



Antecedents of Fintech Literacy in Rural Consumers of Odisha

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Abstract — An individual's capacity to understand the functioning of financial technology products is referred to as fintech literacy. Creating instructional platforms to increase financial literacy, specifically for rural consumers, is the goal of many fintech companies. Contextually, this study examines the impact of financial literacy, financial behaviour, financial attitude, financial knowledge, on fintech literacy of rural consumers in the state of Odisha. Structural Equation Modelling using Amos 23.0 was used to analyse data received from 274 respondents via a self-administered questionnaire. The findings provide deep insights into these connections. Financial behaviour was discovered to have no substantial impact on fintech literacy. Fintech literacy, on the other hand, was strongly influenced by financial attitude and knowledge. Additionally, financial literacy was found to have a significant and positive impact on fintech literacy. Overall, the study confirms the premise that financial attitude, knowledge, and literacy are important determinants in increasing fintech literacy, whereas financial behaviour alone has no impact. These findings have strong implications for Fintech companies looking forward to improving fintech literacy among rural consumers.

Keywords — Financial literacy; financial behaviour; financial attitude; financial knowledge; fintech literacy; rural consumers

I. INTRODUCTION

The financial landscape in India has witnessed one of the most paradigmatic shifts over the years due to the increased penetration of financial technology, otherwise known as fintech (Sharma & Munjal, 2024). Owing to its enormous population growth and mushrooming digital economy, India has emerged as one of the most promising fintech innovation markets globally (Gahlot & Ghosh, 2023). The dynamic nature of consumer expectations, policy support, and the conjunction of advancements in technology mirrors the rapid adoption of fintech in India (Mei, 2022). Home to over 1.4 billion individuals, and one of the largest base of smartphone users, India has witnessed tremendous escalation of fintech on account of rising smartphone technology (V. Kumar, 2023).

Ranging from digital wallets, online/mobile banking, and peer-to-peer (P2P) lending, Indians can now access a plethora of financial services online, due to greater high-speed internet penetration (Bandyopadhyay, 2022). Various initiatives of the Government such as – the introduction of a Unified Payments Interface (UPI), and the drive towards a “digital economy”, as demonstrated by “Digital India” have also fuelled the growth of fintech (Hanedar et al., 2023). As a specific revolutionary, UPI has fostered seamless online transactions throughout the nation (Virdi & Mer, 2023).

As a popular notion, fintech literacy has become an inevitable aspect in an age dominated by fintech (Sood & Singh, 2022). It has completely altered the international financial landscape and has been crucial in extending fair access to a variety of financial services (Ediagbonya & Tioluwani, 2023). The adoption of fintech has advanced rapidly across metropolitan areas, but because of educational and infrastructural constraints, rural areas frequently lag (Wu & Peng, 2024). For rural consumers, the significance of fintech literacy cannot be underscored, as it directly affects their capacity to make efficient financial decisions.

This empirical perusal explores the antecedents of fintech literacy for rural consumers, examining the impact of financial behaviour, financial attitude, financial knowledge, and financial literacy on fintech literacy. The paper aims to provide actionable insights for all stakeholders of fintech literacy in rural areas. There the study therefore addresses the following important research question. *RQ. What are the various factors impacting fintech literacy among rural consumers in Odisha?*

II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

A. Fintech Literacy

“The ability to understand and effectively use financial technologies to manage personal finances, invest, and navigate the modern financial ecosystem” is referred to as

fintech literacy (Morgan, 2021). According to a past study, “fintech literacy involves not only the technical skills required to operate digital financial tools but also a conceptual understanding of how these tools fit into broader financial management strategies” (Koskelainen et al., 2023). Individuals high on fintech literacy can make informed financial investment decisions, make the most of fintech innovations, and mitigate associated risks (Panos & Wilson, 2020).

Due to the growing significance of “digital financial skills” various fintech literacy awareness initiatives are being undertaken by organizations (Kumar et al., 2023). The “Fintech Education Program” for instance offered by the “Singapore FinTech Association” conducts multiple workshops to foster digital financial skills (Mittal & Koh, 2022). However, despite the fintech literacy promotion efforts, many challenges still prevail. Ensuring the inclusion and accessibility of such initiatives, especially in the under-supported regions is one of the biggest challenges (Hasan et al., 2023). Contextually, it has been stressed by past research to effectively address the aforementioned challenge (Morgan, 2021).

