

Understanding Digital Financial Literacy and Service Awareness among Adults in Sikkim: A Regional Perspective

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ABSTRACT

Digital financial literacy refers to the knowledge and skill required to effectively manage one's financial affairs using digital tools and platforms. This paper aims to study the digital financial literacy levels among adults in Sikkim. For the purpose of this study four variables have been considered into account such as knowledge on digital finance, skill towards digital financial services, awareness of digital financial services and product and attitude towards digital financial services. The sample for the study is taken from 200 adults of Sikkim. The data is collected from all six districts of Sikkim and it was analyzed with the help of descriptive and inferences statistics. Data analysis methods such as factor analysis and relevant statistics tools have been utilized. The results reveal that skill related to processing and utilization of financial products, knowledge on savings and investment and practical approach towards financial knowledge are the major determinants of Digital Financial Literacy among adults in Sikkim.

Keywords: Digital Financial Literacy, Digital Financial Services, Financial Products, Financial Knowledge, Sikkim.

INTRODUCTION

Financial Literacy refers to the understanding and the ability to apply different financial skills very effectively and efficiently which helps in personal financial management, budget and savings. Financial literacy makes an individual very wise, self-sufficient and well beneficial in making financial decisions. OCED defines financial literacy as "A combination of awareness, knowledge, skills, attitude, and behavior necessary to make sound financial decisions and ultimately achieve individual financial wellbeing" (Adele Atkinson, 2019)ⁱ. Digital Financial Services has influence on various sector of the economy and completely transformed different aspects of financial services. However, using digital financial services without the appropriate knowledge or literacy could result in many adverse effects such as loss due to scams. Therefore, it is essential that individuals should possess digital financial literacy. Digital Financial Literacy is a concept which acts as an intersection between Digital Literacy and Financial Literacy and we can consider it as a subset under financial literacy. In recent times the application of Digital Financial Literacy has gained a lot of momentum because of its applicability in the real world. Digital Financial Literacy refers to the acquiring of the knowledge, skills, confidence and competencies to safely use digitally delivered financial products and services, to make informed financial decisions (Rural Finance & Investment Learning Centre, 2021)ⁱⁱ. According to SEBI, only 27% of the country's population is financially literate, however due to various factors such as the advent of Covid-19, Digitalization, entry of Fintech companies and several digital solutions have helped improve this figure.ⁱⁱⁱ However many adults in India still lack basic financial literacy and are unaware of financial concepts such as budgeting, saving, and investing. This lack of knowledge often results in poor financial decisions, including high levels of debt, inadequate retirement savings, and insufficient insurance coverage, financial literacy is critical in enabling individuals to make informed decisions about their finances, investments, and financial goals^{iv}. Comparing to other emerging nations India has one of the lowest financial literacies as only 24% of the Indian adult population is financially literate. There are major differences among the states in India as Gujarat has a very good financial literacy of 83% whereas majority of the states in India have a financial literacy less than 25% among which Chhattisgarh has the lowest of 4%. Specifically, the state of Sikkim which has an excellent literacy rate of 73% which is one of the highest in among the states of India but the financial literacy of the state of Sikkim stands at only 8% which is the second lowest among the states of India.^v The main reason for the low financial literacy is the lack of financial education among the masses and the lack of general awareness with regard to financial services. The various Schemes such as Pradhan Matri Jan Dhan Yojna, Digi-Dhan Abhiyaan and establishment

