

An Analysis of Digital Financial Literacy among College Students

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Abstract

The present research work analyzed the level of digital financial literacy of graduate and post graduate students of Saurashtra region. The objective of research was to study the relationship between demographic variables and level of digital financial literacy. It was also aimed at exploring the relationship between digital financial literacy and use of digital financial services. Digital Financial Literacy was measured using three dimensions: knowledge of digital financial products and services, awareness of digital financial risk and its control and knowledge of consumer rights and redress procedures. For measurement of digital financial literacy, 135 students were selected using convenient sampling method and data were collected using structured questionnaire. The data were analyzed using SPSS. We found that on an average 47 per cent of students answered digital financial literacy questions correctly with median score of 57. The demographic variables like age and education significantly affect the level of digital financial literacy. However, Male and female students do not have significant differences with respect to the level of digital financial literacy score. We found that there is a gap between level of digital financial literacy and usage of digital financial services.

Key Words: Digital Financial Literacy, Digital Financial Services, E-Wallets, Unified Payment Instruments (UPI).

Introduction

Technology has transformed the entire mechanism of financial system. The blending of technology and finance has given birth to fintech industry. The new industry is purely digital in terms of financial services, products, institutions and markets. It comprises of digital financing, digital investments, digital money, digital payments, digital insurances and digital financial advice (Gomber, P., Koch, J. A., & Siering, M., 2017).

Going for digital economy provides several benefits to government, users (consumers) and service providers. For government, it gives benefit of financial inclusion whereby marginalised people can be included in financial system and it also helps in reducing poverty (Ozili, P. K. 2018). According to a report from Institute, M. G. (2016) digital economy may also increase GDP growth by extra 6 percent compared to traditional models for emerging economies. For users, being digital means saving of time and resources in utilising digital

financial services like credit or debit cards, e-wallets, UPI and net banking. For Service Providers, it becomes easy to provide financial services virtually and at lowest transaction costs. It is the reason why emerging economies have targeted digital financial eco-system as a new engine for economic growth.

Effective use of digital finance requires that user must have knowledge of digital financial products and services. Morgan, P. J., Huang, B., & Trinh, L. Q. (2019), based on dearth of research work on digital financial literacy, have suggested G20 countries to have a standardized definition of digital financial literacy and design tools to assess it.

The present research work measures digital financial literacy of graduate and post-graduate students of Saurashtra Region (Gujarat) based on the framework provided by Morgan, P. J., Huang, B., & Trinh, L. Q. (2019).

Research Objectives

The research objectives are:

- 1) To explore the level of digital financial literacy of graduate and post-graduate students of Saurashtra Region.
- 2) To study the relationship between demographic variables and level of digital financial literacy.
- 3) To analyse the relationship between level of digital financial literacy and usage of digital financial services.

Literature Review

The Report of the Committee on Deepening of Digital Payments (2019), submitted to RBI, defines digital transactions as the transactions in which both the originator and beneficiary use digital mode to send or receive money. It requires that at least one of the two legs should be without cash. The digital payment transactions in India include National Electronic Funds Transfer (NEFT), National Automated Clearing House (NACH), Immediate Payment Service (IMPS), Unified Payment Instruments (UPI), Electronic Clearing Service (ECS), Credit and Debit Card Payments, Pre-Paid Payment Instruments (PPIs) like e-wallets.

According to Morgan, P. J., Huang, B., & Trinh, L. Q. (2019) Digital Financial Literacy (DFL) is composed of four components that include knowledge of digital financial products and services, awareness of digital financial risk, knowledge of digital financial risk control and knowledge of consumers rights and redress procedures.

Morgan, P. J., Huang, B., & Trinh, L. Q. (2019) have suggested following four dimensions for measurement of

Digital Financial Literacy (DFL):

1. Knowledge of Digital Financial Products and Services: It refers to the awareness of users regarding digital financial products and services.

2. Awareness of Digital Financial Risk: It refers to awareness of various digital financial risks like phishing, pharming, spyware etc.