B. Financial Behaviour

An individual’s financial behaviour is defined as “any human behaviour that is relevant to money management” (Ingale & Paluri, 2022). As per a past study, financial literacy was found to have a strong relationship with individual and/or household financial behaviour (Mireku et al., 2023). It is reflective of both affirmative as well as undesirable influences on the investing patterns of individuals. The affirmative aspects comprise– “managing savings investments and looking forward for future emergencies, managing credits and long term planning include retirement, pension schemes, etc.” On the other hand, the negative aspects include “spending unnecessarily and excluding discussions on financial matters” (Mireku et al., 2023). Financial behaviour was found to have a significant impact on financial literacy, as per a study (Sabri et al., 2020). Thus, we hypothesize that - *H1 Financial behaviour has a significant and positive impact on fintech literacy.*

C. Financial Attitude

As per past research financial attitude can be defined as the “opinion on money of an individual, such as saving for the future, planning emergency savings, or making long-term financial plans” (Rai et al., 2019). Fundamentally, a financial attitude refers to the way people/households manage the inflow/outflow of cash, thereby leading to

financial literacy (Hamid & Loke, 2021). A person's/household's financial attitude has been a crucial consideration when making large investments and budget decisions (Encio et al., 2022). In the recent past many programs have been conducted by financial institutions to develop and enhance the financial attitude of individuals (Riaz et al., 2022). According to past research, an individual’s financial attitude is pivotal in enhancing financial literacy as well as fintech services adoption (Prabhakaran & Mynavathi, 2023). Therefore, we hypothesize that - *H2 Financial attitude has a positive effect on fintech literacy.*

D. Financial Knowledge

Financial knowledge has been found to extensively facilitate an individual's/household's ability to save and invest (Sullivan, 2021). It is defined as “a person's proficiency with various financial concepts and shows how knowledgeable they are about their financial investment selections” (Vaghela et al., 2023). Considered to be an outlook on financial decision-making, an individual's/household's financial knowledge is connected strongly to financial literacy (Yang et al., 2023). Past research has found that tech-savvy individuals/households having strong financial knowledge make smarter investment and savings decisions. On the contrary, individuals/households with less financial knowledge are unable to make prompt investment/saving decisions (Makhija et al., 2021). Thus, it is hypothesized that - *H3 Financial knowledge has a significant and positive impact on fintech literacy.*

E. Financial literacy

Financial Literacy is “one’s ability to process economic information and make informed decisions about financial planning, wealth accumulation, debt, and pensions” (Ouachani et al., 2021). It refers to the expertise of an individual/household as far as financial matters are concerned, which facilitates informed financial decision-making (Mändmaa, 2019). Higher levels of financial literacy help to achieve better financial decisions. On the contrary, lower financial literacy levels prevent individuals/households from using fintech services (Pang, 2010). A past study has also focused on the critical linkage between financial literacy and fintech usage (Morgan & Trinh, 2019). Recent studies have asserted the positive relationship between financial literacy, investment decisions, and fintech adoption (Prabhakaran & Mynavathi, 2023; Yoshino et al., 2020; Li et al., 2020). Therefore, we hypothesize that: *H4 Financial literacy has a positive effect*

on *fintech literacy*. Based on the aforementioned hypotheses, the proposed research is illustrated below.

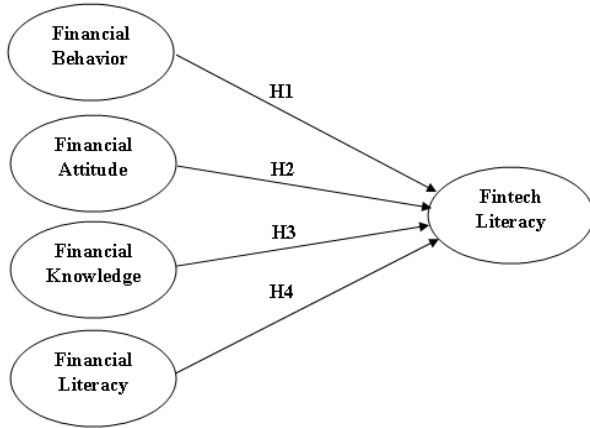


Fig 1. Proposed Research Model

III. RESEARCH METHOD

The items used to measure the variables were adjusted to the context of this study. All items were measured by using a five-point Likert-type scale (1=“strongly disagree, 5=“strongly agree”) (Likert, 1932). The four-item scale for measuring fintech literacy was adapted from a previous study, based on fintech payment services (Lim et al., 2019). The five-item scales for measuring financial behaviour, financial attitude, and financial knowledge have been adapted from the research by (Tirfe, 2022). Financial literacy was measured using a four-item scale adapted from a study based on financial literacy among college students (Chen & Volpe, 1998). By adopting a convenience sampling technique and using an online questionnaire, data were collected from 289 rural consumers in Odisha to test the hypotheses. Later the data was cleaned and 15 responses were removed due to inconsistency hence the final sample comprised 274 (n=274) consumers.