of Digital Districts were introduced to enhance the financial inclusion with the help financial literacy and the digital financial literacy in India. The Reserve Bank of India has launched “Financial Inclusion and Literacy Mission” under which in Sikkim recently RBI has launched the Financial Literacy week to enhance the awareness of Financial Literacy. Digital Financial literacy has a positive relationship towards financial inclusion, growth, stability and development of an individual which further leads to an overall development of the economy as a whole (Tony, Desai, 2020). Financial Literacy is very significant when it comes to the reduction of digital divide and promoting the integration of digital trust among the masses. Digital financial literacy also increases financial capability of an individual which in turn increases financial decision and well-being (Yang, Wu, & Huang, B. (2020). Sikkim has a major digital infrastructure issue because of its hilly terrain this is one of the major issues towards Digital financial adoption in the state but recently the state has been developing its infrastructure for instance Sikkim has constructed 23 respective telecom towers under “Connect Bharat” initiative along with establishment of Optical Fiber Cable measuring 125 km to boost the internet connectivity in the state^{vi}. Sikkim has received its own telecom circle as well as established Special Economic Zone (SEZ) for the development of IT/ITeS, Electronics and Telecommunication which will considerably develop the Digital Infrastructure which will in turn increase the adoption of Digital Financial products and services. Sikkim is the least populated state in India with a population density of only 86 per sq. km whereas India has an average of 382^{vii}. Government of Sikkim has further introduced the policy of right of way (ROW) which provides priority to firms such as Reliance and BSNL along with other national digital providers to construct communication infrastructure such as Telecom towers and laying of Fiber Optical Cable on properties of Government and government agencies such as national highway authorities to enhance the communication of the state. Sikkim has conducted its pilot study of implementation of cyber village which promotes digital technology and the internet for various purposes, such as education, business, or governance. First of the cyber villages of Sikkim has been established in 23-Melli Dara Paiyong Gram Panchayat Unit (GPU) of the state, depending on the outcome the state is expected to launch furthermore of such cyber villages to successfully bridge the gap between the infrastructure of the rural and the urban areas of the state. The capital of Sikkim Gangtok has recently launched digital banking unit (DBU) of State Bank of India which facilitates digital payments and services only.

OBJECTIVES OF THE STUDY

1. To measure the level of Digital Financial Literacy among adults in Sikkim.
2. To examine the level of awareness about the various existing digital financial products and services.

RESEARCH METHODOLOGY

The perspective on Digital financial literacy is important mechanism for making an effective digital payments transactions. The present study is descriptive in nature in approach. In order to measure digital financial literacy among adults in Sikkim, the construct has been clearly projected by the researcher as a unidimensional variable. Sikkim is considered as an area of research study. For the purpose of the study a stratified random sampling method has been considered for choosing the respondents. The collection of the data was done with the help of structured questionnaires from 200 respondents of Sikkim. Both primary as well as secondary data are used for the study. The primary data are collected from the adult respondents. The data has been collected by using structured questionnaires from the selected respondents. The first part of the questionnaire contains questions about socio-economic variables of the respondents namely Age, Gender, Education, Marital Status, Income, Occupation, and Geographical Locations. The second part of the questions contained about digital financial knowledge, awareness towards digital financial products and services, Skill towards financial products and services, Attitude towards Digital financial products and services. The data for the study were collected in the month of April-May, 2023. The average time taken to administer the structured questionnaire was around 10 minutes. For analyzing the research data factor analysis was used. For checking the reliability of the scale Cronbach's alpha reliability statistics has been used. The analysis of research data has been carried out with the help of statistical software SPSS 20.00 and Microsoft Excel.

LITERATURE REVIEW

Agyapong, Agyapong & Frimpong (2022), aimed to study the association between financial literacy and access to digital finance in developing countries uses a mixed-methods research approach to analyze the relationship between access to digital finance and financial literacy. They found that literacy on finance plays a crucial role in promoting access to digital finance, particularly in developing countries where financial inclusion is low. It was found that there is a positive and significant relationship between digital finance and overall performance. They also concluded that if management is financially knowledgeable, they can access funding via digital mode much more efficiently and quickly. The study also indicated that using digital platform management can achieve quicker performance in their businesses.

Andreou, P. C., & Anyfantaki, S. (2021) study is based on Cyprus which has suffered many financial crisis which has led to the subsequent reduction in the banking sector in the country therefore Cyprus needs an effective utilization of digital banking. In their study seek to find the implication of financial literacy on the usage of digital financial services with special reference to internet banking, they have found that only 33.33% of the sample indicated having proficiency in financial literacy, they also concluded that samples who indicated having low financial literacy indicated having lower

trust in Internet banking services than those who indicated higher financial literacy. It was also indicated that their lack of self confidence in both digital and financial literacy act as a hindrance to adopting digital banking services. They finally concluded that financial literacy and utilization of digital banking are interlinked among each other.

