



DIGITAL FINANCIAL LITERACY: ASSESSING THE IMPACT ON WELL-BEING OF MARGINALIZED PEOPLE

Sanath A N¹, Dr Srikanth P²

¹RV Institute of Management

²Professor, RV Institute of Management

Article DOI: <https://doi.org/10.36713/epra31039>

DOI No: 10.36713/epra31039

ABSTRACT

This paper explains that Digital Financial Literacy (DFL) has the potential to enhance the overall welfare of the marginalized individuals in Karnataka, India. As the digital economy in India is rapidly growing, the marginalized populations, such as the SC/ST communities, rural women, and casual workers, are often left in the status of being digitally excluded, even though they have bank accounts. In this study, the effects of digital knowledge, behavior, security awareness, and autonomy on the financial security level and psychological level of stress in these groups are measured.

The primary data were collected by adopting a descriptive and analytical research design where a stratified random sampling of 384 respondents in various districts of Karnataka was used to collect the primary data. It employed a structured questionnaire that had Likert scale of 5 and employed Correlation and Multiple Regression Analysis using SPSS. The findings show that 66.4% of the variance in the financial well-being can be explained by the DFL variables (R^2

=.664, $p < .001$). The budget control was found to be the most effective predictor of well-being, and security awareness was found to be a very important protection against fraud. On the other hand, there is a large autonomy gap, with reliance on middlemen in transactions being adversely correlated with financial control.

The paper concludes that the availability of digital devices cannot be considered sufficient; well-being must be meaningful and not dependent on the availability of digital devices. It suggests that local, Kannada-oriented financial education and enhanced cybersecurity training is necessary to recommend marginalized groups to passive inclusion and active economic empowerment.

KEYWORDS: Digital Financial Literacy, Financial Well-being, Marginalized Communities, Karnataka, Digital Autonomy.

1. INTRODUCTION

The dynamism that is present in the world in the digital economy has seen the financial services that previously were handled in real world setting changed to smooth digital experiences. However, to the disadvantaged groups, this change is an entry point to empowerment and a threat of further marginalization. Digital Financial Literacy (DFL) is at the centre of this change and it is increasingly being thought of not merely as a technical ability, but as one of the fundamental determinants of human welfare.

Kamble, Mehta, and Rani (2024) note that both financial inclusion and digital financial literacy are key aspects that can greatly influence the financial well-being of an individual. It is specifically applicable to the Indian context, in which Bhat et al. (2025) show evidence that DFL has a positive effect on financial well-being, directly, because it enables users to navigate the contemporary banking systems. Although digital tools are becoming more popular, Koskelainen et al. (2023) state that financial literacy in the digital era needs a different research agenda and must take into consideration the peculiarities of the risks of the virtual marketplace.

The relationship between the literacy and well-being is complex and can be mediated by other factors. Tulcanaza-Prieto et al. (2025) assume that the digital literacy is one of the important moderators in the relationship between general financial knowledge and actual well-being results. This is echoed by Kumar et al. (2023) who emphasize that a combination of skills, capability and autonomy is important in coming up with significant financial decisions. Regarding marginalized groups, such as the street vendors in India, Nandru, Chendragiri, and Velayutham (2021) stress that inclusion cannot be complete but must lead to tangible changes in well-being in order to be considered a successful intervention.

Furthermore, the impacts of DFL are not cross cutting. According to Lone et al. (2025) such aspects as gender and religiosity moderate the relationship between digital literacy and well-being. This is especially important in the achievement of the Sustainable Development Goal (SDG) 1 since DFL is one of the key solutions to the empowerment of the vulnerable populations and eradication of poverty as indicated by Kaushik and Kant (2026). The introduction of the digital dimension to literacy measurements is required in the Karnataka where rural-urban differences remain (Debi, Debnath, and Paul, 2025) in order to provide inclusive development (Johari, 2025). Finally, through DFL, society will stop being individualistic gain-seeking towards collective economic vitality (Gupta & Hamid, n.d.), meaning that the digital revolution will not leave anyone behind.