A. Demographic Characteristics of the Sample

Table 1 below summarizes the demographic characteristics of the sample. As far as gender is concerned it was predominantly male (75.9%). Most participants are aged 31-40 years (77.4%). Most respondents have a diploma (39.4%), followed by graduates (31.8%), 12th standard (16.8%), 10th standard (7.7%), and postgraduates (4.4%). The highest frequency for monthly income is in the 40,001-60,000 INR range (21.2%).

**TABLE I
 DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE**

Characteristic		Frequency	Percent
Gender	Male	208	75.9
	Female	66	24.1
Age Group (in yrs.)	20-30	34	12.4
	31-40	212	77.4
	41-50	26	9.5
	Above 50	2	.7
Education	10th Standard	21	7.7
	12th Standard	46	16.8
	Diploma	108	39.4
	Graduate	87	31.8
	Post Graduate	12	4.4
Monthly Income (in INR)	< 20000	36	13.1
	20001-40000	49	17.9
	40001-60000	58	21.2
	60001-80000	45	16.4
	80001-100000	35	12.8
	> 100000	51	18.6

B. Confirmatory Factor Analysis

The individual constructs and their factor loadings, which were derived via factor analysis after the loading was extracted below the cut-off value of 0.50, are displayed in Table 2, as shown below. For every scale item, the computed factor loading exceeded the recommended factor value of 0.50, demonstrating the items' appropriate factor validity (Hair et al., 2018).

**TABLE II
 FACTOR LOADINGS**

Items	Factor				
	1	2	3	4	5
FB1	.818				
FB2	.923				
FB3	.875				
FB4	.888				
FB5	.790				
FA1		.743			

FA2		.835			
FA3		.898			
FA4		.920			
FA5		.668			
FK1			.866		
FK2			.761		
FK3			.755		
FK4			.842		
FK5			.675		
FL1					.701
FL2					.774
FL3					.703
FL4					.689
FT1				.804	
FT2				.790	
FT3				.734	
FT4				.727	

Note: FB – Financial Behavior, FA – Financial Attitude, FK – Financial Knowledge, FL – Financial Literacy, FT – Fintech Literacy

C. Convergent and Discriminant Validity

Table 3 below illustrates how, following a reliability assessment of the collected data, the Cronbach alpha of every item utilized was over 0.70, above the recommended threshold value of 0.70 (Nunnally J, 1994). Convergent validity is measured by composite reliability (CR) and average variance derived (AVE) (Bagozzi & Yi, 2012). For every construct, the AVE values exceeded the permissible value of 0.50. Additionally, the composite dependability values met the recommended threshold of 0.70 and were rather high. Our study's AVE and CR scores indicate strong convergent validity (Fornell & Larcker, 1981). The square root of the AVE, which is displayed diagonally in the table with bold values, was found to be greater than the inter-construct correlations, indicating a satisfactory level of discriminant validity.

TABLE III
CORRELATION BETWEEN FACTORS

	α	CR	AVE	FL	FK	FA	FK	FT
FL	0.848	0.85	0.586	0.766				
FB	0.936	0.937	0.748	0.143	0.865			
FA	0.911	0.912	0.677	0.123	0.347	0.823		
FK	0.888	0.889	0.616	0.446	0.35	0.345	0.785	
FT	0.810	0.811	0.519	0.337	0.285	0.341	0.448	0.72

Note: FB – Financial Behavior, FA – Financial Attitude, FK – Financial Knowledge, FL – Financial Literacy, FT – Fintech Literacy

D. Measurement Model

The measurement model is kept for additional structural modelling and hypothesis testing since the fit indices of the model, as indicated in Table 4, indicate that the model and data fit well based on the values acquired. (Wheaton *et al.*, 1977; Jöreskog and Sörbom, 1984; Bentler, 1990; Hu and Bentler, 1999).

