A study on factors influencing financial literacy and fintech adoption

Ch. Siva Priya[1*], *P.* Venkateswara Rao[2]

[1]KL Business school, KL University, Vijayawada, Andhra Pradesh, India.
[2]KL Business school. KL University, Vijayawada, Andhra Pradesh, India.

Abstract. Financial literacy is gaining significant importance in the recent past. This leads to to the adoption of financial technology services. Current research explores to study the various factors affect the adoption of financial literacy which leading to adoption of fintech services. The research framework include factors include in the study were financial behaviour, financial attitude, financial knowledge, financial capability, financial literacy. Data were obtained form graduate and post graduate students. A total of 229 responses were received based on survey data using five point Likert scale. Findings reported that financial behaviour, financial attitude, financial knowledge and financial capability have shown a significant positive effect on financial literacy. In turn, financial exhibited a positive effect on adoption of fintech services. The results have implications for both academia and research adding to existing literature financial literacy and fintech adoption.

Key words. Financial behavior, financial attitude, financial knowledge, financial capability, financial literacy, fintech adoption.

1 Introduction

Financial literacy has been gaining prominence in the recent past. Across the world, people gaining awareness towards their income, saving, investment, budgeting, future financial plans and financial decision making. However, research indicated financial literacy is low across the world.. Financial products changed quite a lot in the recent past. Technology based financial products are growing rapidly. Unlike earlier, currently various financial products such as insurance, investment, trading, lending, cryptocurrency, digital banking, budgeting etc. are offered via internet, mobile applications etc. Rapid changes in the field of financial technology emerged the need for financial literacy among people. There exists a gap between financial literacy and fintech adoption.

Personal finance decisions are largely based on their levels of financial literacy. There may be several factors influence one's financial decisions. Research was conducted bank-based financial service (Demirguc-Kunt et al. 2018); mobile-based financial services (Suri 2017); fintech services (Mansyur & Ali, 2022). In addition, studies were also conducted in the

[*] corresponding author: shivapriya.d@gmail.com

domain of financial literacy with respect to various dimensions (Ibrahim & Alqaydi, 2013); Laxmi & Maheshwary, 2018); Dewi et al., 2020). However, very few studies were conducted the study the dimensions of financial literacy and further the impact of financial literacy on fintech adoption. The present study tries to fill this gap. A research model was formulated after extensive literature and was tested empirically.
The research paper in the first section discusses hypotheses development, next research methodology, followed by data analysis and discussion. Later it discusses implications and concludes.

2 Literature review and hypotheses development

The objective of the research was to examine various factors influencing financial literacy. Further, to examine the association between FL and fintech. A research model was framed and tested the hypothesized relationships. Hypotheses formulation is discussed below.

2.1 Financial behavior (FB)

Financial behavior of an individual is taking action with reference to financial actions. FB talks about how households handle financial related activities like saving and budgets Zakaria, Jaafar and Marican (2012, p. 1396). It is how the households manage their financial resources like planning, savings, budgeting etc. According to Xiao (2008, p. 70) "Financial behavior can be defined as any human behavior that is relevant to money management." It is closely related to individual and family financial resources management. Financial behavior plays critical role in individual and family financial savings, budgets and investments. Financial behaviour closely related to financial literacy of an individual and /or household. Financial behavior reflects both positive and negative influences of an individual's savings, budgets etc. positive dimensions include managing savings investments and looking forward for future emergencies, managing credits and long term planning include retirement, pension schemes etc. while negative aspects include spending unnecessarily and excluding discussions on financial matters. Research revealed a significant influence of FB and FL (Rai et al., 2019). Thus we hypothesize that,
H1. Financial behavior has a positive effect on financial literacy

2.2 Financial attitude (FA)

Amagir et al. (2020) conceptualizes FA as "opinion on money of an individual, such as saving for the future, planning emergency savings, or making long-term financial plans". It is fundamentally how individuals and household manage cash inflows and outflows. Financial attitude leads to an understanding of financial literacy. Several programs have been developed in the recent past develop financial attitude among the students. Financial attitude has been considered a critical dimension dimensions of financial literacy which subsequently leads to fintech services adoption. Financial attitude has been a significant factor on the aspect of financial literacy. Financial attitude has been a critical factor in significant investment and budget decision making of an individual and household. FA is a key predecessor of financial literacy. Research revealed that FA has shown a significant positive effect on FL (Rai et al., 2019).therefore, we hypothesize that,
H2. Financial attitude has a positive effect on financial literacy