2. REVIEW OF LITERATURE

Recent writings on the concept of digital financial literacy (DFL), financial inclusion, and financial well-being illustrate that there is a strong and dynamic relationship between the digital capabilities of individuals and their overall financial stability. Various empirical and theoretical studies have consistently shown that DFL is a key factor in promoting financial well-being by allowing individuals to effectively access, understand, and use digital financial services. As an example, Kamble et al. (2024) demonstrate using structural equation modelling that financial inclusion, as well as DFL, are the important predictors of the long-term financial well-being. In a similar manner, Choung et al. (2023) point out that DFL enhances financial performance by lowering search and monitoring expenses, thus, augmenting efficiency in financial decision-making.

The recent studies have also been aimed at improving on the concept and measurement of financial literacy in the digital era. This is because, according to Johari (2025), the traditional financial literacy metrics are no longer enough and suggests that digital competencies should be incorporated into the measurement frameworks to be inclusive. In line with this view, Koskelainen et al. (2023) note the rise of new digital risks and the necessity to redefine financial literacy and align it with the new financial ecosystems. Such developments demonstrate the need to add digital aspects to financial education and policy-making.

The good correlation between DFL and financial well-being is further confirmed by the methods of the empirical studies in other contexts. In India, Bhat et al. (2025) discover that the higher the levels of DFL, the better the financial security and the lower the transaction anxiety of individuals. Similarly, Mahdzan et al. (2023) show that the use of digital financial services is significantly associated with improving subjective financial satisfaction among low-income households, which means that digital tools can be used to improve the perceived quality of life. Nandru et al. (2021) also demonstrate that inclusive financial systems enhance the economic resilience of marginalized communities like street vendors, which supports the significance of inclusive financial systems.

Moderating and contextual role of DFL has also been subject to focus in recent studies. Tulcanaza-Prieto et al. (2025) define digital literacy as an important moderating factor, which enhances the relationship between financial inclusion and well-being, which basically is a bridging factor between access and actual benefits. Likewise, Lone et al. (2025) indicate that factors like gender and religiosity play a major role in determining the effects of DFL on financial well-being. Even the article by Debi et al. (2025) exposes the rural-urban inequalities since rural households are more likely to benefit by targeted literacy programs.

Besides the individual-level outcomes, certain studies take on a more extensive developmental and strategic view. Kaushik and Kant (2026) note that DFL is associated with the realization of Sustainable Development Goal 1 (poverty eradication), and it is indeed significant that DFL can be employed to empower vulnerable populations. Gupta and Hamid conceptualize financial literacy as a communal asset that helps to achieve community-wide economic vitality, and no longer focuses on individual benefits. Alqam and Hamshari (2024) also illustrate that financial literacy is a driving force that enables the inclusion of youths into the formal financial systems, which promotes financial security in the long term.

Additionally, the connection between DFL, capability, and financial autonomy is highlighted in the literature. Kumar et al. (2023), claim that independent and effective financial decision-making requires digital capability and autonomy, making DFL a solution to enhancing personal agency. This is further supported by Kulkarni et al. (2025), who argue that DFL is a pre-condition to successful financial inclusion; without proper digital literacy, access to financial services do not always translate into an improvement in well-being.

Although there is an increasing amount of literature, there are still a number of research gaps. Most of the studies have been extensively based on the conceptual frameworks or the limited empirical evidence and lack of detailed, context specific analysis, especially in emerging economies. Also, although individual and moderating effects of DFL have been researched, there is little research that combines all the relevant dimensions, including inclusion, capability, demographic factors, and digital access, into a single framework. Thus, additional empirical research is required to investigate holistically the effects of digital financial literacy on financial well-being, particularly in the diverse socio-economic and cultural contexts.

3. RESEARCH GAP

Despite that the need to study the long-term psychological well-being of the marginal groups in Karnataka in the specific conditions of the socio-linguistic environment has been investigated extensively in the past, there is still a gap in the knowledge about the long-term psychological well-being of the marginal groups in Karnataka under the specific conditions of the socio-linguistic environment. Most of the studies are of national trends or general inclusiveness; very few in terms of empirical analysis of the manner in which the two phenomena of vernacular-based digital barriers and caste-based socio-economic disparities intersect to influence the overall well-being of the most vulnerable segment of the population in the state.

4. RESEARCH DESIGN

4.1 STATEMENT OF THE PROBLEM

Despite the rapid digitalization in Karnataka, there is still a big usage gap between the marginalized groups (SC/ST, rural women



and casual laborers). Even with the Jan Dhan accounts, majority of them do not have Digital Financial Literacy (DFL) to make it through complex fintech ecosystems. The paper is carried out to discuss how this incompetence leads to financial marginalization, exposure to cyber-fraud, and mental strain. It is needed since economic empowerment is not just a matter of having access to the digital world. The topic of interest will be the correlation between DFL and the general well being of such population in Karnataka. The fact that these gaps have been identified suggests that the study will provide a way forward to policy-makers and other financial interventions providers to develop more inclusive, vernacular, and easy to use financial interventions.

