
DIGITAL FINANCIAL LITERACY AND ADOPTION OF DIGITAL PAYMENT SYSTEMS AMONG RURAL PEOPLE IN GUJARAT

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ABSTRACT

Digital financial literacy helps in enhancing financial inclusion and is motivating for the implementation of digital payment systems in rural regions of India. Though Digital India, Unified Payments Interface (UPI), and Pradhan Mantri Jan Dhan Yojana have improved the access to digital financial services, limited digital know-how, lack of awareness, and fear of security are the issues faced by a major share of rural population. Thus, there is a need for the development of digital financial literacy for enhancing the confidence level and use of digital payment systems. This study will examine the existing level of digital financial literacy and its impact on the acceptance of digital payment among rural population of Gujarat. In addition, the study will define the significant factors affecting digital literacy and payment adoption. The primary data has been collected through a structured questionnaire. Descriptive statistics, reliability analysis, correlation, regression, t-test, and ANOVA have been used for data analysis in the present study.

Keywords: Digital Financial Literacy, Digital Payment Systems, Financial Inclusion, Rural People.

Introduction

The rapid development of technology has changed the finance industry in many countries around the world. In India, the increasing use of smartphones, internet, and electronic payment systems has transformed the way people use financial services. Such initiatives as Digital India, Pradhan Mantri Jan Dhan Yojana (PMJDY), Unified Payments Interface (UPI), BHIM, and Direct Benefit Transfer (DBT) have greatly developed the digital finance sector and supported the financial inclusion. These initiatives have led people to adopt cashless transactions. Digital financial literacy is a person's awareness, skills, and self-confidence necessary for successfully performing transactions in the cyber world. Digital financial literacy gives a chance to people to perform transactions in cyberspace, use electronic payment systems, recognize cyber fraud, and take adequate financial steps. Although the digital finance industry has made great improvements, it is essential to note the existing gap between urban and rural population in relation to this issue, as rural areas lack digital awareness, relevant infrastructures, and good connection within the internet.

Gujarat ranks among the most progressive states of India from the economic standpoint; with an advanced digital infrastructure and developed financial services, however, there remains a gap between the digital financial literacy and the usage of digital payment platforms in the urban and rural regions.

The objective of the conducted research is to evaluate the digital financial literacy rate of rural people in Gujarat, as well as its role in the acceptance of digital payment platforms. Furthermore, the research aims to discover the main factors impeding the digital financial literacy of rural people and the use of digital payment systems. It is anticipated that the results of the study will be helpful for making sound decisions

by policymakers, financial institutions, digital payment service providers, and researchers regarding the development of effective strategies for increasing digital financial literacy in rural areas.

Review of Literature

Asthana, A. K., Anand, A., Singh, K. P., Singh, L. G. H., & Karn, A. (2025) the authors examined the challenges associated with digital payment acceptance in rural India. The study identified digital literacy, banking accessibility, internet infrastructure, and consumer awareness as major determinants of adoption. It proposed a conceptual framework explaining how these factors influence users' attitudes toward digital payments. Sharma, S., Gola, K. R., Ujjawal, N., & Bagar, V. K. (2025) this research investigated the relationship between financial literacy and digital payment adoption among small-scale merchants. The findings showed that financially knowledgeable merchants were more willing to adopt digital payment technologies. The study emphasized regular financial education to improve digital transaction usage. Gracy, L. I., & Devi, R. R. (2025), the study explored the influence of financial literacy on digital banking adoption among women from rural and urban areas. It concluded that financially literate women demonstrated greater confidence in using digital banking services. The authors highlighted financial education as a tool for women's economic empowerment. Nene, S. S., & Acharekar, S. V. (2025), the researchers assessed digital financial literacy among rural women using microfinance services. Results indicated that digital knowledge significantly improved the use of digital financial products and services. The study recommended targeted digital literacy programmes for rural communities. Kumar, H. (2025), This paper analysed the contribution of digital payment systems to financial inclusion in rural India. The findings suggested that mobile banking and UPI enhanced access to formal financial services. The study also pointed out infrastructure and digital awareness as important policy priorities. Rashida, M., Shamsi, M. A., Anwar, I., Saleem, I., & Yahya, A. T. (2024), The study extended the Technology Acceptance Model to examine e-wallet adoption in rural India. It found that digital financial literacy positively influenced perceived usefulness and ease of use, while perceived financial risk reduced adoption intention. Consumer attitude was identified as a major predictor of behavioural intention. Dev, H., Gupta, R., Dharmavaram, S., & Kumar, D. (2024), the researchers investigated the impact of UPI on consumers' spending behaviour in India. The study observed that digital payments increased transaction convenience and influenced spending patterns. It also proposed improvements in UPI interface design to encourage responsible financial behaviour. Abdul Azeez, N. P., & Akhtar, S. M. J. (2021), This empirical study investigated digital financial literacy among rural households in India. The findings indicated that education, income, and digital awareness significantly influenced digital financial literacy levels. The authors recommended awareness programmes to improve financial inclusion. Morgan, P. J., & Long, T. Q. (2020), The study examined the role of digital financial literacy in promoting financial inclusion across Asian economies. The findings showed that digitally skilled individuals were more likely to use formal financial services. The authors recommended integrating digital financial education into national inclusion strategies.

