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Prioritizing Key Success Factors for the Integration of Digital Financial Literacy among Rural Women Entrepreneurs: An AHP Approach

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Abstract:

Purpose: The purpose of this study is to identify and prioritize the key success factors influencing the integration of digital financial literacy among rural women entrepreneurs. The research aims to develop a structured framework that supports effective adoption and sustained use of digital financial services, thereby enhancing entrepreneurial participation and financial inclusion.

Design/Methodology/Approach: The study employs a Multi-Criteria Decision-Making (MCDM) approach using the Analytic Hierarchy Process (AHP) to systematically evaluate and prioritize the identified success factors. Expert judgments were collected through structured pairwise comparisons from academicians, financial inclusion professionals, and practitioners involved in rural entrepreneurship and digital finance.

Findings: The results reveal that Access to Digital Infrastructure, Digital Financial Literacy Training, and Access to Financial Products are the most influential factors driving effective integration of digital financial literacy among rural women entrepreneurs. Factors such as Awareness campaigns and Local Community Support play a moderate role, while Government Policy Support, Institutional Support, and Social Support exert a comparatively indirect influence.

Implications: The findings provide practical insights for policymakers, financial institutions, and development agencies to design targeted and resource-efficient digital financial literacy interventions focused on high-impact drivers.

Originality: This study offers a novel prioritization-based framework for digital financial literacy integration among rural women entrepreneurs using AHP, contributing actionable insights beyond descriptive analyses.

Keywords: Digital Financial Literacy, Rural Women Entrepreneurs, Analytic Hierarchy Process (AHP), Multi-Criteria Decision Making (MCDM), Financial Inclusion.

Introduction

The adoption of digital financial literacy within the entrepreneurship activities has come out as a decisive enabler of economic empowerment, particularly to women in the rural areas. Digital financial literacy means the capacity to access, comprehend, and successfully utilize digital financial services and instruments which include mobile banking, digital wallets, and Fintech environments. The competency is not only improving financial inclusion but also helping entrepreneurs to be able to make wise financial choices, risks management, and increase their market access in a sustainable way. It has been indicated that digital financial inclusion, which is closely connected to literacy, can have a substantial positive effect on the intentions to become an entrepreneur and economic inclusion of women, especially among those with financial and informational limitations (Yang, 2022). Even within a digital infrastructure and financial technologies, the socio-economic factors, the lack of exposure to technology, and the insufficient decision-making authority in household and community systems tend to make rural female entrepreneurs disadvantaged. Approaches to financial inclusion in most rural areas have remained primarily concerned with access to formal accounts but not the ability to engage in digital financial services effectively, which has created a significant perennial lack of meaningful engagement (Mehta & Patel, 2025). This disparity is aggravated by the existence of continuous digital inequalities, with rural females being less digitally learned than urban women, thus limiting their entrepreneurial capabilities and involvement to use digital means to promote business development. The fact that the success factors affecting the adoption and use of the digital tools are diverse and dynamic also supports the need of conducting in-depth research on digital financial literacy among women entrepreneurs in rural areas. Even though the research has explored the general effects of financial inclusion and digital finance towards economic performance of women, they do not usually focus on the success factors that dictate whether digital financial literacy programs can be effective in rural settings. As an illustration, studies show that online financial literacy has a positive relationship with financial decision-making and the use of Fintech in women, but success determinants including technology readiness, institutional support, socio-cultural norms, and educational background are usually viewed as independent but not interdependent (Mishra, 2024). The interdependencies are critical since most rural women entrepreneurs have multi-layered constraints that cannot be solved using one dimensional solutions. To give an example, in digital tools are present, the lack of knowledge about cyber security, lack of confidence with technology and gender norms may severely play down meaningful interaction with digital finance. Current literature regarding digital financial inclusion has focused on the macro-level of how digital finance benefits women entrepreneurs, but lacks in outlining the key success factors that should be focused on to enable the successful adaptation of interventions to rural women entrepreneurs (Sowmya, 2025).