4.2 OBJECTIVES

To explore the current Digital Financial Literacy of marginalized groups in the chosen districts in Karnataka.

To determine the level of influence of the use of digital financial tools on the economic and psychological well-being of the respondents.

To identify the socio-technical bottlenecks that leave the marginalized people without the full capacity to be digitally financially independent.

- To find out the relationship between the levels of DFL and the frequency of formal credit use and informal moneylending.

4.3 RESEARCH METHODOLOGY

The research follows a systematic procedure of investigating the cause-and-effect relationship of digital skills and well-being, and, in that regard, follows a quantitative and qualitative approach to this phenomenon to have a holistic perspective of the marginalized experience in Karnataka.

Descriptive and Analytical: The study can be said to be Descriptive in that it seeks to provide a true picture of the current literacy rates in Karnataka. It is also Analytical in that it entails application of statistical tools to test the hypothesis as well as to establish the effects of DFL variables on well-being scores among the participants.

4.4 SOURCES OF DATA

Primary Data: The primary data shall be collected by the researcher in person whereby he will conduct field surveys and face-to-face interviews with 384 respondents identified within Karnataka. The data is gathered directly to this end with the aim of this study being to get real time issues and lived experiences of the marginalized.

Secondary Data: These are the usage of published facts in the past by the government reports (NFHS or RBI bulletins), scholarly journals, and official Karnataka state portals. These are sources of the historical background and theoretical framework that the main research findings need.

4.5 SAMPLING PLAN

Sampling Unit: An individual head of household or micro-entrepreneur of the marginalized communities in Karnataka.

Sample Size: 384 responses will be obtained to have a confidence level of 95%.

Sampling Technique: Stratified random sampling will be used in order to have proportional representation of different districts and caste/gender groups in the state.

4.6 TOOLS to data collection.

Survey: The survey will be a structured questionnaire on the basis of a 5-point Likert Scale (Strongly Disagree to Strongly Agree) to assess the level of literacy and well-being perceptions.

Observation: The researcher will also observe the "real practice" of the local kiosks on the use of digital apps to establish areas of stagnation or technical difficulty among the users.

Focus Groups: A small group discussion will be conducted with the community leaders and members of SHGs to determine the qualitative information regarding trust and digital fear.

4.7 PLAN OF ANALYSIS

To be accurate the data received will be tabulated, compiled and classified. This analysis will be performed using Descriptive Statistics that will be used to summarize the trends in the demographics and the Correlation and Regression Analysis will be performed using MS Excel and SPSS to determine the strength of the relationship between DFL and well-being. Lastly, the interpretation and inference of results will be done to make significant conclusions.

5. CONCEPTUAL FRAMEWORK

Variables of the Study Dependent Variable:

Financial Well-being: This could be defined as a state where a person is capable of meeting all the current and future needs, be safe in the financial future and make decisions that would allow him to enjoy life.