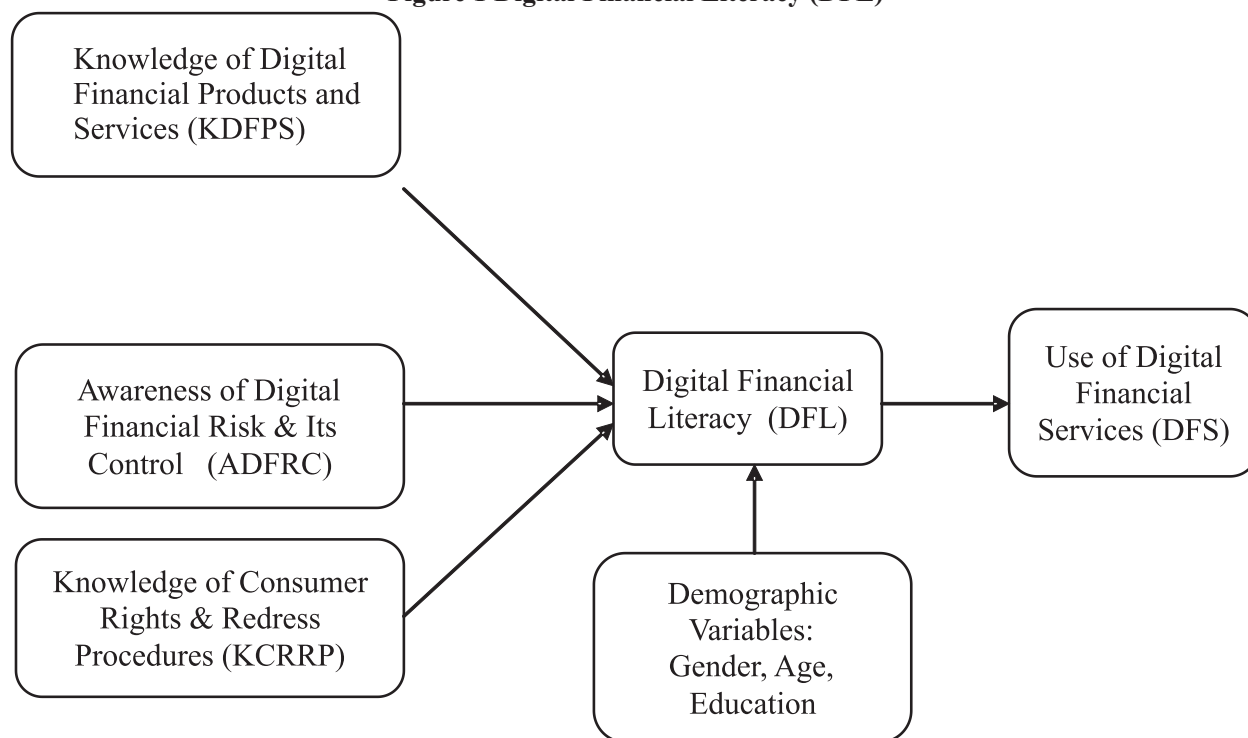
3. Digital Financial Risk Control: It measures DFS user's practices that protect themselves from risks arising from such use. We combined these two factors in present research work.

4. Knowledge of Consumer Rights and Redress Procedures: It refers to understanding rights of consumer and process to be followed in case of a problem (fraud).

Research Methodology

Figure 1 indicates components of Digital Financial Literacy and its relationship with usage of Digital Financial Services. Demographic variables like gender, age and education are expected to affect the level of Digital Financial Literacy.

A Questionnaire was designed to measure the level of digital financial literacy of students. It was divided into four parts. The first part measured the frequency of usage of Digital Financial Services. The second part focused on first dimension of DFL i.e. Knowledge of Digital Financial Products and Services (KDFPS).

Figure 1 Digital Financial Literacy (DFL)

Questions like “What is the use of internet banking?”; “Which card demands interest charges if balance is not paid off in 30 days?” were asked to measure Knowledge of Digital Financial Products and Services (KDFPS). Total 23 Items were included in this category.