George, (2020) aims to study the effect of various socio-economic factors on the digital and financial literacy. Convenience sampling technique was used for the purpose of the study; the study design is descriptive in nature. It was found that print slip of ATM and mobile banking apps was most used source for the checking of bank balances. It was inferred that most of the respondents were aware of the basic financial facts however complex technical aspects of finance was not that well known to the respondents. It was found that Speed and Convenience are the most affecting factor with regards to mobile banking apps and digital payment platforms, it was also found that data breach and security are the most affecting factor for not adopting digital payments. It was also found that most socio-economic factors such as age, education and income have significance whereas gender does not have any significance. They suggested that various workshops and sessions must be arranged in order to spread digital awareness, it was recommended that reward points, bonus and gifts acts as a great motivator for the adoption of digital payments.

Kshetri, Voas. (2021) article is based on the findings from across different countries to determine whether the use of digital payment tools and platforms have a significance at the financial literacy. It was found that the higher literacy both digital and financial literacy leads to more adoption of digital payments. They also concluded that countries with higher GDP and higher levels of digital literacy have higher levels of digital payment users however it was also found that basic knowledge on economics and finance has not associated significance with the adoption of digital payments. Currency and deposits holdings are lower in countries with higher levels of digital literacy whereas opposite results were found in countries with lower levels of digital literacy. They suggest that both digital and financial literacy should be considered together when assessing the implication of digitalization for individual investors.

Koskelainen, Kalmi, Scornavacca, & Vartiainen. (2023), indicated the effect of Digitization on financial literacy and financial capability of the individual. They found that there are three key intersection themes namely Fintech through which continuous development in the field of finance, it has affected the consumer patterns and also the personal money management of individual, second theme is Financial Behavior in Digital Environment which indicates the adaptability of financial behavior of individual under the innovative financial tools and platforms last theme is behavior interventions which deals with digital nudging and its influence on finance and financial literacy. They suggested that there should be development of teaching and learning digital tools for financial literacy and curriculum should be based on the knowledge and problem solving rather than focus given towards measured behaviors. They also recommend that there should be an increase in the collaboration between the regulators and the private sector in the field of a more inclusive financial landscape for the stake holders.

N. P., Abdul & Akhtar, S M. (2021) conducted an empirical study on the determinants of digital financial literacy using a cross-sectional research design to examine the factors that influence digital financial literacy. They found that socioeconomic demographic factors, such as age, gender, education, and income, have a significant impact on digital financial literacy. They also concluded that various policies such as demonetization, digital finance advancing system, development of communication system in a global stage did not help poor people in becoming financially included. They suggested that government intervention and policy making can help elevate the problem.

Prasad, Meghwal, Dayama, (2018) in their paper aimed to understand the digital financial literacy among the households of Udaipur, the study also studies the awareness of various digital financial products and their frequency of use and it also examines the effect of personal factors on Digital financial literacy. Random sampling was used for the study in the district of Udaipur. They found that male members of the family were more aware of financial tools than female respondents. It was found that education played a significant role in digital financial literacy where graduates were more financially aware than high school graduates. There was a statistical difference among service and service workers as well where it was inferred that non service workers did not use digital banking platforms due to non-awareness. The study also suggests that a wave of awareness campaign is required for bringing more people to be included in the digital ecosystem.

Ravikumar, Suresha., Prakash, Vazirani, & Krishna, (2022) in their studies on financial literacy and access to digital finance in developing countries uses a quantitative research approach to analyze the impact of financial literacy on access to digital finance. The study found that users with higher levels of financial literacy are more likely to use digital financial services and have better access to formal financial service. They identified 12 key factors which affected the digital financial literacy. They also concluded that no socio economic variable except educational level affected the digital financial literacy.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.837
Approx. Chi-Square	1851.819
Bartlett's Test of Sphericity df	190
Sig.	.000

DATA ANALYSIS

In order to measure and analyze the digital financial literacy of adults, a total of 20 statements were considered and given respondents responses were analyzed on a 5-point Likert scale assigning 1 to 'Strongly Disagree' and 5 to 'Strongly Agree'. Each 5 questions from the 20 statements are distributed on the basis of 4 Digital Financial Literacy parameters namely:

Skill Towards Digital Financial Products and Services, Attitude towards Digital Financial Products and Services, Digital Financial Knowledge and Awareness towards Digital Financial Product and Services. The results of all 20 statements were difficult to highlight individually, so it was decided to carry out the statement through factor analysis on those twenty items measuring respondent's digital financial literacy. In this paper, Factor analysis was carried out using Varimax Matrix method by applying SPSS (20.00) the main statistics extracted are factor loading, h² (commonality), percentage of total Variations in the data, Eigen value, percentage of common variance and percent of total variance.

Adequacy of Data Test

In order to determine the factorability of the matrix as a whole, Bartlett's test of Sphericity and the Kaiser-Meyer-Olkin measure of sampling adequacy is used in the study. Table 1 results indicate that measure of sampling adequacy in KMO is 0.837 and all values of KMO for an individual items were also less than 0.5 and Bartlett's test of Sphericity indicate a significant value ($p < 0.05$), therefore, applying the factor analysis statistical tool is suitable for this paper.

Table 1: KMO and Bartlett's Test

Source: Field work, 2023 (SPSS 20.00)

Factor analysis solutions and total variance explained are summarized in Table 2 and it also gives an information about the useful factors. we can see that the first factor of eigen value is quite big larger than the Eigen Value for the next factor based on Table 2. It was also found that only four factors with Eigen Values Greater than one, which also Suggest for four factor solution.

Factor 1 has the Eigen Value 7.475 having the variance of 37.376 %

Factor 2 has the Eigen Value 1.984 having the variance of 9.92%

Factor 3 has the Eigen Value 1.37 having the variance of 6.85%

Factor 4 has the Eigen Value 1.142 having the variance of 5.708%

Cumulative variance of all four factors is 59.854% these four factors were able to explain 59.854% of total variance.

Factors influencing the digital financial literacy level of adults

The factors that profoundly influence the digital financial literacy level is performed with twenty variables reduced in to four components in the model it accounts for 59.854 percent variance, and hence the variables forming the four domains could be recommended as the factors that decides the digital financial literacy level of adults.

Table 2: Total Variance Explained by the factors

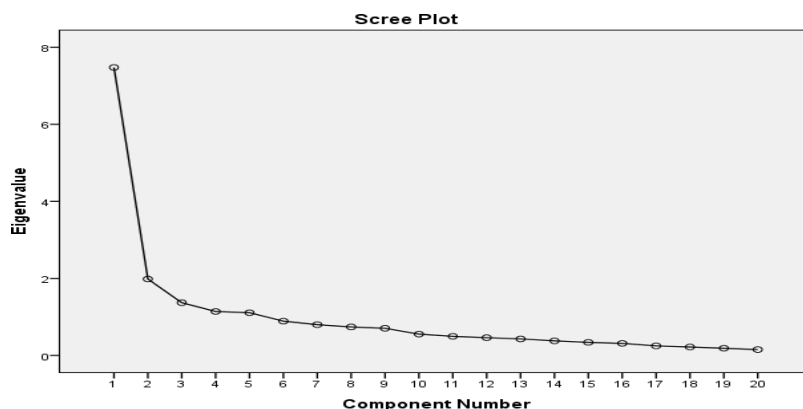
Component	Initial Eigen values			Communalities
	Total	% of Variance	Cumulative %	Extraction
1	7.475	37.376	37.376	0.576
2	1.984	9.92	47.296	0.512
3	1.37	6.85	54.146	0.532
4	1.142	5.708	59.854	0.748

5	1.109	5.545	65.399	0.658
6	0.891	4.453	69.852	0.615
7	0.799	3.997	73.848	0.811
8	0.741	3.705	77.553	0.711
9	0.706	3.528	81.081	0.568
10	0.554	2.771	83.852	0.565
11	0.497	2.485	86.337	0.726
12	0.462	2.309	88.645	0.685
13	0.429	2.147	90.792	0.719
14	0.379	1.896	92.688	0.584
15	0.34	1.7	94.388	0.683
16	0.314	1.569	95.958	0.705
17	0.249	1.243	97.201	0.609
18	0.219	1.096	98.297	0.635
19	0.188	0.939	99.236	0.709
20	0.153	0.764	100	0.73