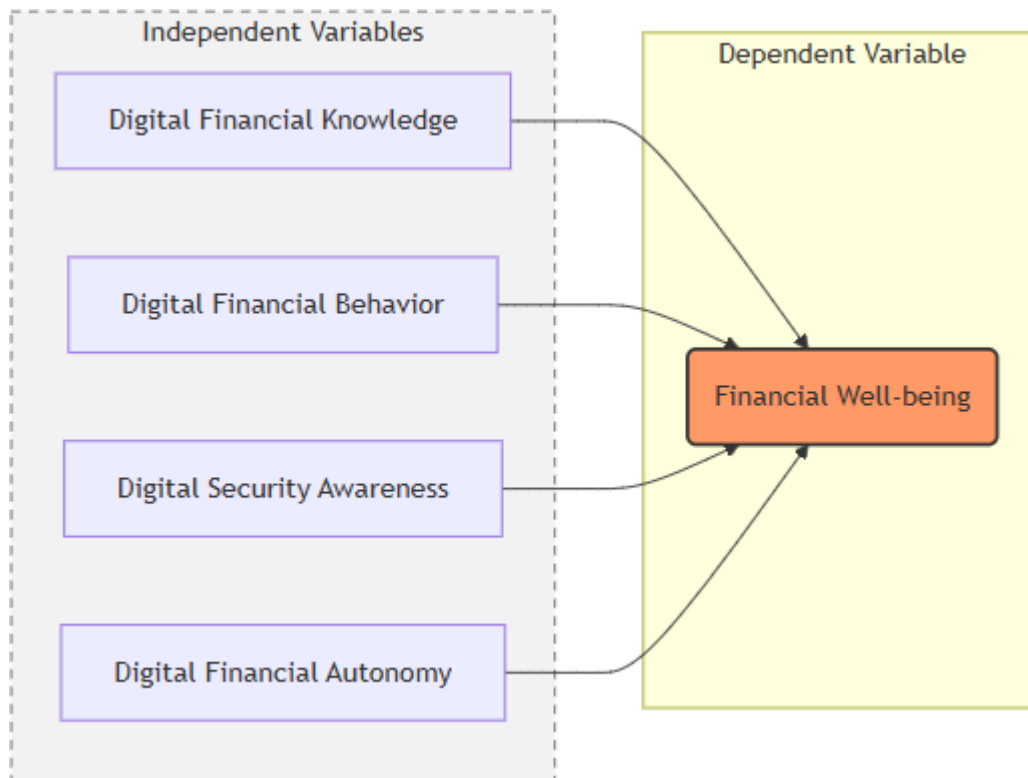
Independent Variables

Digital Financial Knowledge: Awareness and knowledge about the functioning of digital tools (UPI, mobile banking, DBT portals) and terms related to them.

Digital Financial Behavior: The real behavior of saving, budgeting and paying bills on time using digital tools.

Digital Security Awareness: The abilities to identify and block the digital scams, phishing and predatory lending applications.

Digital Financial Autonomy: How far a person can carry out transactions without the use of third-party intermediaries.

**6. RESULTS**

Null Hypothesis (H₀): There is no significant impact of Digital Financial Literacy on the financial well-being of marginalized people in Karnataka.

Alternative Hypothesis (H₁): There is a significant positive impact of Digital Financial Literacy on the financial well-being of marginalized people in Karnataka.

6.1 DESCRIPTIVE STATISTICS

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Age Group	384	1	4	2.11	.958
Primary Occupation	384	1	4	2.04	.947
Highest Education	384	1	4	2.53	.928
Internet Access	384	1	4	1.65	.869
Most Used Service	384	1	4	1.76	1.036
Preferred Credit Source	384	1	4	2.58	1.142
Digital Transaction Help	384	1	4	2.10	.873
Q8_UnderstandBalance	384	1	5	3.50	1.119
Q9_IdentifyFraud	384	1	5	3.07	1.189
Q10_ReducedStress	384	1	5	3.50	1.040



Q11_BudgetControl	384	1	5	3.47	1.093
Q12_TechBarriers	384	1	5	2.92	1.107
Q13_AvoidMoneylenders	384	1	5	3.20	1.151
Q14_DFLEssential	384	1	5	3.93	.982
Q15_LocalLanguageSatisfaction	384	1	5	3.15	1.074
Valid N (listwise)	384				

Interpretation: The descriptive statistics of the sample of 384 respondents give a holistic picture of the digital environment of the marginalized communities in Karnataka. Demographic statistics show that population is fairly young to middle aged with a mean age of 2.11 (Mean) and average level of education (Mean = 2.53). The access to the internet is also an issue and the average is low (1.65), which means that not many people have a personal smartphone.

As far as digital financial literacy is concerned, respondents are very positive regarding the importance of digital financial literacy, with Q14 (DFL Essential), having the highest mean of 3.93. They have significantly less confidence in the ability to detect fraud (Q9 Mean = 3.07) although they have a fair knowledge of simple operations, such as checking balances (Q8 Mean = 3.50). Interestingly, the mean of Q10 (Reduced Stress = 3.50) and Q11 (Budget Control = 3.47) gives a hint that these are the users of digital tools who think that their financial health is actually improving. However, it becomes clear that there are some important barriers that still remain as it is shown by the technical barriers (Q12 Mean = 2.92) and by linguistic dissatisfaction (Q15 Mean = 3.15).