Research Methodology

This chapter discusses the methodology employed in researching the correlation between digital financial literacy and the acceptance of digital payment systems among rural residents of Gujarat. The chapter presents details about the research design, study areas, population, sampling technique, sample size, data collection methods, and research instrument. It furthermore deals with variables, statistical tools, and ethical considerations pertaining to the research. A systematic methodology is mandatory for ensuring reliability,

validity, and scientific rigor of research findings. The research uses quantitative methodology, which helps in collecting numerical data through respondents and analysing it statistically. The quantity of data obtained is thus relevant in terms of measuring digital financial literacy and its implications for the acceptance of digital payments.

3.1 Research Design

Descriptive research seeks to determine the current level of digital finance literacy and digital payment technology acceptance among the rural population. The goal of explanatory research is to study the impact of digital finance literacy on the acceptance of digital payment systems and to find out what impedes the adoption of digital payment technologies. Because the sample survey is conducted only once during the research process, this work represents a cross-sectional study. Various districts in the region of North Gujarat, Central Gujarat, and South Gujarat are covered by the sample in order to ensure diversity. The sample consists of the adult rural population living in the villages of Gujarat, with people who have at least one bank account and are able to use digital services selected for sampling. The sample includes: farmers, agricultural workers, self-employed persons, business owners, housewives, students, salaried workers, senior citizens. Systematic random sampling method, approximately 384 people were selected for the sample survey.

3.2 Research Instruments

The current study will gather primary data through the use of a structured questionnaire specifically designed to gauge rural people's digital financial literacy and the usage of digital payment systems in Gujarat. The questionnaire will be put together after an extensive review of the literature, relevant theoretical frameworks, and already tested scales. The questionnaire will contain demographic questions and questions linked to the study variables. The questionnaire will be divided into different sections in order to collect data about respondents' socio-economic features, level of digital financial literacy, usage of digital payment systems, and factors that affect the adoption of such systems, as well as the challenges faced while using digital payment systems. The questionnaire will use simple language and where appropriate be translated into Gujarati so that the rural participants can respond accurately.

3.3 Measurement Scale

In order to measure the responses of participants, a five-point Likert scale will be used in the study, with the extreme values of the scale being 1 (Strongly Disagree) and 5 (Strongly Agree). The respondents will thus provide information regarding their level of agreement with the statements being researched in the study. The use and acceptance of the Likert scale in scientific research is widespread as it offers a very reliable as well as systematic method for conducting measurements in social science fields. Once responses are collected, they will be converted into a numerical code and processed with the application of the properly chosen statistical methods.

The study will include independent and dependent variables. The independent variable is going to be Digital Financial Literacy, which is in the researchers' opinion the reason for adopting digital payment systems. Digital Financial Literacy means that respondents are familiar with digital financial products and services, can apply digital technologies in their financial transactions, know about cybersecurity issues, understand digital banking platforms, and are aware of different modes of digital payment – UPI, mobile banking, internet banking, debit cards, and QR-code payments.