2.3 Financial knowledge (FK)

Financial knowledge has been a vital factor in investment and savings of an individual and household. Knowledge enables one to to understand his/her current and future financial investments and requirements (Emmons, 2005, p. 336). Financial indicates how people know about their financial investments and decisions (Marsh, 2006). It is a person's expertise towards different financial concepts (Kholilah and Iramani, 2013). Financial knowledge is closely related to financial literacy of an individual or an household. It's fundamentally to understand, analyze and make informed financial decisions. It is an individual's perception towards financial decision making. Financial literacy simply more than than financial knowledge which enables one to make better choices. Individuals with more financial knowledge tend to be more financially literate and make wise decisions. People with less financial knowledge may not be able to make better financial decision and hinders them from better investments and saving schemes (Chen and Volpe (1998) and further they make better choices with respect to investment decision making. Previous study revealed a positive impact of FK on FL (Rai et al., 2019).Therefore, it is hypothesized that,
H3: Financial knowledge has a positive effect on financial literacy

2.4 Financial capability (FC)

It is a key dimension of financial literacy. 'Financial capability' was initially used in a national survey in the United Kingdom (Atkinson et al., 2006). FC is a multidimensional concept and can be measured in multiple ways. This has four dimensions namely, managing money, staying informed about financial plans, planning in advance and selecting right products. (FINRA Investor Education Foundation (2009). It demands to choose suitable financial products. Research revealed that it's not just financial knowledge but it also ensures how this knowledge used in out day to day life. It reflects proper utilization of funds and efficient decision making with respect to investment decision making. Research proved that financial capability is enhanced by a change in a persons' behavior. FC involves not only inside but outside the organizations to update financial knowledge and to have access to financial investments plans (Johnson and Sherraden, 2007). Research indicated a positive effect of FC on FL (Khan et al., 2022). Therefore, we hypothesize that,
H4: Financial capability has a positive effect on financial literacy

2.5 Financial literacy and Fintech adoption

FL is a critical dimension in the adoption of fintech services. Lusardi & Mitchell (2014) FL is "one's ability to process economic information and make informed decisions about financial planning, wealth accumulation, debt, and pensions" FL is individuals' mastery with respect to financial issues which enables them to take better and wise financial decisions. In simple terms, literacy on finance is awareness about how to frame financial preferences such as investment, saving etc. Financial awareness and knowledge influences one to make informed financial decisions (Guiso and Jappelli, 2005). The lower the financial literacy the lesser the individuals make better financial decisions. Lack of financial literacy prevents from using financial technology services. The association between FL and fintech usage is critical. Van Rooij et al. (2011) asserted a positive association between FL and various kinds of investment choices. Further a research study by Prabhakaran & Mynavathi, 2023) indicated a positive effect of FL on fintech adoption. Therefore, we hypothesize that,
H5: Financial literacy has a positive effect on fintech adoption.

Research framework has been developed after a through literature review in the field of financial literacy and financial technology adoption.