Extraction Method: Principal Component Analysis.
Estimated from the sample survey data

With the help of Scree Plot analysis and Rotated Component Matrix the above analysis is made simpler and comprehensive enough. In Figure 1 Scree Plot visualizes that the Eigen Values greater than 1 is only 4 components. We have taken four components are the “strong factors” having a more influence on the perceptions of adults to prefer the statements of digital financial literacy. The most part of the total variability in the data is given in first four principal components.

Figure 1 Scree Plot



Rotated Component Matrix

To identify the association between each component (domain) the rotated component matrix is used. The variables with a high coefficient of correlation is said to have high factor loadings with each component. The Principal Component Analysis using Varimax Rotation method which was operated for extracting the underlying factors is shown in Table 3. Table 3 highlighted the rotated component matrix for Digital Financial Literacy Factors. In the Given Table the Variance in terms “I use mobile banking” is 0.813 (81.3%) has more commonality which is explained by the extracted factors and the Variance in terms “I use Internet Banking” is 0.509 (50.9%) has the least commonality which is explained the extracted factors the four factors were able to explain 59.854% of the Total Variance Given in the column Age (Table 2) with Factor loadings between 0.521 and 0.813.

The four factors identified in Factor Analysis are:

Factor 1:

Skill Towards Digital Financial Products and Services items were loaded on this factor. It was named as Skill Towards Financial Products and Services because it contains variables such as Skill Related to Processing and utilization of Financial Products, Suitability of Financial Products and Services, Savings and Investment Knowledge and Practical Approach to Financial Knowledge.

Factor 2:

Attitude towards Digital Financial Products and Services items were added into this factor. It was named as Attitude towards Digital Financial Products and Services because it contains variables such as Preference on the usage of either traditional and digital banking, Risk profile, Choosing Digital Financial Products and Choosing Digital Financial Service Providers.

Factor 3:

Digital Financial Knowledge items were added into this factor. It was named as Digital Financial Knowledge as it contains variables such as Usage of Internet banking, Usage of Mobile banking, Basic questions on the workings of Digital Banking.

Factor 4:

Awareness towards Digital Financial Product and Services items were added into this factor. It was named as Awareness towards Digital Financial Product and Services as it contains variables such as Awareness about process of Peer-to-Peer Lending, Availability of Insurance Products, Different Digital Financial Service Providers, and Personalized Financial products.

Table 3: Rotated Component Matrix

Variables	Component			
	1	2	3	4
Skills and Knowledge are adequate with regard to Financial Products and Services	0.749			
I initiate and complete digital financial transactions such as digital payments, remittances on my own	0.741			
Digital Financial Products and Services is cost effective and time saving.	0.602			
I prefer to use Traditional Financial channels such as Banks rather than Digital Financial Products and Services.	0.767			
With repeated use of Financial Products and Services, I am become more confident and more risk adverse.	0.72			
I am aware about Digitalization of Banking and Financial Process such as Remittances, Checking of Bank Details and many more		0.577		
I am familiar with digital payment methods such as GPay, Phonepe, Amazon pay, UPI etc.		0.688		
Insurance products can be purchased online and Credit can also be availed online		0.616		
As per my financial needs, I can easy identify digital financial products or services.		0.653		
I am able to Save as well as Invest my money more efficient with the use of Digital channels.		0.621		
All my day-to-day Finances can managed through Digital Channels.		0.549		
I process and utilise Financial Products and Services on my own without any assistance.		0.647		
I can carry out online searches using my digital device(s) (PC/Lop top/ Smartphone)			0.661	
Customized digital financial products or services are available in the market.			0.521	
I use mobile banking			0.813	

I use internet banking			0.509	
Internet is required for using Digital Products and Services			0.59	
I know about online trading of financial securities				0.763
I am aware of digital lending methods such as Peer to Peer lending				0.748
I can choose the right Digital Financial Service Provider (DFSP)				0.536
Source: Estimated from Primary data				
Extraction Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 10 iterations.				