Risk & its Control (ADFRC) and Knowledge of Consumer Rights & Redress Procedures (KCRRP). To measure Awareness of Digital Financial Risk & its Control (ADFRC); we asked questions like “Are you aware

In third part, we measured Awareness of Digital Financial

Table – 1.1 Respondents’ Profile

		Frequency	Percent
Gender	Male	52	38.5
	Female	83	61.5
Age	Less than 18 Years	25	18.5
	19 to 22 Years	88	65.2
	More than 23 Years	22	16.3
Education	Graduation	48	35.6
	Post-Graduation	87	64.4

about cyber security risk in case of digital financial apps?; “Do you share your password with others?”. Total 12 items were included to measure ADFRC. Knowledge of Consumer Rights and Redress Procedures (KCRRP) was measured using 3 items. The last part of questionnaire was of demographic variables related to students. Finally we calculated total score of 38 items and measured Digital Financial Literacy (DFL).

We selected 150 students of Saurashtra using convenience sampling method and found 135 responses valid. Table 1.1 shows profile of respondents of this study.

Analysis

Digital Financial Literacy (DFL) was measured using 38 items which was composed of following three dimensions:

- A. Knowledge of Digital Financial Products and Services (KDFPS) – 23 items
- B. Awareness of Digital Financial Risk and its Control (ADFRC) – 12 items
- C. Knowledge of Consumer Rights & Redress Procedures (KCRRP) – 3 items.

The overall DFL score was calculated based on percentage of correct answers given by the respondents.

Table – 1.2
Descriptive Statistics: Overall Digital Financial Literacy Score

Central Tendency	Value
Mean	46.7
Median	57.0
Mode	57.0
SD	5.13
Minimum	0.70
Maximum	100.0

Table 1.2 indicate descriptive statistics of digital financial literacy score. Accordingly, on an average young students answered 46.7 percentage of the questions correctly. The median percentage of correct scores was 57 percent. The students based on overall median score of DFL were subdivided into two groups; the first group of students who scored more than median score was categorized as students having high DFL and the second group of students who scored lower than median score was under low DFL category.

Knowledge of Digital Financial Products and Services (KDPFS)

Table 1.3 indicates the performance of students towards 23 questions of Knowledge of Digital Financial Products and Services (KDPFS).

Table 1.3
Percentage of Correct Answers given by respondents for
Knowledge of Digital Financial Services (KDFS)

Rank	Question	Question Subject	Percent of Correct Answer
1	1	E-Banking	90.4
2	6	Abbreviation of EFT	86.7
3	5	Use of Net banking	77.8
4	13	Charges on Credit Card	76.3
5	17	Use of Paytm	70.4
6	7	Concept of Debit Card	68.9
7	3	Performing Net banking Transactions	66.7
8	19	Use of E-wallet	63.7
9	18	Cashback	59.3
10	22	UPI PIN	57.8
11	21	Features of UPI	55.6
12	15	Features of E-wallet	51.9
13	12	Feature of Credit Card	51.1
14	14	Concept of E-wallet	51.1
15	9	Knowledge of Credit Card	44.4
16	10	Functionality of Debit Card	42.2
17	11	Prerequisites of Using ATM First time	42.2
18	2	Use of IFSC	40.7
19	20	Abbreviation of UPI	40.0
20	8	Abbreviation of POS	39.3
21	23	Methods to Transfer Money using UPI	34.1
22	16	Type of Wallets	26.7
23	4	Information required for first time use of Net banking	24.4

The performance of students for KDPFS indicates percentage of students who answered each question correctly, organized in descending order. Students scored more than median percentage in 10 topics (out of 23) which include e-banking (90.4%), Electronic Fund Transfer (86.7%), use of net banking (77.8%) and charges on credit card (76.5%), Use of Paytm (70.4%), Concept of Debit Card (68.9%), Performing Net Banking Transaction (66.7%), Use of e-wallet (63.7%), Cashback (59.3%) and UPI PIN (57.8%). On the other hand, the students scored less than median percentage in 13 topics (out of 23) which include features of UPI, features of e-wallet, features of credit card, concept of e-wallet, knowledge of credit card, functionality of debit card, prerequisite for using ATM first time, Use of IFSC, Abbreviation of UPI, Abbreviation of

POS, Methods to Transfer money using UPI, Type of wallets and Information required for first time use of Net banking.