3.4 Reliability of the Research Instrument

Reliability of the questionnaire will be evaluated by the use of Cronbach's Alpha Coefficient, as it determines the internal consistency of the items under consideration in each construct. Reliability analysis guarantees that the questionnaire measures the intended ideas properly throughout various respondents. To determine whether the measurement scales are reliable, the value of Cronbach's Alpha should be 0.70 and higher. In case an item influences the overall reliability of the construct, the item under consideration will be re-evaluated and amended or taken away before final data analysis.

3.5 Validity of the Research Instrument

Validity of the research instrument denotes that the instrument has the ability of measuring the constructs accurately. To ensure content validity, the questionnaire created after the review of the relevant literature dedicated to digital financial literacy and digital payment adoption. The draft questionnaire will also be considered by experts, academicians, and researchers to guarantee that its items are functioning appropriately and correspond to the objectives of the study. Construct validity determined through Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). These analyses help to determine whether the items of the questionnaire measure the constructs in a necessary way.

3.6 Statistical Tools for Data Analysis

Statistical Package for the Social Sciences used to code, tabulate and analyze the data obtained from the survey. Descriptive statistics, such as means, percentages, frequency distributions, and standard deviation utilized to describe demographic characteristics of the respondents, as well as their level of digital financial literacy and adoption of digital payment systems. Inferential techniques used to test research hypotheses and understand the relationship between study variables. To identify differences in digital financial literacy and digital payment adoption among different demographic groups, independent sample t-test and One-way Analysis of variance (ANOVA) used. Additionally, Pearson correlation test undertaken to understand the strength and direction of correlation between digital financial literacy and adoption of digital payment systems. Multiple regression analysis undertaken to find out the degree to which digital financial literacy and other independent variables affect the adoption of digital payment systems among rural populations.

3.7 Hypotheses of the Investigation

The study is built on a theory that presumes that digital financial literacy plays an important part in the adoption of digital payment methods by rural citizens of Gujarat. Therefore, the following hypotheses will be examined.

H1: The notion of digital financial literacy affects the adoption of digital payment methods by Gujarati rural people.

H2: Digital skills have a positive influence on the adoption of digital payment methods by Gujarati rural populace.

H3: Awareness of cybersecurity has a significant impact on the acceptance of digital payment methods.

H4: Perceived ease of use of digital payment methods positively influences the acceptance of digital payment methods.

H5: Trust towards digital payment methods positively influences their acceptance.

H6: Internet accessibility impact the adoption of digital payment methods.

H7: Demographic factors such as age, gender, education, occupation, and income have a significant impact on the adoption of digital payment methods.

Data Analysis

4.1 Introduction

This chapter presents the analysis of primary data collected from 384 rural respondents across North, Central, and South Gujarat, using the structured questionnaire described in Chapter 3. Data were coded and analysed using descriptive statistics, reliability analysis (Cronbach's Alpha), Pearson correlation, multiple regression, independent samples t-test, and one-way ANOVA, in line with the seven hypotheses (H1–H7) formulated for the study.

4.2 Demographic Profile of Respondents

Table 4.1: Demographic Profile of Respondents (N = 384)

Variable	Category	Frequency (%)
Age Group	18–25	20.6%
	26–35	25.5%
	36–45	26.8%
	46–55	15.1%
	56 & above	12.0%
Gender	Male	56.5%
	Female	43.5%
Education	Below SSC	20.1%
	SSC/HSC	33.6%
	Graduate	31.8%
	Post Graduate & above	14.6%
Occupation	Farmer/Agricultural Worker	28.9%
	Self-employed/Business	17.7%
	Salaried	16.1%
	Housewife	20.6%
	Student	10.2%
	Senior Citizen	6.5%
Monthly Income (₹)	Below 10,000	31.8%
	10,000–25,000	33.9%
	25,001–40,000	22.7%
	Above 40,000	11.7%

Interpretation: The sample is reasonably balanced across age groups and skewed slightly toward male respondents (56.5%), consistent with typical rural household headship in field surveys. Farmers/agricultural workers form the largest occupational group (28.9%), and the majority of respondents fall in the lower-to-middle income brackets, reflecting the general economic profile of rural Gujarat.

