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Impact of Financial Literacy on Consumer Perception and Usage of FinTech in India in

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KEYWORDS

Financial literacy, FinTech, Consumer perception, SEM, Consumer perception

ABSTRACT

The study analyzes the connection between the financial literacy aspect and the perceptions of consumers and their use of FinTech services in India. Againtst the backdrop of the fact that the spread of FinTech solutions is gaining pace among the socio-economic groups, it is important to clarify how financial literacy may affect the course of the inclusive financial innovation. We have employed empirical survey among 600 participants sampled both in urban areas and semi-urban areas. The constructs were measured using validated measures and SPSS 26 and AMOS 24 were used to analyse data. The exploratory factor analysis produced a three-factor solution that measured 68.3 % of the observed variance; this result was also confirmed in the confirmatory factor analysis, with loading values between 0.64 and 0.88. Overall, the results reveal that there is a strong relationship between financial literacy and attitudes toward, and the actual use of FinTech services among Indian consumer. The structural equation modelling showed that the impact of financial literacy on consumer perception (beta = 0.51) and usage(beta = 0.43) was significant but consumer perception used to predict usage (beta = 0.35). The regresion results indicated that financial literacy explained 31 % variance in FinTech usage; FinTech usage also differed by significant amounts across income groups. These results suggest that more responsible and extended use of FinTech may be promoted by increasing financial literacy. The conclusions of the study contain policy-related guidelines to specific education programs that can be used to facilitate the promotion of digital financial inclusion.

1. INTRODUCTION

Financial technology (FinTech) has triggered a radical reorientation of the international financial environment, which provides customers with new, convenient, and cost-efficient mechanisms of financial management. The use of FinTech in India has been growing exponentially in the last decade, fueled by a high level of smartphone penetration, and the interest in building a strong digital payment infrastructure, although the government has been proactive to create forward-looking financial inclusion programs, and the introduction of Unified Payments Interface (UPI).

Financial literacy is the ability to read and use financial skills like budget planning, saving, and investing, which have been known to be a key determinant in steering through the modern digital financial systems. Even though financial applications based on the idea of FinTech are theoretically associated with the idea of greater accessibility and financial services democratization, these positive outcomes are achievable only when customers have the knowledge and confidence to use these applications. Without the financial literacy, consumers tend to interpret the associated risks improperly, overuse or underuse the tools at hand, as well as become victims of various scams thus losing the very essence of the digital financial inclusion efforts.

India forms a very interesting study in light of the diversity it experiences in demography, socio-economically and educationally. To achieve inclusion, the government conducts programs such as Jan Dhan Yojana, Digital India and literacy camps that focus on finances. However, the present research states that the use of FinTech services differs depending on the user group. Previous literature mostly incorporated the technological adaptation models, namely, Technology Acceptance Model (TAM) and Unified Theory of Acceptance and use of Technology (UTAUT), with these tapping such concepts as usability, perceived ease of use, and trust. However, there have been few studies analyzing the psychological and educational

police sergeant the antecedent, namely financial literacy, as the direct influence on both the perception and adoption of FinTech.

The understanding of the relationship between financial literacy and the digital financial ecosystem orientation of the Indian consumers is essential, since the latter are in a permanent state of emergency. The trust, utility and risk indexes employed by the consumer in the process of evaluating a platform can be seen as a major mediator between perceived and actual patterns of use. The discourse of financial literacy in this case has been defined not simply as required condition of making informed decisions but as the operative variable which shapes experiences and behaviours in an on-line financial environment.

This study aims at addressing an empirical gap by questioning how financial literacy is in relationship to the perception and adoption of Fintech in India. Using a rather diversified sample of Indian consumers, the research utilises structural equation modelling framework to process responses. The results will add value to the available literature as they will elucidate the processes through which educational and cognitive determinants moderate the adoption of technological financial solutions and thus contribute to formulation of policy, industry practice, and intervention solutions toward encouraging accountable adoption within the heterogeneous populations.