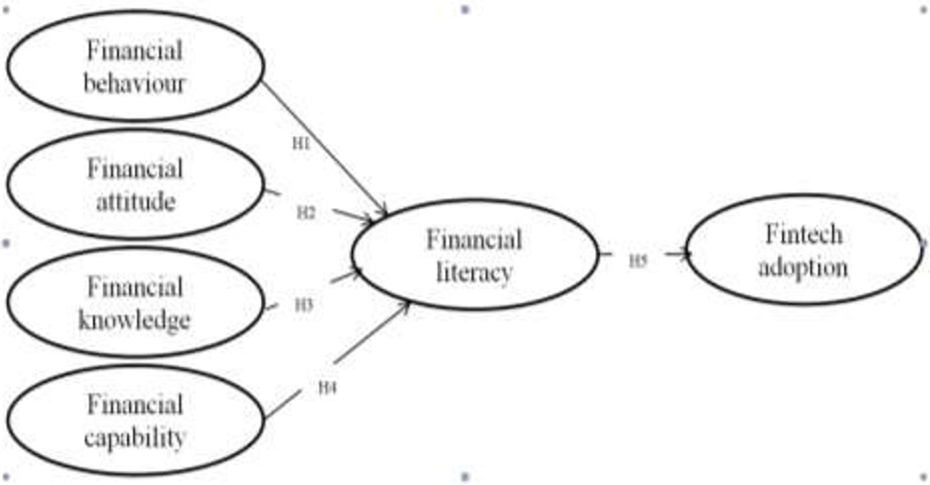


Fig 1. Research model

3 Research methodology

3.1 Sample

The present research with an to examine various factors influencing financial literacy and the impact of FL on financial technology adoption. For this, a research model was developed and tested with primary data. Data were captured using a structured questionnaire. A total of 500 questionnaires were shared. 229 final data were received and fit for data analysis with 45.8 percent response rate. After deducting 24 incomplete questionnaires finally 229 arrived for data analysis. Respondents include UG and PG students, data were collected based on convenience sampling method.

3.2 Measures

A total of six factors included in the research model. All the factors were measured based on well-established scales. Financial behavior was assessed with 5 questions extracted based on (Tirfe, 2022). Measurement questions for financial attitude were considered from (Tirfe, 2022). Financial knowledge was measured with five items from a study by (Bhargava, Mohanty & Tak, 2022). Financial capability items were captured from (Bhargava, Mohanty & Tak, 2022). Financial literacy was measured with four items from a research study by (Chen & Volpe, 1998). And finally, measurement items for fintech adoption were taken from (Venkatesh et al., 2012).
Data were analyzed by employing SEM.. Exploratory factor analysis was assessed using SPSS. Measurement model was tested. Hypotheses testing was done to test the pre-defined relationships.

3.3 Results of the study

Table 1. Demographic details

Measure	Category	Frequency	Percentage
Gender	Male	137	59.82
	Female	92	40.17
Age (years)	18-21	95	41.48
	22-25	134	58.51
Education	UG	93	40.61
	PG	136	59.38
Family Monthly income (Rs.)	Less than 30,000	21	9.17
	30,000-50,000	32	13.97
	50,000-80,000	71	31
	80,000-One lakh	78	34.06
	Above one lakh	27	11.79

From the table I, it is noted that 59.82 percent of the respondents were male. 59.38 per cent were PG students. 58.51 percent of students fall in the age group of 22-25. 34.06 percent of the respondents were in the income bracket 80,000-one lakh.

Table 2. Factor analysis and Cronbach's alpha

Factor	Code	Loading	Cronbach's Alpha
Financial Behaviour			0.901
	FB1	0.918	
	FB2	0.906	
	FB3	0.896	
	FB4	0.868	
	FB5	0.861	
Financial attitude			8.763
	FA1	0.865	
	FA2	0.853	
	FA3	0.85	
	FA4	0.846	
	FA5	0.835	
Financial knowledge			0.826
	FK1	0.866	
	FK2	0.827	
	FK3	0.825	
	FK4	0.791	
	FK5	0.785	
Financial capability			0.812
	FC1	0.886	
	FC2	0.862	
	FC3	0.845	
	FC4	0.8	
Financial literacy			0.857
	FL1	0.892	
	FL2	0.888	
	FL3	0.878	
	FL4	0.851	

Fintech adoption			0.834
	FIN1	0.848	
	FIN2	0.835	
	FIN3	0.835	
	FIN4	0.8	

Table 3. Average variance extracted and composite reliability

Factor	AVE	CR
FB	0.572	0.851
FA	0.614	0.883
FK	0.583	0.784
FC	0.625	0.892
FL	0.683	0.912
FIN	0.647	0.845

Table 4. Inter-correlation matrix

	FB	FA	FK	FC	FL	FIN
FB	**0.842**					
FA	0.061	**0.723**				
FK	0.405	0.301	**0.726**			
FC	0.008	0.245	0.098	**0.679**		
FL	0.263	0.078	0.234	0.052	**0.871**	
FIN	0.244	0.204	0.112	0.076	0.328	**0.904**

3.4 Measurement model and structural model

Two phases were adopted for data analysis. Measurement model and structural model. Measurement model values include x2/df (0.871), GFI (0.904), AGFI (0.881), TLI (0.932), CFI (0.902), NFI (0.910), RMSEA (0.043)
For the structural model the values include x2/df (1.774), GFI (0.893, AGFI (0.872), TLI (0.909), CFI (0.016), NFI (0.898), RMSEA (0.047). model fit indices were assessed. All the above values are as per the prescribed values suggested by Hair et al. (2010).