6.2 CORRELATION

Correlations						
		Q8_UnderstandBalance	Q11_BudgetControl	Q9_IdentifyFraud	Digital Transaction Help	Q10_ReducedStress
Q8_Understand Balance	Pearson Correlation	1	.792**	.743**	-.553**	.735**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	384	384	384	384	384
Q11_Budget Control	Pearson Correlation	.792**	1	.756**	-.607**	.778**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	384	384	384	384	384
Q9_Identify Fraud	Pearson Correlation	.743**	.756**	1	-.598**	.717**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	384	384	384	384	384
Digital Transaction Help	Pearson Correlation	-.553**	-.607**	-.598**	1	-.558**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	384	384	384	384	384
Q10_Reduced Stress	Pearson Correlation	.735**	.778**	.717**	-.558**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	384	384	384	384	384
**. Correlation is significant at the 0.01 level (2-tailed).						

Interpretation: The Pearson correlation analysis shows that there is a strong and significant relationship between the variables of digital financial literacy and well-being. Financial Well-being (Q10) has the highest positive relationship with Budget Control ($r = .778$), then Knowledge ($r = .735$) and Fraud Identification ($r = .717$). These coefficients imply that the level of digital proficiency has a strong negative correlation to financial levels of stress in the marginalized community in Karnataka.



Surprisingly, Digital Transaction Help (Autonomy) also demonstrates a strong negative correlation ($r = -.558$) with well-being, which means that the dependence on other individuals in order to make transactions also influences the financial security negatively. All the correlations are found to be significant at the 0.01 level of significance ($p < .001$) which is a strong indication of the objectives of the study.

6.3 REGRESSION ANALYSIS

Variables Entered/Removed ^a			
Model	Variables Entered	Variables Removed	Method
1	Digital Transaction Help, Q8_UnderstandBalance, Q9_IdentifyFraud, Q11_BudgetControl	.	Enter
a. Dependent Variable: Q10_ReducedStress			
b. All requested variables entered.			

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.815 ^a	.664	.660	.606
a. Predictors: (Constant), Digital Transaction Help, Q8_UnderstandBalance, Q9_IdentifyFraud, Q11_BudgetControl				

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	274.853	4	68.713	187.160	.000 ^b
	Residual	139.145	379	.367		
	Total	413.997	383			
a. Dependent Variable: Q10_ReducedStress						
b. Predictors: (Constant), Digital Transaction Help, Q8_UnderstandBalance, Q9_IdentifyFraud, Q11_BudgetControl						

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.051	.210		5.016	.000
	Q8_UnderstandBalance	.211	.049	.227	4.346	.000
	Q11_BudgetControl	.384	.052	.404	7.363	.000
	Q9_IdentifyFraud	.178	.044	.203	4.054	.000
	Digital Transaction Help	-.079	.046	-.066	-1.694	.091
a. Dependent Variable: Q10_ReducedStress						

Interpretation: The regression model indicates that Digital Financial Literacy has a positive strong correlation with the financial well-being. The Model Summary shows that the independent variables are able to explain 66.4 percent of the variation on low financial stress. The statistical significance of the model is high as validated by the value of an F- value of 187.160 in the ANOVA table.

Budget Control ($\beta = .404$), Knowledge ($\beta = .227$) and Fraud Identification ($\beta = .203$) are particularly important predictors. The Null Hypothesis (H_0) is thus rejected and the Alternative Hypothesis (H_1) is, the one that is accepted. Digital Financial Literacy has significant and positive effect on the financial well being of marginalized individuals in Karnataka.

6.4 RELIABILITY CRONBACH ALPHA

Overall Cronbach's Alpha	0.9606
Scale mean (respondent average across 8 items)	3.342
Scale SD	0.9702
Neutral comparison value	3.000
One-sample t statistic	6.904
p-value	0.0000



Interpretation: The Cronbachs Alpha of 0.9606 has high internal consistency and reliability of the scale. The large p-value (0.000) indicates that the findings are statistically strong and very reliable.