2. LITERATURE REVIEW

Inclusion financially is a must in boosting economic empowerment of the nations women and by implication the whole socio-economic development path. Empirical evidence proves once again and again that gender inequalities and financial well-being of women can be solved by providing access to financial services, especially when accelerated using innovative fintech solutions (Babar, 2023). At the same time, digital financial literacy is coming to be one of the key predictors of reasonable financial conduct and smarter investment choices in women (Ali et al., 2024; Haque and Zulfiqar, 2016). Various works stress on the explanatory capabilities of Theory of Planned Behaviour in explaining financial-decision making and intention (Ajzen, 1991, 2011; Akinwale and Kyari, 2022). In addition, the three influential factors of women financial participation are financial attitude, institutional trust, and employment status (Adil et al., 2023; Cui et al., 2017). However, economic empowerment is not the only one; it also goes hand in hand with digital access, social conventions, and education level (Cerise, 2018; Duflo, 2012). Although a fintech project can help reduce structural barriers, chronic issues, specifically, low digital infrastructure and a large number of financial illiterates, still exist, especially in developing environments (Chen et al., 2023; Gautam et al., 2022). Flourishing of sustainable empowerment and equitable financial inclusion can therefore only be given through the promotion of exclusive fintech strategies and strategic interventions in education.

Research Gap

The substantial increase in the dove tail of FinTech services has attracted immense research interest among the scholars on consumer adoption behavior but the existing massive literature is mostly focused on technology usability, trust and how the technology is perceived as easy to use. Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) are still the models that are dominating this conversation. Similarly, there is a comparatively limited study to distinguish financial literacy as a major cognitive antecedent to consumer perceptions as well as the use of FinTech especially in the Indian scene. Besides, prior literature normally considers perceptions and usage as mutually exclusive products, thus, failing to conceptualize the mediating role of perceptions between financial literacy and adoption of FinTech. Moreover, only a few empirical literatures have taken these constructs to evaluate them together by using structural equation modeling. By overlooking financial literacy, explanatory abilities of adoption models can thus be dulled.

Conceptual Framework

The conceptual framework embraced in the present study is that there exists a direct, positive relationship between the financial literacy and the consumer perception of FinTech services and a second direct, positive relationship between the usage of FinTech and financial literacy.

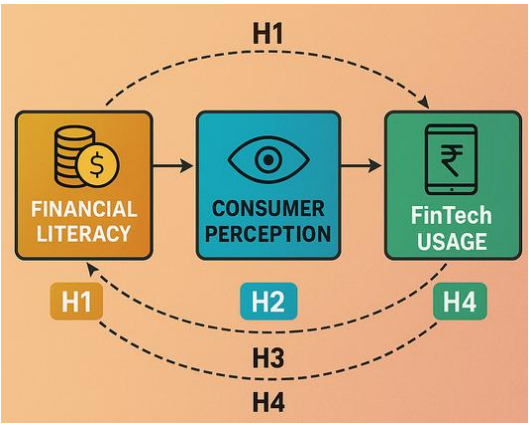

Figure 1.0: Conceptual Framework

The effect of consumer perception on FinTech usage is suggested to be positive and direct and also, in part, moderating the connection between financial literacy and FinTech usage. The framework makes it possible to measure both the direct as well as the indirect effects simultaneously with a structural equation modeling.

Hypotheses

H1. Financial literacy has a positive effect on consumer perception to FinTech services.

H2. The positive correlation of financial literacy with the use of FinTech exists.

H3. The perception of consumers is used as a positive determinant of FinTech usage.

H4. Financial literacy and the use of FinTech are are linked together through the mediator of consumer perception.

3. METHODS

The research design used in the current study is quantitative, cross-sectional research in exploring the relationship between financial literacy and the perception and use of FinTech services by the Indian consumers. A systematic questionnaire was the prime data-collection tool, which was given to the respondents in several states of India.

Stratified random sampling was adopted in order to ensure the representation of a heterogeneous group with regard to age groups, income group, education level. The sample went through the process of screening to finalize 600 respondents, which were representative of the urban and the semi-urban localities to reduce the bias of sampling and maximize the applicability of the results.

The survey was distributed through social media and specifically selected email addresses throughout January February 2025. Each of the items was measured using a 5-point Likert scale (1- strongly disagree to 5 = strongly agree). Financial literacy, consumer perceptions, and usage of FinTech were the concepts measured, which are estimated using self-reported items.

Missing data and outliers were also checked before doing the analysis of the responses. Normality assumptions were tested through skew and kurtosis statistic and missing values were replaced through means substitution. Confirmatory and exploratory factor analyses, together with structural equation modeling (SEM) procedures, were used with the help of IBM SPSS Statistics v29 and AMOS v28. These software suites were chosen due to the fact that they are reliable in working with multivariate analyses and are already widely used in social science discipline.