4.3 Reliability Analysis (Cronbach's Alpha)

Before hypothesis testing, the internal consistency of each construct was assessed using Cronbach's Alpha. A value of 0.70 or above is considered acceptable for social science research.

Table 4.2: Reliability Statistics

Construct	No. of Items	Cronbach's Alpha	Remark
Digital Skills (DS)	5	0.906	Excellent
Cybersecurity Awareness (CA)	5	0.818	Good
Perceived Ease of Use (PEOU)	4	0.773	Acceptable
Trust (TR)	4	0.751	Acceptable
Internet Accessibility (IA)	4	0.905	Excellent
Digital Payment Adoption (DPA)	6	0.847	Good

Interpretation: All six constructs returned alpha values above the 0.70 threshold, indicating that the questionnaire items reliably measure their intended constructs. No items needed to be dropped, and the scale was retained in full for further analysis.

4.4 Descriptive Statistics of Study Constructs

Table 4.3: Descriptive Statistics (5-point Likert Scale)

Construct	Mean	SD	Min	Max
Digital Skills (DS)	3.40	0.87	1.00	5.00
Cybersecurity Awareness (CA)	3.76	0.64	2.00	5.00
Perceived Ease of Use (PEOU)	3.84	0.63	1.75	5.00
Trust (TR)	4.16	0.55	2.75	5.00
Internet Accessibility (IA)	3.28	0.97	1.00	5.00
Digital Financial Literacy (DFL, composite)	3.69	0.47	2.29	4.90
Digital Payment Adoption (DPA)	2.38	0.64	1.00	4.67

Interpretation: Respondents reported the highest agreement on Trust ($M = 4.16$) and Perceived Ease of Use ($M = 3.84$), suggesting rural users who do engage with digital payments generally find them trustworthy and easy to operate once adopted. Internet Accessibility recorded the lowest mean ($M = 3.28$) and the largest spread ($SD = 0.97$), pointing to uneven connectivity infrastructure across sampled villages. The overall Digital Financial Literacy composite ($M = 3.69$) sits above the scale midpoint, indicating moderately good literacy levels, while actual Digital Payment Adoption ($M = 2.38$) remains comparatively low — a literacy–adoption gap that the correlation and regression results below help explain.

4.5 Correlation Analysis (Testing H1)

H1: Digital financial literacy affects the adoption of digital payment methods by Gujarati rural people.

Table 4.4: Pearson Correlation Matrix

	DS	CA	PEOU	TR	IA	DPA
DS	1.000					
CA	0.644	1.000				

	DS	CA	PEOU	TR	IA	DPA
PEOU	0.626	0.418	1.000			
TR	0.439	0.450	0.429	1.000		
IA	-0.012	-0.023	-0.046	-0.021	1.000	
DPA	0.398	0.304	0.316	0.252	0.267	1.000

DFL–DPA correlation: $r = 0.487$, $p < 0.001$, $N = 384$

Interpretation: Digital Financial Literacy shows a moderate, positive, and statistically significant correlation with Digital Payment Adoption ($r = 0.487$, $p < 0.001$). H1 is supported. Among the sub-dimensions, Digital Skills ($r = 0.398$) has the strongest individual association with adoption, followed by Perceived Ease of Use ($r = 0.316$) and Cybersecurity Awareness ($r = 0.304$). Internet Accessibility correlates only weakly with the literacy sub-dimensions themselves (near zero) but still relates meaningfully to adoption ($r = 0.267$) — consistent with it being more of an infrastructural enabler than a literacy/skill factor.

4.6 Multiple Regression Analysis (Testing H2–H6)

H2: H6: Digital skills, cybersecurity awareness, perceived ease of use, trust, and internet accessibility each positively influence adoption of digital payment methods.

Digital Payment Adoption (DPA) was regressed on the five predictors simultaneously.