RELIABILITY OF SCALE

After Identifying the various dimensions underlying the factor a researcher has prepared a scale of those dimensions to measure the factors. Such a scale has to be tested for validity and reliability. A proper testing for validity and reliability can be done using confirmatory factor analysis (CFA). However, in this study the reliability of the scale was tested with the help of Cron Bach's Alpha reliability statistics table 4 shows that the value of Cron Bach's Alpha of 20 statements is 0.893, which indicating a very good overall consistency.

Table 4: Reliability Statistics
Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.893	.897	20

RESULTS AND DISCUSSION:

According to the result of the factor analysis method, a total of 4 factors produced from 20 statements of digital financial literacy, the characteristic value of each factor is more than 1 and the load of each factor is more than 0.4, which means the original value scales of all components are significantly related. From the above analysis, the following suggestions can be presented on all the extracted factors of digital financial literacy among adults of Sikkim: ① Skill Towards Digital Financial Products and Services items were loaded on this factor. It was named as Skill Towards Financial Products and Services because it contains variables such as Skill Related to Processing and utilization of Financial Products, Suitability of Financial Products and Services, Savings and Investment Knowledge and Practical Approach to Financial Knowledge. ② Attitude towards Digital Financial Products and Services items were added into this factor. It was named as Attitude towards Digital Financial Products and Services because it contains variables such as Preference on the usage of either traditional and digital banking, Risk profile, Choosing Digital Financial Products and Choosing Digital Financial Service Providers. ③ Digital Financial Knowledge items were added into this factor. It was named as Digital Financial Knowledge as it contains variables such as Usage of Internet banking, Usage of Mobile banking, Basic questions on the workings of Digital Banking. ④ Awareness towards Digital Financial Product and Services items were added into this factor. It was named as Awareness towards Digital Financial Product and Services as it contains variables such as Awareness about process of Peer-to-Peer Lending, Availability of Insurance Products, Different Digital Financial Service Providers, and Personalized Financial products.

RESEARCH LIMITATIONS

The study is based on the information collected from the different perception of the respondents therefore, there is chance of variations in the information provided by the different respondents. For the purpose of data collection for the study the questionnaire was distributed among 228 respondents only 200 respondent data was taken for the study as remaining respondents filled the questionnaire in an incomplete manner. Further study of research should be related to the opinions of School, College and University students on the prospects for the development and growth of digital financial literacy in India. Qualitative studies are also required further to comprehend the Digital financial literacy of the region.

CONCLUSION

After careful analysis and interpretation, the overall results suggest that the adults must be properly educated about new and existing Digital financial products and services available in the global market so that they can reap the benefits of earning higher returns. Digital financial literacy plays a significant role in the economic upliftment of the nation. It is observed that website or internet advice are not much popular to spread the digital financial literacy information amongst

adults in Sikkim. It was found that awareness of basic financial knowledge is high, however with regard to technical awareness of financial products the awareness level is relatively low. Traditional banking still plays an important role in the daily management of finance among the adults of Sikkim as it was indicated that only using Digital platforms for daily management of finance is not feasible. The study concludes that digital financial services can be used effectively when the users are digitally financial literate. The level of digital financial literacy of adults varies across Sikkim due to variations in the socio-economic variable like family status, marital status, education and income level, etc. Finally, results recommended digital financial literacy programs plays a significant role for increasing digital financial literacy level. In this study, four factors influencing adults' perceptions were identified: Skill Towards Digital Financial Products and Services (five items), Attitude towards Digital Financial Products and Services (seven items), Digital Financial Knowledge items (five items) and Awareness towards Digital Financial Product and Services (three items). These factors may be used as "a barometer" for increasing digital financial literacy level, particularly in the study area and generally in other destinations in Sikkim. Appropriate Digital financial education and training of the trainers is also essential for the upliftment with respect to digital financial literacy of the new type of financial products in the region of Sikkim. In sum up, the realistic use of information obtained through this research will assist policy planners, financial and non-financial institutions, Govt. and other stakeholders.

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