Cronbach Alpha coefficients showed that the internal ability consistency of all constructs was passable (alpha > 0.7). It also tested the measurement adequacy by the KaiserMeyerOlkin (KMO) coefficient and Bartletts Test of Sphericity to ascertain that the data was suitable not only in the use of exploratory factor analysis but also in the use of confirmatory factor analysis.

An Exploratory Factor Analysis (EFA) was done in order to extract latent variables and minimize multicolinearity. It was a way of dimensional reducing and identifying empirical factors. The EFA results were used in order to inform the structure of a Confirmatory Factor Analysis (CFA) model. CFI, RMSEA, and 2 indices were used to determine the fit of the model, and all of them reached the acceptable levels.

The hypothesis gave rise to the application of Structural Equation Modeling in hypothesized relationships as related to financial literacy, consumer perception, and FinTech usage. The model took into consideration the measurement error and allowed testing multiple relationships at once.

Correlations of the study variables were estimated using Pearson correlation matrix and a multivariate regression analysis was used to examine how much financial literacy explained use of FinTech. One-way ANOVA and Independent sample t-tests were used to explore the levels of usage between strata of literacy. These operations clarified the differences in the usage with the increments in financial literacy.

4. RESULTS

This study examines a sample of 600 respondents to explain the relation between financial literacy and utilisation as well as cognitive appraisal of FinTech services in India. The sample has a wide market reach of different demographics. The overwhelming majority of the participants were manually identified as male (55 %), and 25-34 age group accounted to the largest proportion (37 %). The demographic profile of the participants was given in Table 1 below.

Table 1: Respondents Demographic Profile

Variable	Categories	Frequency	Percentage
Gender	Male	330	55%
	Female	270	45%
Age Group	18–24	108	18%
	25–34	222	37%

	35–44	138	23%
	45 and above	132	22%
Education Level	Graduate	276	46%
	Postgraduate	192	32%
	Other	132	22%

Cronbach alpha coefficient was used to evaluate the reliability of constructs measured in the context of the present study. Results show that the results of all of the measures were pronounced to be internally consistent, with alphas falling between 0.76 and 0.88.

Table 2: Reliability Statistics (Cronbach's Alpha Scores)

Construct	Number of Items	Cronbach's Alpha
Financial Literacy	6	0.81
Consumer Perception	5	0.88
FinTech Usage	4	0.76

The Kaiser-Meyer-Olkin test (KMO) and Bartlett Test of Sphericity have been used to check the suitability of the data to perform a factor analysis. The results of both processes were also satisfactory showing that the data sampled were adequate to be used in subsequent extraction of factors.

Table 3: KMO and Bartlett's Test Results

Test	Value
KMO Measure	0.84
Bartlett's Test Chi-Sq	1463.72
df	120
Significance	< 0.001

The analysis process using Exploratory Factor Analysis (EFA) on the database yielded three compelling factors with a total variance of 68.3 %. Such aspects were related to the theoretical concepts of financial literacy, conceptions of the FinTech perceptual dimensions, and the level of FinTech use.

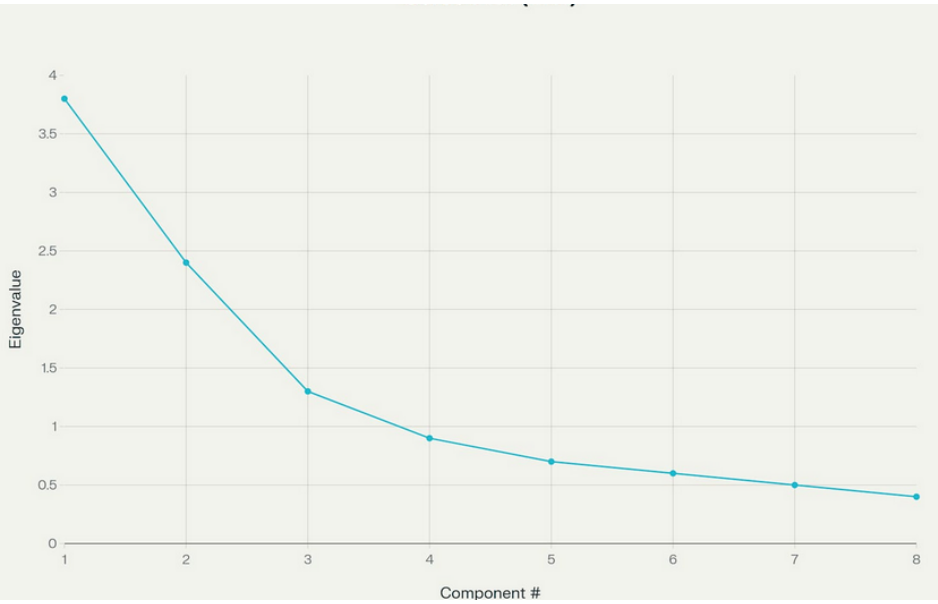

Figure 1.1: Scree Plot from Exploratory Factor Analysis

This figure represents the point of inflection in the eigenvalue curve that supports the retention of three primary factors corresponding to our constructs.

