	6	2.236	1.442	.222[b]
	Residual	65.117	42	1.550		
	Total	78.531	48			
a. Dependent Variable: adoption level						
b. Predictors: (Constant), language barrier, lack of smartphones, lack of digital literacy, poor internet connectivity, high transaction cost, fear of fraud, crime						

Table 5 shows the results of the ANOVA of the regression model. The sum of squares of the Regression is 13.414, the mean square is 2.236, and the F-value is 1.442. The p-value 0.222 shows that the model is not significant at the level of 0.05. The Residual sum of squares stands at 65.117, and the mean square is 1.550. The Total sum of squares equals 78.531, which is the total variability of the dependent variable (adoption level). The insignificance (p > 0.05) indicates that the predictors are not effective in explaining the variation in levels of adoption.

Table 6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	1.329	1.236		1.076	.288
	Lack of smartphones	.149	.181	.124	.821	.416
	Poor internet connectivity	-.403	.216	-.311	-1.865	.069
	Lack of digital literacy	-.136	.218	-.101	-.626	.535
	Fear of fraud and cybercrime	.389	.398	.186	.977	.334
	High transaction cost	.371	.231	.279	1.603	.116
	Language barrier	-.241	.279	-.149	-.863	.393
a. Dependent Variable: adoption level						

In Table 6, the regression and correlation analysis yielded an R^2 value of 0.171, indicating that the model explains 17.1% of the variance in the adoption of digital financial tools. Since the p-value of .222 > .05 suggests that the combination of independent variables (challenges) does not significantly predict the dependent variable, as adoption of digital financial tools among the SHGs Members in Malappuram. Therefore, it is clear that the above explains the challenges mainly faced, such as poor network issues, lack of digital literacy, and more fears about fraud activities and spam.

Findings

1. The majority of the respondents are found to be educated and literate according to the study, and the educated people are earning well compared to those with less qualifications.
2. The income and the use of digital products exhibit a significant difference among respondents of SHGs. It is found that there is no difference in the education level and digital product usage of the respondents of SHGs.
3. It also found that graduates and postgraduates earn a salary of 15000 and above, and those who have finished primary education earn 5000 and less, which shows people are underemployed.
4. The significant benefits of digital financial inclusion, as ranked by SHGs members, are easier access to banking, faster transactions, and a reduction in travelling time.
5. Expansion of business is placed at the least benefit of digital financial inclusion. Respondents find difficulty in implementing the growth of the company.
6. The majority of the respondents find it challenging to access the internet due to poor connectivity, and a lack of digital knowledge is the main challenge in digital financial inclusion.
7. Most of the respondents face problems in understanding the languages in the digital apps for transactions, and also fear using the digital medium for fraud, and keep away from digital inclusions.
8. A minority of the respondents face problems with high transactional costs while using debit cards and banking apps.

Recommendations And Suggestions

1. Conduct workshops to educate SHG members on using mobile banking, digital payments, and fraud prevention.
2. Improve internet connectivity and digital access in rural areas.
3. Illiterate people find it difficult to use apps, so developing a localised vernacular-language-based fintech application for ease of use is necessary.
4. Awareness campaigns and programmes must be introduced to build trust in digital financial services.
5. Bringing policy enhancement in SHGs to adopt digital financial services.
6. The government should initiate providing subsidized Internet connections for women, especially in the SHG group and the BPL sectors.
7. Annova analysis shows a positive and significant relation between income and digital financial inclusion; therefore, empowerment of women is the only attribute to create change in the digital divide.
8. It is found that many are educated, so an online job fair must be introduced exclusively for women who are educated homemakers to participate and increase their economic independence.
9. Awareness classes must be given on cybersecurity to avoid and understand the valid contents and misleading, fraudulent information.

Conclusion

Digital financial inclusion assists in the change and offers diverse opportunities to SHGs in Malappuram, primarily empowering them with greater financial access, efficiency, and economic independence. The current issues, such as the necessity to get an education, the development of infrastructure, and policy support, are critical to the successful implementation. To ensure effective digital transformation or revolution, government agencies should work digitally in economic aspects and introduce a monumental transformation that will enable the adoption of the approaches.

In order to guarantee the validity of the results and decrease the impact of the internal biases on the qualitative data, the combination of the strategies was used. Several data collection techniques were employed to get a broad scope of the views, such as interviews, focus group discussions, and surveys. Member checks were also done to enable the participants to authenticate and explain the responses, and systematic coding and analysis using software tools minimised the chances of researcher bias. This strategy helped to make sure that the conclusions made were based on the experience and knowledge of the members of the SHG and provided a more objective evaluation of the process of digital financial inclusion.

Further Research

Digital financial inclusion offered by SHGs has been researched in Malappuram, but there is still more to learn regarding SHGs and the impact and sustainability that digital financial literacy programs sponsored by SHGs leave with participants in the programs. The impact of sustained, ongoing training on the patterns of digital behaviour to use financial programs confidently will leave a model with long-lasting effects. Also, specific studies focusing on the gendered aspects of the empowerment of women offered by SHGs to perceive, access, and exercise control over digital financial services will fill a significant gap. Regional studies on the comparative responses and success of different models should be prioritized. The impact of government and NGO sponsored programs that promote increased participation of SHGs in digital finance is also an important avenue to be researched. Also, with the continuous upgradation of technology, it would be helpful to study the rate of use and abilities to utilize digital systems such as UPI, cell phone banking programs, and digital loaning activities among SHG members, particularly with low education. These studies could help in developing more diverse and efficient digital financial ecosystems.

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