Table 4.5: Regression Model Summary

R	R ²	Adjusted R ²	F	Sig.
0.500	0.250	0.240	$F(5,378) = 25.16$	$p < 0.001$

Interpretation: A regression model produced an R value of 0.500 that describes a moderate overall relationship between predictors (digital skills, cyber security awareness, perceived ease of use, trust, and internet access) and digital payment adoption. The value of R² of 0.250 indicates that these five predictors explain 25% of the variance in regards to adoption of digital payments while Adjusted R² (0.240) indicates that this estimate is reliable, taking into account the number of predictors. The model is significant statistically as $F(5, 378) = 25.16$, $p < 0.001$ which implies that the predictors are capable of explaining the variance in adoption rather than explaining it by pure coincidence, although it is important to mention that 75% of variance indicates that other factors play a relevant role.

Table 4.6: Regression Coefficients

Predictor	B	SE	t	Sig.	Hypothesis result
(Constant)	0.134	0.273	0.492	0.623	—
Digital Skills (DS)	0.191	0.050	3.817	0.000	H2 supported
Cybersecurity Awareness (CA)	0.068	0.060	1.124	0.262	H3 not supported
Perceived Ease of Use (PEOU)	0.111	0.059	1.869	0.062	H4 partially supported (marginal, $p \approx 0.06$)
Trust (TR)	0.077	0.060	1.273	0.204	H5 not supported
Internet Accessibility (IA)	0.182	0.029	6.236	0.000	H6 supported

Interpretation: The overall model is statistically significant ($F = 25.16$, $p < 0.001$) and explains 25.0% of the variance in Digital Payment Adoption (Adjusted R² = 0.240) — a moderate effect size typical for

behavioural adoption studies with multiple competing predictors. Of the five predictors, Digital Skills (β -equivalent $B = 0.191$, $p < 0.001$) and Internet Accessibility ($B = 0.182$, $p < 0.001$) emerge as the strongest, statistically significant drivers of adoption. This suggests that in rural Gujarat, adoption is constrained less by trust or cybersecurity concerns and more by (a) whether people have the practical digital skills to operate payment apps, and (b) whether reliable internet connectivity is even available to them. Perceived Ease of Use is marginally significant ($p = 0.062$), suggesting a possible but weaker effect, while Cybersecurity Awareness and Trust do not show independent significant effects once the other variables are controlled for — likely because their influence is already captured indirectly through Digital Skills, with which they are moderately correlated (Table 4.4).

4.7 Independent Samples t-Test — Gender (Testing part of H7)

Table 4.7: t-Test for DPA by Gender

Gender	N	Mean	SD	t	df	Sig. (2-tailed)
Male	217	2.391	0.626	0.450	361.8	0.653
Female	167	2.361	0.652			

Interpretation: There is no statistically significant difference in Digital Payment Adoption between male and female respondents ($t = 0.450$, $p = 0.653 > 0.05$). This indicates that, at least in this sample, gender by itself does not meaningfully differentiate adoption levels — suggesting digital payment gaps in rural Gujarat may be driven more by skills and infrastructure access (as seen in the regression) than by gender per se.

4.8 One-Way ANOVA — Age, Education, Occupation, Income (Testing remainder of H7)

H7: Demographic factors (age, gender, education, occupation, income) significantly impact adoption of digital payment methods.

Table 4.8: ANOVA Summary for DPA across Demographic Groups

Demographic Variable	F-value	Sig.	Result
Age Group	0.735	0.569	Not significant
Education	0.615	0.606	Not significant
Occupation	0.967	0.438	Not significant
Income	0.380	0.767	Not significant

Interpretation: The findings from the one-way ANOVA suggest that none of the four demographic variables (age, education, profession and income) have a significant impact on the adoption of Digital Payment since the p-values of all the variables are above the threshold of 0.05. This means that the behaviour of adoption is more or less the same across all age brackets, educational qualifications, professions and income categories within the sample. In simple words, it implies that there is no demographic group which is significantly more or less likely to adopt digital payment as compared to other groups. This also indicates that the inhibitors of adoption of digital payments in rural Gujarat are more influenced by structural factors (such as digital literacy and internet accessibility as confirmed by regression results) rather than the demographics of the respondents. Thus, Hypothesis H7, which stated that demographic factors significantly affected the hypothesis, is not validated through this data analysis.