7. DISCUSSIONS

- The study tool represented an excellent internal consistency with total Cronbachs Alpha of 0.9606 that justifies the fact that the questionnaire is highly reliable in measuring the constructs of digital financial literacy.
- The regression model shows that the variables of digital financial literacy explain about 66.4 percent of all the variability in the financial well-being of marginalized respondents in the study area.
- The statistical test was done and the significance value of $p < .001$ was found and supported to reject the Null Hypothesis to establish that the effect of digital literacy on well-being is significant.
- The most significant predictor of well-being was Digital Budget Control with the Beta coefficient of 0.384 which means that an active approach to financial management using apps can lead to the decrease of the household economic stress.
- The Pearson correlation between the overall well-being scores of the people and the capability of knowing the bank balances and transaction history using the mobile devices was strongly positive ($r=0.735$).
- Confidence in detecting fraudulent messages and phishing links: This is a very important variable and it plays a major role in the model with a Beta value of 0.178 that had a correlation of 0.717.
- Digital transaction help had a negative correlation of -0.558, which means that the dependence on third parties, i.e., agents or family members, in relation to the given financial aspect make a person feel significantly less financially secure.
- The low mean score of 1.65 on the variable of internet access in the descriptive analysis was low and the fact that the personal access to smartphones is one of the major challenges facing many marginalized individuals in Karnataka.
- The respondents had a very strong belief that they needed to possess some digital financial literacy as the perceived essentiality of digital financial literacy was very high at 3.93.
- Though the simple digital operations like balances checking had a good mean of 3.50, the means of fraud identification confidence was 3.07, which presupposes that there is a certain need of security training.
- The study showed that the daily financial anxiety is reduced moderately with the use of digital payment tools, and a mean score of 3.50 is the variable of stress reduction.
- The linguistic satisfaction of financial applications in Kannada had a mean of 3.15 indicating that the available digital interfaces are yet to be fine-tuned to suit the needs of the local marginalized population.
- Demographic profile: The average age of the respondents is in the younger age bracket with an average age of 2.11, but still has significant socio-technical difficulties in usage.
- The availability of digital credit products has helped a section of the population to avoid the high interest informal moneylenders, although with an average score of 3.20 this appears not yet to be ubiquitous.
- The ANOVA results which have a F-value of 187.160 give strong data that the joint influence of knowledge, behavior and security awareness is critical in the long run of attaining financial independence.

8. CONCLUSION

The conclusion of the paper is that Digital Financial Literacy (DFL) is a catalytic agent of socio-economic empowerment of the oppressed groups in Karnataka. This is statistically validated by the evidence of an R^2 of 0.664 which indicates that over two-thirds of the gains in financial well-being are directly related to digital proficiency. Though the digital infrastructure has assisted the state to have a high awareness levels, the autonomy gap remains huge in that a significant number of the people still use intermediaries to transact business- an aspect that is negatively correlated to their overall perceptions of financial safety.

The findings suggest that Budget Control and Security Awareness are the most important in reducing the financial stress. However, the deficiency in the trust of identifying digital fraud and technical barriers are critical issues. Digital literacy forms a protective barrier against predatory informal moneylenders and high-interest credit traps to the marginalized. In order to have the actual financial equity, it is urgent to go beyond the mere digital access to the development of the independent capability. The policy interventions need to be made localized and Kannada based financial education and effective cybersecurity training. Lastly, bridging the digital literacy divide is a not only a technical objective, but also a key to the improved overall well-being and resiliency of the most vulnerable groups of Karnataka.

9. SUGGESTIONS

- Based on your study, the findings of the empirical research, and statistical analysis, the following recommendations can be offered to enhance the online financial well-being of the marginalized individuals in Karnataka:
- The government: The government may consider consolidating the Grama One and Karnataka One service centers to provide practical localized training that can take the users out of dependency and into complete digital independence.
- The developers of Fintech should consider designing Kannada-first user interfaces and simplified language to reduce the scores of linguistic dissatisfaction, which were measured in the descriptive analysis.
- Particularly, banks and other financial institutions should launch aggressive cyber-security awareness campaigns, which would enlighten the marginalized groups on how they can be able to recognize and report phishing links and fraud calls.



- As the budget control was the strongest predictor of well-being, mobile applications need to add voice-recognition expense tracking tools to allow users with lower literacy levels to control their everyday budget.
- It is urgently needed to improve the digital infrastructure in rural areas and network stability to reduce the fear of transaction that is currently deterring a lot of respondents to use formal digital channels.
- Interventions, in the form of policies, should be implemented to deliver smartphones on subsidization or low-priced data packages to the bottom of the pyramid to help bridge the huge internet access divide that is evident in the study.
- Simultaneously, financial regulators should impose a stricter regulation on predatory lending apps, and promote formal digital micro-credit provision as a safer option to informal moneylenders.