The main aim of the paper will be to explore the ways in which the key stakeholders in rural entrepreneurship ecosystems recognize, appraise, and rank the critical success factors that determine the incorporation of digital financial literacy among rural women entrepreneurs. The research aims to define a systematic and open-hearted hierarchy of success factors that can help the policymakers, financial institutions, training agencies and development organizations deploy their finite financial, technological as well as institutional resources in a most strategic and effective way. Through prioritization as opposed to plain identification, the study seeks to go beyond the general policy stories and deal with the practical issue of which aspects are most important in attaining productive digital financial literacy results. Finally, the objective of the paper is to close this policy intent and ground-level realization gap through a systematic process of understanding what drivers of digital financial literacy are considered by stakeholders to be the most significant in facilitating meaningful adoption, continued use, and entrepreneurial value creation among rural women.

The research questions of the study are as follows:

- What are the success determiners that have an impact on the digital acceptance of financial literacy among rural women entrepreneurs?
- What would be the priorities of these success factors in order to increase the success of digital financial literacy interventions in rural settings?

Review of Literature

Table No: 1 Review of Literature on Key Success Factors for Digital Financial Literacy Integration

Factor	Review of Literature
Access to Digital Infrastructure	According to the previous research, the use of digital finance by rural women is severely restricted by the lack of internet connectivity, access to devices, and infrastructural channel gaps. Indian evidence demonstrates that there are still rural-urban differences in digital infrastructure, which mediate the use of digital payments and inclusion success (Buteau et al., 2021). The empirical evidence also demonstrates that the use of mobile money by women can be quite rural-urban specific, with the infrastructure conditions being one of the principal facilitating elements (Adeleke, 2024).
Digital Financial Literacy Training	Studies continuously indicate that systematic training promotes digital financial capacity and successful application of digital finance by small business owners (Uthaileang & Kiattisin, 2023). In experimental work, however, it is shown that special workshops can meaningfully bring about real mobile money use, which indicates that training transforms awareness into behavioral adoption (Apiors &

	Suzuki, 2022). In the case of women, digital financial literacy is also associated with better financial decision-making and stronger fintech involvement (Mishra, 2024).
Government Policy Support	Policy structures affect trust and access to digital finance by simplifying regulations, consumer protection, and digital public infrastructure. There is evidence that favorable policy environments can help vulnerable groups and increase their trust in digital systems (Buteau et al., 2021). It is also found that the influence of government support on the adoption of fintech in women differs by rural and urban environments, which means that policy must be designed depending on the context (Igamo et al., 2024; Mishra, 2024).
Institutional Support	The role of institutional actors in enabling onboarding, trust and grievance redressals in adoption of digital finance is critical, including banks, MFIs, NGOs and SHGs. Indian research points to the fact that institutional delivery mechanisms other than access determine the adoption among women entrepreneurs (Buteau et al., 2021). Meta-analytic data also supports that institutional support has the ability to reduce barriers associated with trust, security, perceived usefulness, and perceived ease of use (Neves et al., 2023).
Social Support	Empirical findings indicate that social network support has a positive effect on the intentions of entrepreneurs, and female entrepreneurs rely on this specific support more to guide and build confidence (Emami et al., 2023). Trust and reciprocity at the community level also creates the opportunity to share information and mobilize resources to adopt digital financial practices (Simba et al., 2023). Social support therefore is an informal facilitator of a long-term digital financial practice.
Awareness Campaigns	Research indicates that low levels of digital finance usage might be maintained by the lack of knowledge of the services, costs, and processes. The results of the experiments prove the hypothesis that awareness-based workshops can greatly boost mobile money usage, which means that information dissemination could contribute to behavior change (Apiors & Suzuki, 2022). Greater inclusion literature also stresses that marginalized populations should have access accompanied by awareness and education (Buteau et al., 2021).
Availability of Financial Products	Studies show that the availability of appropriate digital financial services lowers financing needs and encourages the entrepreneurial behavior of women (Yang, 2022). Financial accessibility is also an Indian predictor of financial decision-making among women, which means that they are interdependent (Mishra, 2024). Availability is hence as critical as product relevance and usability.
Local Community Support	The community-based systems have been demonstrated to help women entrepreneurs were hindered by access to formal access by ensuring mutual access to shared resources and exchange of information (Simba et al., 2023). In the digitally transforming rural setting, local institutions aid in the dispersion of digital financial literacy by establishing the atmosphere of trust and reciprocal help. This kind of support reinforces the terms of adoption and supplements official programs of digital inclusion.