Table 4.9: Group Means for DPA (supporting detail)

Age Group	Mean	Education	Mean	Occupation	Mean	Income	Mean
18–25	2.28	Below SSC	2.35	Farmer/Agri Worker	2.45	Below 10,000	2.42
26–35	2.36	SSC/HSC	2.43	Housewife	2.40	10,000–25,000	2.38
36–45	2.43	Graduate	2.33	Salaried	2.33	25,001–40,000	2.35
46–55	2.40	PG & above	2.41	Self-employed	2.28	Above 40,000	2.31
56 & above	2.44			Senior Citizen	2.51		
				Student	2.30		

Interpretation: None of the four demographic groupings (age, education, occupation, income) show statistically significant differences in adoption (all $p > 0.05$). Combined with the gender t-test in §4.7, this indicates that H7 is largely not supported in this dataset — Digital Payment Adoption appears fairly evenly distributed across demographic sub-groups, and the more decisive factors are the literacy-related variables identified in the regression (Digital Skills and Internet Accessibility), not who the respondent is demographically.

4.9 Summary of Hypothesis Testing

Table 4.10: Hypothesis Testing Summary

Hypothesis	Statement (short)	Result
H1	DFL affects DPA	Supported ($r = 0.487$, $p < 0.001$)
H2	Digital skills → DPA	Supported ($B = 0.191$, $p < 0.001$)
H3	Cybersecurity awareness → DPA	Not supported ($p = 0.262$)
H4	Perceived ease of use → DPA	Partially supported ($p = 0.062$)
H5	Trust → DPA	Not supported ($p = 0.204$)
H6	Internet accessibility → DPA	Supported ($B = 0.182$, $p < 0.001$)
H7	Demographics → DPA	Not supported (all $p > 0.05$)

Taken together, the results suggest that in this dataset, digital payment adoption among rural respondents is driven primarily by practical digital competence and infrastructure access, rather than by trust, cybersecurity perceptions, or demographic identity. This has a direct policy implication: literacy campaigns that focus narrowly on "building trust" or generic awareness may have limited impact unless paired with hands-on digital skills training and continued investment in rural internet infrastructure. The non-significance of demographic factors is also notable — it implies that once skills and access are accounted for, adoption barriers are not confined to any particular age, gender, education, or income segment, but are structural (skills + connectivity) rather than social.

5. Finding and Recommendations

Chapter 5: Findings, Recommendations, and Conclusion

5.1 Findings

1. The degree of Digital Financial Literacy amongst rural subjects is moderate. The DFL or Digital Financial Literacy score obtained for the study was 3.69 out of 5, revealing a rather high general level of comfort with modern internet-based finance.
2. The level of adoption of Digital Payments is very low. The average digital payment adoption score obtained (2.38 out of 5) was significantly lower than the literacy score implying existence of the phenomenon known as the literacy–adoption gap meaning while the respondents seem to understand the digital payment system quite well, they do not actually use it as effectively as they should.
3. The literacy in the domain of Digital Finance affects the level of adoption to some extent (H1 supported). A moderate positive correlation ($r = 0.487$, $p < 0.001$) has been obtained implying that increase in the extent of literacy is directly related to the level of adoption.
4. Digital skills have the highest influence on adoption (supported by H2). In the regression analysis, Digital Skills had the most significant impact with $B = 0.191$, $p < 0.001$ when compared to other literacy sub-dimensions such as trust, awareness of cybersecurity threats, and ease of use perceived.
5. Digital skills are the most powerful determinants of adoption (H2 confirmed). In the regression analysis, Digital Skills is characterized by the strongest impact ($B = 0.191$, $p < 0.001$) of all literacy subdimensions; even stronger impact is noted in the case of trust, internet security awareness, and perceived ease of use.
6. Access to the internet is an equally important, but independent factor affecting adoption (H6 confirmed). Although it is disconnected from the literacy sub-dimensions, access to the internet has a significant independent impact on adoption ($B = 0.182$, $p < 0.001$), indicating that not only knowledge, but also infrastructure is an important factor affecting adoption.
7. Cybersecurity awareness and trust don't significantly influence adoption alone (H3 and H5 not confirmed). After the first two variables were controlled, it was noticed that both of them are not responsible for any changes in adoption behavior individually, which means that their impact appears to be indirect.
8. The effect of perceived ease of use is limited (H4 partially supported, $p \approx 0.06$) which means that the ease of interface use is slightly important, but not as much as skills or availability.
9. The demographic characteristics have no great influence on the adoption rates (H7 was not supported). There is no relation between gender ($t = 0.450$, $p = 0.653$), age, education, job or income level and the adoption level, which means that the adoption gap is not limited to a certain demographic group but is rather a broader systemic problem concerning rural residents.
10. The multiple regression model presents that over-all 25% of variance is explained by the model (Adjusted $R^2 = 0.240$), which means that digital skills and internet usage together explain only a modest amount of the causes of the adoption; everything else (about 75%) has probably to do with other factors like physical banking access, influence of peers/family members, acceptance of digital payments by local merchants and government programs.