Awareness of Digital Financial Risk & Its Control (ADFRC)

Table 1.4 indicates performance of students towards 12 questions of Awareness of Awareness of Digital Financial Risk & its Control (ADFRC).

The performance of students for ADFRC indicates percentage of students who answered each question correctly, organized in descending order. 86 percent of students said that they verify

Table – 1.4
Percentage of Correct Answers given by respondents for
Awareness of Digital Financial Risk & Its Control (ADFRC)

Rank	Question	Question Subject	Percent of Correct Answer
1	5	Verification of Beneficiary's Mobile Number	85.9
2	6	Verification of Payment Collect Request	79.3
3	14	Awareness about cyber security risk	76.3
4	2	Updating Payment Transaction Application	72.6
5	7	Performing Financial Transaction using Open Network	69.6
6	3	Use of antivirus software for protection	68.9
7	15	Sharing Password with others	68.1
8	1	Summary of Financial Transactions	66.7
9	12	Change in Password Frequently	65.2
10	4	Common Password for All Apps	64.4
11	8	Mechanism to Prevent Leakage of Data	59.3
12	9	Adequacy of Risk Management by third party	54.1

beneficiary's mobile number before performing financial transaction. It was found that students scored more than median percentage in 11 items (out of 12) except one i.e. adequacy of risk management by third party.

Knowledge of Consumer Rights & Redress Procedures (KCRRP)

The third dimension of DFL is knowledge of consumer

rights and redress procedures. Table 1.5 indicates performance of students towards 3 questions of Knowledge of Consumer Rights & Redress Procedures (KCRRP).

Table – 1.5
Percentage of Correct Answers given by respondents for
Knowledge of Consumer Rights and Redress Procedures (KCRRP)

Rank	Question	Question Subject	Percent of Correct Answer
1	13	Complaint Mechanism	62.2
2	10	Registration of DFS Providers with Regulatory Body	59.3
3	11	Following KYC Guidelines	54.1

The performance of students for KCRRP indicates percentage of students who answered each question correctly, organized in descending order. It was found that only 54 percent of students verify that financial services providers follow KYC guidelines. This score was lower than median score of 57 per cent. In case of complaint mechanism, 62 per cent of students suggested that they verify complain mechanism of DFS providers. Similarly, 59 per cent of students check registration of DFS providers with regulatory body before going for financial transactions. The scores of these two items were higher than the median score.

Demographic Variables and Digital Financial Literacy

Table 1.6 presents the mean scores of DFL, KDFS, ADFRC and KCRRP based on demographic variables (gender, education and age). To analyse the differences in literacy

score based on gender and education, independent samples t-test was used. The relationship between age and literacy score was analysed using one way ANOVA test.

From the test results for gender and digital financial literacy, it was found that there is no significant difference in average financial literacy score of male and female students with respect to DFL ($t = -0.139$, $P > 0.05$), KDFS ($t = 0.313$, $P > 0.05$), ADFRC ($t = -0.821$, $P > 0.05$) and KCRRP ($t = -0.213$, $P > 0.05$).

The test results of education showed significant differences in average scores of DFL ($t = 2.742$, $P < 0.05$), KDFS ($t = 2.848$, $P < 0.05$) and ADFRC ($t = 1.86$, $P < 0.10$) for graduate and post graduate students except KCRRP ($t = -0.130$, $P > 0.05$). Post-graduate students are found to have high digital financial literacy compared to graduates.