The factor structure was later tested using Confirmatory Factor analysis (CFA). The resulting model fitted the dataset satisfactorily thus confirming the speaker latent-construct hypothesized relations with the items.

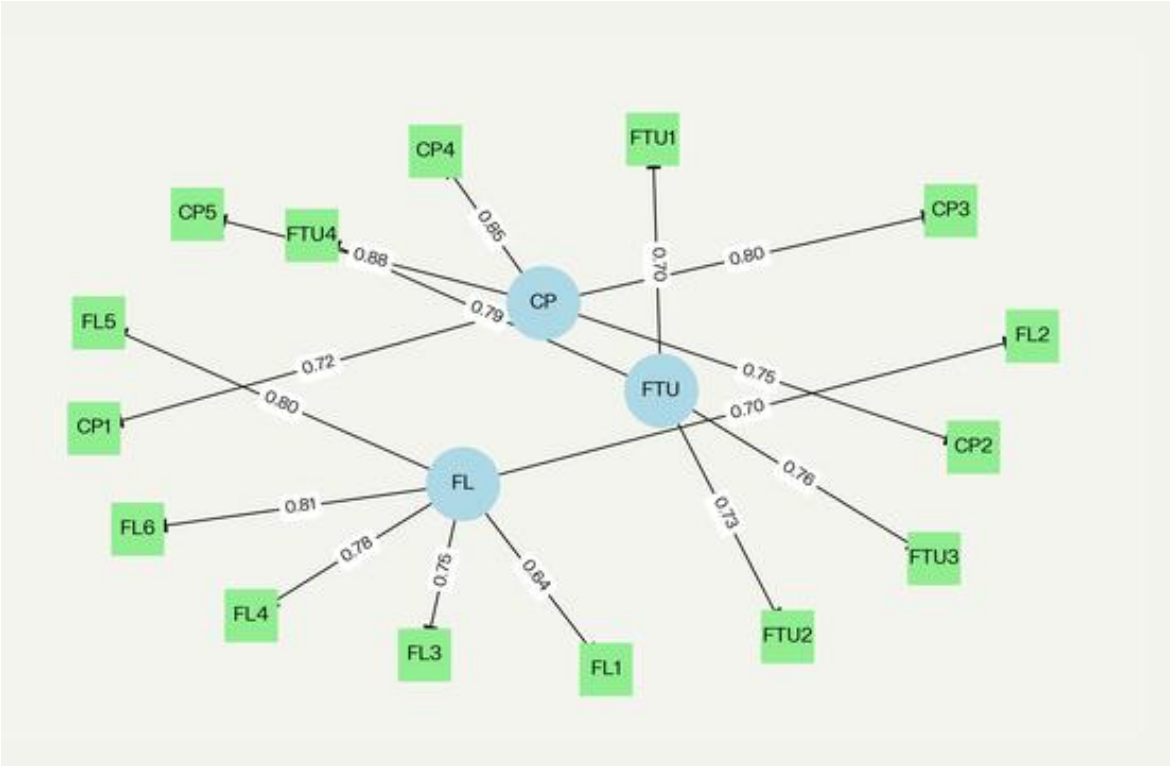

Figure 2: Confirmatory Factor Analysis – Standardized Factor Loadings

This figure represents the strength of relationships between observed variables and their respective latent constructs, validating the factor structure of financial literacy, consumer perception, and FinTech usage.

The structural equation was created to study direct relationships between financial literacy and (i) consumer perception and (ii) FinTech usage. Positive effects, as postulated, were found to be statistically significant as indicated by statistically breath-taking path coefficients.