Research Methodology

Digital financial literacy among rural women entrepreneurs is a multi-faceted and interconnected process, affecting which is a set of technological, institutional, and socio-economic factors. In order to determine these factors systematically and priorize them, the study utilizes a Multi-Criteria Decision-Making (MCDM) method

(Analytic hierarchy Process (AHP). AHP, which was created by Thomas L. Saaty, allows breaking down an overall problem in a decision and placing it in the form of a hierarchy and through pairwise comparison, deriving relative priority. This approach transforms the expert judgment into quantitative weights, which will enable one to easily identify the most effective success factors when integrating digital financial literacy.

AHP Process to Find the Relative Importance of Digital Financial Literacy Success Factors.

This paper used the Analytic Hierarchy Process (AHP) to identify the relative importance of the significant success factors that had an effect on the integration of digital financial literacy among rural women entrepreneurs. The reason why AHP has been chosen is because it allows organizing the complex decision problem and calculating priority weights based on the expert judgment.

Step 1: Identification of Key Success Factors.

The main success factors are determined as the results of thorough peer-reviewed literature analysis on digital financial literacy, women entrepreneurship, and financial inclusion. Eight factors were shortlisted and confirmed by scholars, financial inclusion practice, rural development, and digital finance.

Step 2: Pairwise Comparison based on Expert Judgments.

Professionals assessed the relative significance of either of the two factors based on Saaty nine-point scale of which 1 signifies equal significance and 9 extreme significances. The judgments of individual people were summed up to create a pairwise comparison matrix against each other.

Table No.: 2 Saaty Scale for Pairwise Comparison

Numerical Value	Definition
1	Equal importance
3	Moderate importance
5	Strong importance
7	Demonstrated importance
9	Absolute importance
2, 4, 6, 8	Intermediate values

Step 3: Building the Comparison Matrix.

The final comparison matrix was constructed out of the aggregated expert judgments. The value of diagonal elements was 1, whereas the off-diagonal elements were the reflection of the relative dominance of the factors with the aspect of reciprocity.

Step 4: Process of normalization and weight derivation.

The comparison matrix was standardized to calculate the priorities weight of each factor as this may provide a list of rankings of factors according to their contribution towards digital financial literacy integration.

Step 5: Consistency Check

To measure reliability, consistency Index (CI) and Consistency Ratio (CR) were obtained. Any CR value less than 0.10 reflected satisfactory consistency of expert judgments.

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Table No: 3 Random Consistency Index

n	1	2	3	4	5	6	7	8
RI	0.00	0.00	0.58	0.90	1.12	1.24	1.32	1.41

Data Collection

Primary data were obtained by contacting 14 experts who have proven experience in the fields of rural entrepreneurship, digital finance, financial literacy programs, women-focused development programs, and so on. A structured AHP questionnaire was used to collect expert inputs on the basis of pairwise comparison, and it allowed systematic prioritization of the identified success factors.