Table – 1.6
Demographic Variables & Digital Financial Literacy

	DFL	KDFS	ADFRC	KCRRP
Gender				
Male	22.59	12.75	8.11	1.73
Female	22.72	12.53	8.42	1.77
t-statistic	- 0.139	0.313	- 0.821	- 0.213
Sig.	0.889	0.755	0.413	0.832
Education				
Undergraduate	21.08	11.46	7.85	1.77
Postgraduate	23.55	13.25	8.55	1.75
t-statistic	2.742	2.848	1.86	-0.130
Sig.	0.007	0.005	0.065	0.897
Age				
Less than 18 Years	20.56	11.32	7.52	1.72
19 to 22 Years	22.62	12.53	8.38	1.70
23 Years and more	25.27	14.41	8.36	2.00
F Ratio	5.272	3.768	2.638	0.768
Sig.	0.006	0.026	0.075	0.466

The test results of one way ANOVA indicate significant influence of age on all dimensions of digital financial literacy i.e. DFL ($F=5.272$, $P<0.05$), KDFS ($F=3.768$, $P<0.05$) and ADFRC ($F=2.638$, $P<0.10$) except KCRRP ($F=0.768$, $P>0.05$). The students in the age group of 23 and more than 23 years have scored high in digital financial literacy compared to the students who are in age group of 19 years to 22 years and less than 18 years.

Digital Financial Literacy and Use of Digital Financial Services

Table 1.7 presents the relationship between digital financial literacy and actual usage. It is hypothesised that digital financial literacy is significantly associated with actual usage of digital financial services. Chi-Square test of independence was used to test this hypothesis. Since Chi-square test requires categorical variable; the students were categorized into two groups. First group of students who scored more than median was termed as high DFL group and second group of students who scored less than median was termed as low DFL group.

Table – 1.7
Digital Financial Literacy and Use of Digital Financial Services

	DFL Category		Total	Chi-Square	Sig.
Use of Internet Banking	Low DFL	High DFL			
Nil	36	20	56	2.078	0.354
1 to 3 Times	23	22	45		
More than 3 Times	18	16	34		
Total	77	58	135		
Use of Credit Card					
Nil	30	21	51	2.551	0.279
1 to 3 Times	32	19	51		
More than 3 Times	15	18	33		
	77	58	135		
Use of E-Wallets					
Nil	44	32	76	0.972	0.615
1 to 3 Times	23	15	38		
More than 3 Times	10	11	21		
	77	58	135		
Use of Debi Card					
Nil	29	14	43	8.115	0.017
1 to 3 Times	30	17	47		
More than 3 Times	18	27	45		
	77	58	135		
Use of UPI					
Nil	54	36	90	1.149	0.563
1 to 3 Times	16	14	30		
More than 3 Times	7	8	15		
	77	58	135		

The actual usage was measured by asking students the frequency of monthly usage of DFS services like internet banking, use of credit card, use of debit card, use of e-wallets and use of UPI. The frequency of monthly usage of DFS was measured using three categories no use, 1 to 3 times and more than 3 times. The results indicate no significance relationship between actual usage of DFS and level of DFL except debit card (Chi-Square=8.115, $P<0.05$).

The results are consistent with APAC (2018) that suggests consistent gap between consumer awareness and consumer usage regarding digital financial services in countries like India.

Conclusion

The research work aimed at analysing the level of digital financial literacy of graduate and post graduate students of Saurashtra region. We found that on an average 47 per cent of students answered digital financial literacy questions correctly with median score of 57.

The second objective was to analyse the relationship between demographic variables and level of digital financial services. We found that male and female students do not have significant differences with respect to digital financial literacy. However, post-graduate students scored high in digital financial literacy compared to graduate students. Similarly, we found significant differences in level of digital financial literacy based on age.

The last objective of research was to analyse the relationship between level of digital financial literacy and use of digital financial services. It was found that there is consistent gap in level of digital financial literacy and use of digital financial services. In spite of high digital financial literacy, students have lower usage of digital financial services. These results are consistent with literature.

The results of research have three implications for stakeholders of fintech industry. First, there is a need of digital financial literacy programs that benefit college going students. Second, students of post-graduate programme have high digital financial literacy so they can be targeted for usage of digital financial services. Third, there is a need to focus on awareness of digital financial risk and its control and knowledge of consumers rights and

redress procedures as these components are important constituents of digital financial literacy.

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