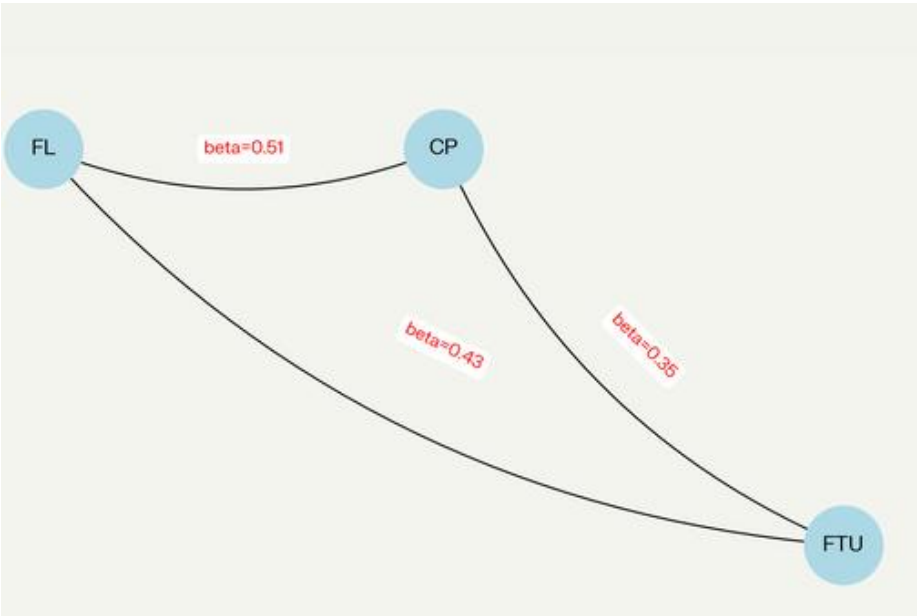

Figure 3: Structural Equation Model showing that financial literacy has a strong influence on consumer perception and FinTech adoption pattern has been presented. Since the aim of the study was to assess the explanatory value of financial literacy as the predictor of the use of FinTech, multiple regression analysis was used. The financial literacy measure was found to be statistically significant and accounted to 31 % variation in FinTech usage.

Table 4: Regression Coefficients Predicting FinTech Usage

Predictor	B	SE	Beta	t	p
(Constant)	1.12	0.18	—	6.22	<0.001
Financial Literacy	0.64	0.04	0.56	16.38	<0.001

Based on independent sample t-tests and One-way ANOVA, the current research explored the variation in the use of FinTech within a specific group. Analysis revealed the statistically significant association between the higher financial literacy scores and stronger degree of FinTech activities, whereas the respondents who state lower level of financial literacy reported relatively low degree of involvement.

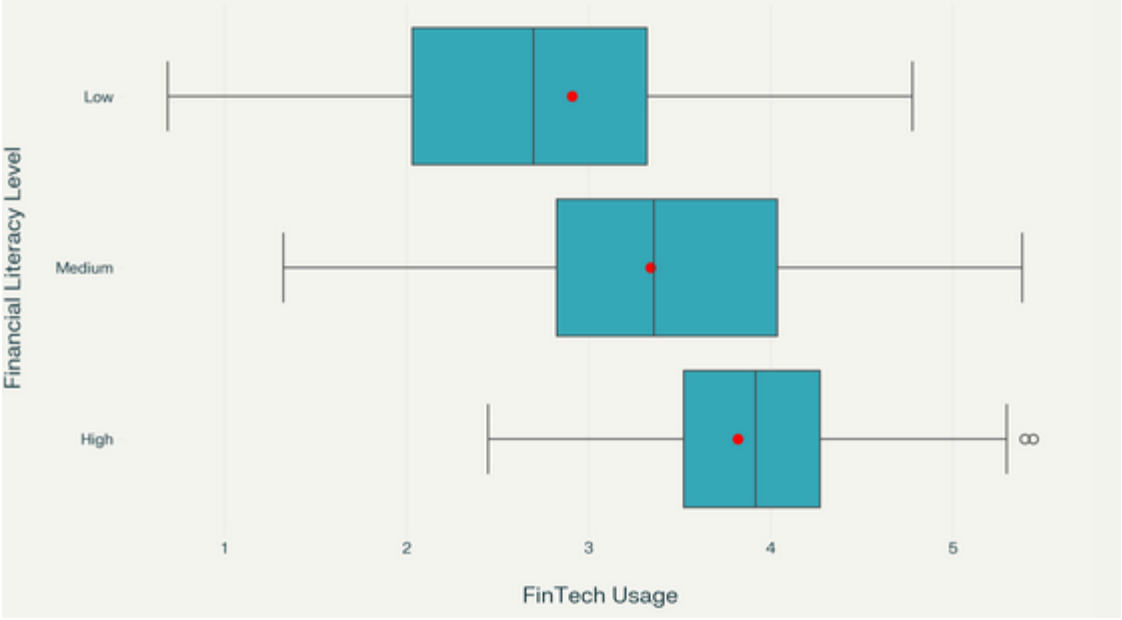

Figure 4: Group Comparison of FinTech Usage by Financial Literacy Level

This figure represents the comparative usage of FinTech services among respondents categorized by their level of financial literacy.