Table No: 4 Pairwise Comparison Matrix of Factors for the Integration of Digital Financial Literacy among Rural Women Entrepreneurs

	ADI	DFLT	GPS	IS	SS	AC	AFP	LCS
Access to Digital Infrastructure	1	3	5	5	7	3	2	5
Digital Financial Literacy Training	0.33	1	3	5	5	3	3	5
Government Policy Support	0.2	0.33	1	1	1	0.5	0.33	0.5
Institutional Support	0.2	0.2	1	1	3	0.2	0.2	0.33
Social Support	0.14	0.2	1	0.33	1	0.2	0.2	0.2
Awareness campaigns	0.33	0.33	2	5	5	1	0.33	1
Access to Financial Products	0.5	0.33	3	5	5	3	1	3
Local Community Support	0.2	0.2	2	3	5	1	0.33	1
Total	2.9	5.59	18	25.33	32	11.9	7.39	16.03

Table No. 4 shows the pair wise comparison matrix of the key success factors that affect the adoption of digital financial literacy among rural women entrepreneurs through expert judgment on the basis of AHP. The matrix shows that the Access to Digital Infrastructure (ADI) has always been ranked higher than the majority of other factors, which shows its superiority in facilitating digital financial interactions. Digital Financial Literacy Training (DFLT) and Access to Financial Products (AFP) are also considerably relativity important, as they indicate the importance of building skills and access to appropriate financial services. Government Policy Support (GPS), Institutional Support (IS) and Social Support (SS) on the other hand are ranked more as comparatively lower meaning they have a more indirect effect. The awareness campaigns (AC) and Local Community Support (LCS) take a neutral position demonstrating their supportive character in terms of encouraging adoption and long-lasting use.

Table No: 5 Normalized matrix

	ADI	DFLT	GPS	IS	SS	AC	AFP	LCS
Access to Digital Infrastructure	0.3448	0.5367	0.2778	0.1974	0.2188	0.2521	0.2706	0.3119

Digital Financial Literacy Training	0.1138	0.1789	0.1667	0.1974	0.1563	0.2521	0.4060	0.3119
Government Policy Support	0.0690	0.0590	0.0556	0.0395	0.0313	0.0420	0.0447	0.0312
Institutional Support	0.0690	0.0358	0.0556	0.0395	0.0938	0.0168	0.0271	0.0206
Social Support	0.0483	0.0358	0.0556	0.0130	0.0313	0.0168	0.0271	0.0125
Awareness campaigns	0.1138	0.0590	0.1111	0.1974	0.1563	0.0840	0.0447	0.0624
Access to Financial Products	0.1724	0.0590	0.1667	0.1974	0.1563	0.2521	0.1353	0.1871
Local Community Support	0.0690	0.0358	0.1111	0.1184	0.1563	0.0840	0.0447	0.0624
Consistency Ratio CR								6.9%

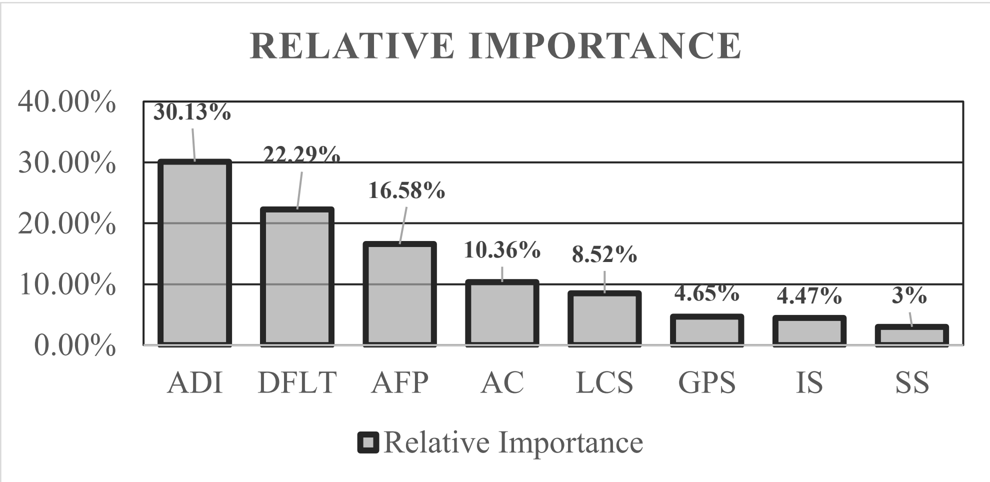
Table No. 5 presents the normalized pairwise comparison matrix which transforms the expert judgment into similar proportions. The findings support the fact that Access to Digital Infrastructure is the one that achieves the greatest normalized scores in the majority of criteria, which proves it to be the key factor behind the integration of digital financial literacy. There are also quite high normalized weights of Digital Financial Literacy Training and Access to Financial Products which suggests that they play an important role in translating access into its effective use. Awareness campaigns and Local Community Support prove to have moderate power and Government Policy Support, Institutional Support, and Social Support have lower normalized values reflecting a supportive but less prominent role. The Consistency Ratio (CR = 6.9%) shows that there is the acceptable consistency and reliability of expert judgments.