TABLE IV
MEASUREMENT MODEL FIT MEASURES

Measure	Estimate	Threshold
CMIN	295.295	--
DF	220	--
CMIN/DF	1.342	Between 1 and 3
CFI	0.980	>0.95
RMSEA	0.035	<0.06
PClose	0.993	>0.05

Note: CMIN - Minimum Discrepancy Function, df - Degrees of freedom, CFI - Comparative Fit Index, RMSEA - Root Mean Square Error of Approximation, PClose - p-value

E. Structural Model

The outcome of the structural equation modelling analysis performed with Amos 23.0 was assessed according to the suggested model fit indices. We used the function of modification indices set at a threshold value of 10 to enhance the overall model fit. Direct covariate routes were introduced between a few error terms based on recommendations found in the output, which somewhat improved the overall model fit. The findings shown in Table 5 indicate that the suggested model suited the data well (Hu and Bentler, 1999; Chau, 1997; Bentler, 1990).

TABLE V
STRUCTURAL MODEL FIT MEASURES

Measure	Estimate	Threshold
CMIN	369.904	--
DF	217	--
CMIN/DF	1.705	Between 1 and 3
CFI	0.960	>0.95
RMSEA	0.051	<0.06
PClose	0.430	>0.05

Note: CMIN - Minimum Discrepancy Function, df - Degrees of freedom, CFI - Comparative Fit Index, RMSEA - Root Mean Square Error of Approximation, PClose - p-value

F. Hypothesis Testing

The standardized path coefficient between financial behaviour and fintech literacy was 0.072 ($p=0.089$), as shown in Table 6 below. This indicates that financial activity has no discernible effect on fintech literacy, and as a result, H1 is not supported. Likewise, there was a strong and positive correlation between financial attitude and fintech literacy, as indicated by the standardized path coefficient of 0.180 ($p=0.002$); H2 is therefore supported. Similarly, the standardized path coefficient between fintech literacy and financial

knowledge was 0.237 ($p=0.000$), showing that fintech literacy is positively and significantly influenced by financial knowledge; as a result, H3 is supported. The final finding supports H4: financial literacy positively and significantly influences fintech literacy. The standardized path coefficient between financial literacy and fintech literacy was 0.230 ($p=0.008$).

TABLE VI
RESULTS OF HYPOTHESIS TESTING

Path	Est.	S.E.	C.R.	P	Results
Fintech Literacy <-- Financial Behaviour	0.072	0.043	1.698	0.089	Not Supported
Fintech Literacy <-- Financial Attitude	0.180	0.059	3.08	0.002	Supported
Fintech Literacy <-- Financial Knowledge	0.237	0.057	4.13	***	Supported
Fintech Literacy <-- Financial Literacy	0.230	0.087	2.655	0.008	Supported

IV. FINDINGS AND IMPLICATIONS

According to the findings of this study, financial behaviour had no significant impact on fintech literacy was ($\beta=0.072$, $p=0.089$). Likewise, a strong and positive correlation was found between financial attitude and fintech literacy ($\beta = 0.180$, $p=0.002$). Similarly, fintech literacy was predicted strongly by financial knowledge ($\beta = 0.237$, $p=0.000$). As per the final finding financial literacy positively and significantly influences fintech literacy ($\beta = 0.230$ ($p=0.008$)).

The study's findings offer the following managerial implications. Fintech managers should include techniques that strengthen users' financial attitudes because there is a significant and positive association between fintech literacy and financial attitude. This can entail developing educational programs that promote proactive and optimistic financial management in addition to teaching fintech. Fintech literacy is strongly predicted by financial knowledge, indicating that increasing financial knowledge is essential to increased fintech literacy among rural

consumers. Prioritizing educational programs that enhance financial expertise is crucial for practicing managers to comprehend and utilize fintech technologies efficiently. The fact that financial behaviour had no impact on fintech literacy raises the possibility that the financial behaviour initiatives in place are not doing a good job of directly enhancing fintech literacy. Managers must reconsider current initiatives or create fresh strategies that emphasize improving financial literacy and attitudes rather than just behaviour. Managers must create educational content that not only covers fundamental financial concepts but also delves deeply into how these concepts relate to fintech since financial literacy greatly drives fintech literacy.

V. CONCLUSION AND FUTURE RESEARCH DIRECTIONS

By examining the impact of financial literacy, financial behaviour, financial attitude, and financial knowledge, on the fintech literacy of rural consumers in Odisha the findings of the current study provide deep insights on these connections. The perusal explored that financial behaviour has no substantial impact on fintech literacy. On the other hand, fintech literacy was strongly influenced by financial attitude and knowledge. Also, financial literacy was found to have a significant and positive impact on fintech literacy. Overall, the study has strong implications for Fintech companies looking forward to improving fintech literacy among rural consumers. This study suffers from the limitations of small sample size, geographical location, and sub-cultural constraints. Studies in the future can test the hypothesis on a larger sample size, across other rural regions and different subcultures.

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