5.2 Recommendations

Based on the above findings, the following recommendations are proposed:

Emphasize practical training in digital skills as opposed to public campaigns. The findings show that digital skills influence the adoption process much more than any public campaigns or public trust, hence, training should be mainly practical and onboarding practices (e.g. making a payment using UPI in action).

Focus your money on building last-mile internet infrastructure. This is due to the fact that access to internet connection strongly affects people's adoption; therefore, if we don't invest into our infrastructure more, the digital literacy programs will have limited impact.

Make payment applications easier for low literacy population. Considering the insignificant influence of perceived ease of use, payment companies and governments should keep investing in developing vernacular interfaces, voice payments and easy UI/UX with a focus on low literacy population and first-time users.

The focus of literacy programs should be on generalization and universal messaging. The differences based on education, gender, occupation, income, or age have not turned out to be particularly significant so that the approaches to digital literacy will be broad and suitable for all the community rather than targeting a specific demographic type of program (e.g., only female or youth programs).

Remove the barriers for the usage of digital payments. Since the literacy variables explain only a quarter of the behavior, it is paramount to do something with the barriers that limit the adoption of digital payments such as the acceptance of payments by shops in rural areas, the availability of banking correspondents nearby, etc.

Use local leaders as the leverage for digital adoption. Trusted by the community "digital sakhis" (local importance people engaged in this area) can minimize or remove the language gap as they provide training and assist users on the ongoing basis instead of having just one-off training.

Keep monitoring cybersecurity awareness even though it was not an important barrier in this case. As adoption increases, awareness about cybersecurity will become important, therefore, it's important to incorporate fraud-prevention education proactively into literacy programs.

5.3 Conclusion

The goal of the present study was to evaluate how digitally literate rural residents of Gujarat are and how this factor influences the adoption of digital payment systems. The results of the analysis show that rural participants know enough about digital finance, but this literacy is not enough to use it properly. The analysis suggests that there is a literacy–adoption gap that results from behavioral and infrastructural reasons. The most important factors affecting the adoption of digital payments turned out to be digital skills and internet access. Other factors considered in the analysis such as trust, cybersecurity knowledge, and perceived ease of use were less significant than demographic variables. The recommendations based on the results of the analysis include implementing a two-fold approach towards overcoming the digital payment gap in rural areas of Gujarat. The authorities should not only focus on providing rural citizens with digital knowledge but pay more attention to establishing infrastructure which provides them access to digital finance.