Table 5. Path analysis results

Relationship	Estimate	S.E.	C.R.	P	Result
FA → FC	.173	.088	1.953	.001	Accepted
FK → FL	.121	.082	1.473	.041	Accepted
FC → FL	.397	.075	5.302	***	Accepted
FB →FL	.159	.091	1.753	.020	Accepted
FL → FIN	.260	.037	7.088	***	Accepted

*** $P \leq 0.001$

4 Results and discussion

A research model was framed and tested the relationships. Results of the study indicated that FA, FK, FC and FB have shown a significant positive effect on FL. Further, FL exerted a positive influence on financial technology adoption. FA has shown a positive effect on financial literacy (CR=1.953, p=0.001) which is in line with the study conducted by (Rai et al., 2019). FK exerted a favorable influence on FL (CR=1.473, p=0.041) this is in congruent with the research study by (Rai et al., 2019). FC has indicated a positive effect on FL

(CR=5.302, p=***) which is similar with the results of the study by (Khan et al., 2022). FB has proved to be positive on FL (CR=1.753, p=0.020), these results are consistent with respect to the outcome of the study by (Rai et al., 2019). Finally, FL has exerted a positive effect on fintech adoption (CR=7.088, p=***). This result is congruent with the result of the study by Prabhakaran & Mynavathi, 2023).

5 Implications of the study

The research study offers few implications for academia and industry. Various factors influencing financial literacy among the students were studied. This research adds to the literature by adding to the existing knowledge of financial literacy and financial technology adoption. This study is significant as the asocial between financial literacy and financial technology adoption. Individuals with high literacy levels of finance to frame superior investment choices such as saving, budgeting, retirement plan, insurance etc. As FL is a key factor for financial decisions; this knowledge certainly helps the bankers, financial institutions and marketers to design new financial schemes and plan to reach a wider audience. Financial plans can be customized to suit the requirements of different segments of people.