Table No: 6 Relative and Cumulative Importance of Factors

Factors	Relative Importance	Cumulative Importance
Access to Digital Infrastructure	30.13%	30.13%
Digital Financial Literacy Training	22.29%	52.42%
Access to Financial Products	16.58%	69%
Awareness campaigns	10.36%	79.36%
Local Community Support	8.52%	87.88%
Government Policy Support	4.65%	92.53%
Institutional Support	4.47%	97%
Social Support	3%	100%

Table No. 6 shows the relative and cumulative significance of success factors of the AHP analysis. The values of relative importance of Access to Digital Infrastructure (30.13) are the highest before Digital Financial Literacy Training (22.29) and Access to Financial Products (16.58). Altogether, the cumulative significance of these three factors is almost 69 percent, which shows that they have the most dominant role. Local Community Support and Awareness campaigns are also moderately effective in helping to support adoption and trust. The other factors such as Government Policy Support, Institutional Support and Social Support have lower relative importance, but when added up together, they lead to the creation of an enabling environment. In general, the results underline that an emphasis on the infrastructure, training, and access to financial products has the most significant effect on the integration of digital financial literacy among rural women entrepreneurs.

Figure No: 1 Relative Importance



Conclusion

The paper found Access to Digital Infrastructure as the most important aspect affecting the integration of digital financial literacy among women entrepreneurs in rural areas with the key idea that connectivity and access to digital systems should be the precondition of meaningful involvement with digital financial systems. This is succeeded by Digital Financial Literacy Training which emphasises the essence of skills training and confidence to change access into utilisation. Access to Financial Products also becomes another critical factor, which implies that access to appropriate and easy to use digital financial services is required in the implementation of the financial knowledge in business entrepreneurship. Local Community Support and Awareness campaigns serve the supportive role of building trust, adoption and learning at the grassroots level and Government Policy Support, Institutional Support and Social Support serve an indirect role of building an enabling ecosystem. Comprehensively, the results indicate that priority-oriented strategy, which prioritizes the infrastructure, training, and access to products can help to make digital financial literacy efforts highly effective. The proposed prioritization framework can guide policymakers, financial institutions, and development agencies with practical advice on how to implement the proposed prioritization framework to empower rural women entrepreneurs, using digital finance, with a set of targeted and resource-efficient interventions.

Discussion

These research findings match the previous studies that highlight the primary place of digital infrastructure in facilitating digital financial inclusion and literacy. The existing research also lists the availability of dependable internet connectivity and access to digital devices as key-preconditions of the success of a digital financial project in rural locations, especially among women (Grohmann et al., 2018; Demirguc-Kunt et al., 2022). The priority attributed to the digital financial literacy training is consistent with the available literature that proposes that access is not enough, and that training would increase confidence, financial decision-making, and long-term use of digital financial tools (Lusardi et al., 2021; Mishra, 2024). The role of access to financial products adds to the already existing evidence that the advancement of literacy and availability of products should move in unity to convert the knowledge into entrepreneurial performance (Yang, 2022).

The medium relevance of awareness campaign and local community support is manifested by the previous evidence that emphasizes the significance of information dissemination, peer influence and community-based trust in adoption. In the meantime, the second priority of the government policy, institutional, and social support presupposes that these conditions have an indirect effect, supporting the key drivers instead of making them the major determinants. In general, the prioritization approach builds upon the body of previous research by not only rendering the factors important, but the most significant in practice as well.

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