References

- Asthana, A. K., Anand, A., Singh, K. P., Singh, L. G. H., & Karn, A. (2025). Challenges associated with digital payment acceptance in rural India: A conceptual framework. *Journal of Rural Development Studies* (details to be verified with original source).
- Sharma, S., Gola, K. R., Ujjawal, N., & Bagar, V. K. (2025). Financial literacy and digital payment adoption among small-scale merchants. *International Journal of Financial Studies* (details to be verified with original source).
- Gracy, L. I., & Devi, R. R. (2025). Influence of financial literacy on digital banking adoption among women in rural and urban areas. *Journal of Banking and Finance Studies* (details to be verified with original source).
- Nene, S. S., & Acharekar, S. V. (2025). Digital financial literacy among rural women using microfinance services. *Journal of Microfinance and Development* (details to be verified with original source).
- Kumar, H. (2025). Impact of digital payment systems on financial inclusion in rural India [Working paper]. SSRN. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5259060
- Rashida, M., Shamsi, M. A., Anwar, I., Saleem, I., & Yahya, A. T. (2024). Extending the Technology Acceptance Model to examine e-wallet adoption in rural India. *Journal of Financial Services Marketing* (details to be verified with original source).
- Dev, H., Gupta, R., Dharmavaram, S., & Kumar, D. (2024). Impact of UPI on consumers' spending behaviour in India. *Journal of Digital Banking* (details to be verified with original source).
- Abdul Azeez, N. P., & Akhtar, S. M. J. (2021). Digital financial literacy and its determinants: An empirical evidence from rural India. *Universal Journal of Accounting and Finance*, 9(3), 1–10. (details to be verified with original source).
- Morgan, P. J., & Long, T. Q. (2020). Financial literacy, financial inclusion, and savings behavior in Laos. *Journal of Asian Economics*, 68, Article 101197. <https://doi.org/10.1016/j.asieco.2020.101197>
- Morgan, P., & Long, T. (2020). Financial literacy and digital financial inclusion. *ADB Economics Working Paper Series*, 606, 1–22. <https://doi.org/10.22617/WPS200181-2>
- Yoshino, N., Morgan, P. J., & Long, T. Q. (2020). Financial literacy and fintech adoption in Japan (ADB Working Paper No. 1095). Asian Development Bank Institute.
- Lyons, A. C., Kass-Hanna, J., Liu, F., Greenlee, A. J., & Zeng, L. (2020). Building financial resilience through financial and digital literacy in South Asia and Sub-Saharan Africa (ADB Working Paper No. 1098). Asian Development Bank Institute. <https://www.adb.org/sites/default/files/publication/574821/adbi-wp1098.pdf>
- Morgan, P. J., & Trinh, L. Q. (2019). Fintech and financial literacy in the Lao PDR (ADB Working Paper No. 933). Asian Development Bank Institute.
- World Bank. (2022). The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19. World Bank Group.
- Tony, N., & Desai, K. (2020). Impact of digital financial literacy on digital financial inclusion. *International Journal of Scientific and Technology Research*, 9(1), 1911–1915.
- Prasad, S., Jain, Y. S., Surana, P., Shill, S., Kankariya, J., & Poddar, D. (2024). Impact of digital payment adoption on financial inclusion in rural India. *International Journal of Development Research*, 14(3), 65175–65178. <https://doi.org/10.37118/ijdr.27976.03.2024>

UPI and financial inclusion in rural India: A case study. (2025). ScienceDirect. <https://www.sciencedirect.com/science/article/abs/pii/S2950524025000162>

Role of digital payments in enhancing financial inclusion of rural MSMEs in India. (2026). International Journal of Management Studies. <https://www.managementpaper.net/special-issue/2026.v8.i4S.739/role-of-digital-payments-in-enhancing-financial-inclusion-of-rural-msmes-in-india>

Naumenkova, S., Mishchenko, S., & Dorofiev, D. (2019). Digital financial inclusion: Evidence from Ukraine. *Investment Management and Financial Innovations*, 16(3), 194–205. [https://doi.org/10.21511/imfi.16\(3\).2019.18](https://doi.org/10.21511/imfi.16(3).2019.18)

Noor, N., Batool, I., & Rehman, H. U. (2022). An empirical assessment of the mediating role of financial self-efficacy on financial literacy and financial inclusion in Pakistan. *Annals of Social Sciences and Perspective*, 3(1), 77–103. <https://doi.org/10.52700/assap.v3i1.160>

Ozili, P. K. (2023). Digital finance, financial inclusion, and financial literacy. *International Journal of Economics and Finance Studies*, 15(1), 33–48. <https://doi.org/10.34109/ijefs.202315103>

Reserve Bank of India. (2023). Financial inclusion index and digital payments report. Reserve Bank of India.

National Payments Corporation of India. (2024). UPI product statistics. NPCI.