6 Limitations and future research

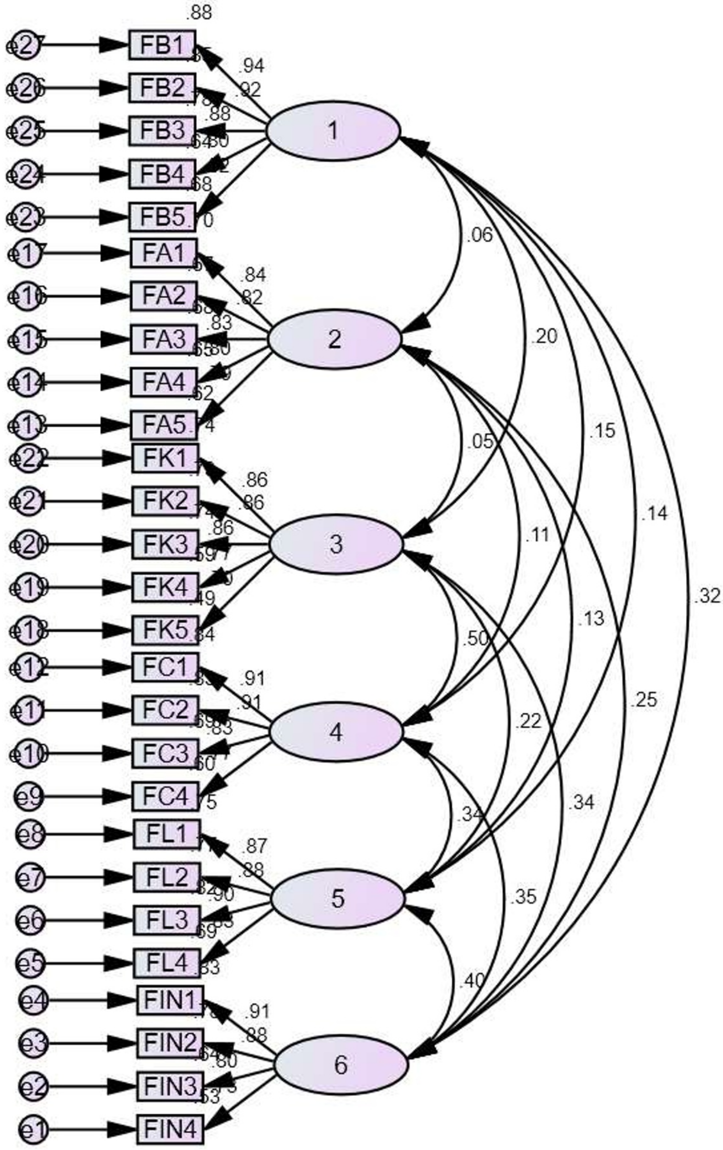
The study has certain limitations.. The results of the study cannot be generalized as the sample size was 229 and the study was restricted to one geographical location. The study was conducted among the students to test the financial literacy levels and fintech adoption. However, future studies may include various set of samples like employees, retired, business men/women, housewife etc. as they may have different opinions and perceptions towards FL and fintech usage behaviour. The study was conducted only in a metro city. Results may different if the study conducted in rural areas with different respondents as the exposure to technology, financial literacy levels may low as compared to people living in cities. The study was cross-sectional in nature; further study may test the same model using longitudinal studies. Fintech and financial inclusion are closely related. Future studies may include financial inclusion and test the model. Moderators such as gender, previous experience, income can be tested.

7 Conclusion

The present was aimed to examine various factors affect FL. The study proposed a six factor research model and tested based on empirical data captured through UG and PG students. The study included both the dimensions of financial literacy and fintech adoption which complement each other. Findings of the study indicated a positive effect of FB, FA, FK and FC on FL among the students. In addition, the study has shown a positive effect of FL on fintech adoption. The study contributes to area of FL and fintech products/services adoption.

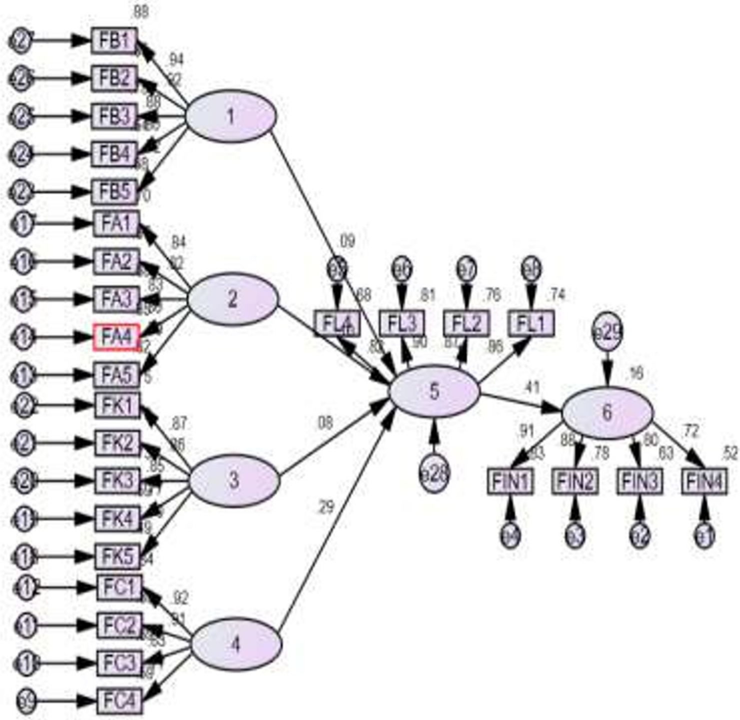
8 Appendix A

8.1 Measurement model



* 1 – Financial behavior, 2-Financial attitude, 3-Financial knowledge, 4-Financial capability, 5-Financial literacy, 5- Fintech adoption
Appendix B

8.2 Structural model



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