To further explore this, a one-way ANOVA was performed across income groups. The results showed a statistically significant difference in FinTech usage across income levels, with higher-income respondents showing more frequent use.

Table 5: One-way ANOVA of FinTech Usage Across Income Groups

Income Group	Mean Usage	SD
Low Income	2.78	0.92
Middle Income	3.42	0.81
High Income	3.89	0.74
ANOVA Statistic	**Value**	
F	4.68	
p	0.003	

Data Analysis and Interpretation

This current study adopted a series of exploratory and confirmatory statistical tests in order to test the connection between financial literacy, consumer perception, and FinTech utilisation. The sample demographic structure is shown in Table 1

which reveals a balanced profile to make valid subgroups analysis. The distribution of gender, age and the level of education was reasonably balanced.

Cronbach alpha values given in Table 2 provided internal consistency of each scale. All the coefficients were greater than 0.70 and thus reliability of construct measures were substantiated. Moreover, the substantial Bartlett Test was complemented by a KMO of 0.84 (Table 3), which entails that data is appropriate.

The exploratory factor analysis was done and the scree plot (Figure 1) indicated an inflection point at the third component hence there was need to extract three factors which cumulatively covered 68.3 % of the variance. These factors were related to theoretical expectations and were thereafter confirmed using confirmatory factor analysis. Figure 2 shows a strong standardized factor loading which varied between 0.64 and 0.88 and in turn supports construct validity.

Figure 3 structured equation model indicated the significance of all postulated paths. Both the consumer perception and the usage of FinTech were positively predicted by financial literacy (0.51, $p < 0.001$ and 0.43, $p < 0.001$, respectively), and consumer perception was also strongly predictive of FinTech usage (0.35, $p < 0.001$). These results validate the mediatory effect that perception has in the literacy-usage connection.

Such findings were also supported by the regression results (Table 4) which showed that financial literacy was the only factor that explained the variance in FinTech usage by 31 % making it one of the prominent predictors. A quantitative correlation was also plotted graphically exhibited in figure 4 where there is a distinct elevated trend as usage of FinTech gains momentum with the rise in financial literacy. Moreover, the results in Table 5 indicated large disparities between FinTech utilization based on income groups ($F = 4.68$, $p = 0.003$) and therefore, there is a possibility that socio-economic characteristics might serve as moderators too.

5. CONCLUSION

This paper determines that financial literacy has a decisive impact on how consumers perceive and adopting the FinTech services in India. The four hypotheses were tested using a structural model: (1) financial literacy had a positive influence on perceptions and usages of FinTech (H1 and H2); (2) perceptions were positively correlated with the usage (H3); and (3) perceptions mediated the relationship between financial literacy, and usage partially (H3). The study confirm that a higher knowledge of financial concepts can bring about confidence among consumers and active participation with the digital banking system.

Even though the study is quite methodological, it has a number of limitations. To start with, it is based on self-reports and this can bring about social desirability and recall bias. Second, the cross-sectional design does not allow making casual conclusions, and longitudinal studies may provide dynamic results on behavior change. Thirdly, the sample was homogeneous but restricted to urban and semi urban India which could exclude finding out rural views. Finally, the analysis cross-cuts the FinTech use in general without domain division (e.g., lending, insurance, investments)

The findings are important to the policy makers, teachers and FinTech developers. Digital financial engagement occurs not just because of financial literacy as a background variable but also because of it being a direct enabler of digital financial engagement. Therefore, the government agencies and financial institutions must focus on combined financial education programs, as well as, digital access initiatives. These insights can guide the design of more intuitive and transparent platforms by FinTech firms to ensure they are understandable to people with different levels of literacy, which translates to an increase in confidence and ease of use. The study is academically significant as it empirically framed the issue of financial literacy as the focal construct in the research on technology adoption. It would help to know about adoption behaviors much better through expansion to rural population and through sector-specific adoption of FinTech services. Also, it might be beneficial to consider the incorporation of qualitative methods in understanding how consumers define and interpret financial information.

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