

UNDERSTANDING FINANCIAL LITERACY, FINANCIAL RESILIENCE AND INVESTMENT DECISIONS: A CASE OF TWO CITIES FROM INDIA

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Abstract *The present study assessed the status of the financial literacy (FL) levels and examined its impact on the investment decisions of the investors from the cities of Ahmedabad and Vadodara in Gujarat state. We measured FL using a multi-dimensional construct of financial behaviour, attitude and knowledge. Investment decisions were analysed taking the six proxies – neutral information, personal financial need, macroeconomic indicators, accounting information, advocate information and firm image. The study revealed a high level of FL among the respondents with 62.50% of the respondents being highly financially literate and the remaining having a comparatively lower degree of FL. Though, respondents exhibited a higher level of financial literacy, they still lacked required degree of understanding of advanced financial and investment topics. Using simple linear regression, we found that investors' investment decisions were significantly positively impacted by their levels of FL. This study has implications for employers, policymakers, regulatory authorities and financial education providers to achieve financial inclusion and well-being goals by devising appropriate strategies and interventions for individuals with varying level of FL.*

Keywords: *Financial Behaviour, Financial Knowledge, Financial Attitude, Financial Literacy, Investment Decisions, Investors, Financial Resilience*

INTRODUCTION

Financial literacy (FL) is an important skill not only for households' financial management but also to achieve the goal of financial inclusion at a macro level (Sharma & Paliwal, 2011). It is also significant to achieve economic growth and the financial welfare of people (Sconti, 2022; Sulthana et al., 2022). FL is found to be associated with positive financial management behaviours and greater wealth leading to household welfare (Mireku et al., 2023; Jappelli & Padula, 2013; Lusardi & Mitchell, 2014). Financially literate with better numeracy skills exhibit comparatively higher intention for stock market participation (Mirzaei & Buer, 2022), and maintaining contingency funds (de Bassa Scheresberg, 2013). They are observed to be better equipped for retirement planning (Mustafa et al., 2023; Chua & Chin, 2022; Garcia-Mata, 2021; van Rooij et al., 2011) and enjoy greater financial well-being (Sconti, 2022). Having realised this, policymakers globally have emphasised on the need for financial education, FL campaigns and impact assessment studies to bridge the gaps in FL. Globally researchers have studied FL and explored its antecedent and consequences.

Katuake et al. (2023) found that enhanced FL reduced impulsivity in financial decision-making. Koomson et al. (2022) documented that an increase in FL caused a 6.9% decrease in poverty across Kenya, Uganda and Tanzania. Andreou et al. (2023) found that financially literate Cypriot investors were financially resilient and able to build a rainy-day fund. Thus, financial fragility emanating from lower FL levels (FLL) can decrease asset accumulation and household consumption (Koomson et al., 2022). Bialowolski et al. (2021) conclude that financially resilient households are more likely to report financial satisfaction and general well-being, as well as better mental and physical health.

Problem Statement

Research studies conducted to assess FL and understand its linkage with financial behaviour (FB), and investment decisions adopted different constructs of FL for determining the FL of the country-specific sample. In this regard, noteworthy research on FL in the Indian context has been done by Jariwala (2015); Narula (2015); Nalini et al. (2016); Surendar and Sarma (2017); Koti (2019). Of this, only

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Narula (2015) measured FL by taking financial behaviour, financial attitude (FA) and financial knowledge (FK) as suggested by OECD. Also, all these studies have found a low FLL among the respondents. A nationwide study to assess FL was last conducted by the National Centre for Financial Education (NCFE) in 2013–14. In this background, it is felt that an analysis of the present state of FLL is necessary and will provide implications to policymakers, financial service providers and investors. Hence, this study bridges gap in the literature by providing new evidence on the present state of FLL of investors from Ahmedabad and Vadodara and examines its impact on their investment decisions. The present study is also unique as we have developed a new construct for measuring FL. Additionally, introducing macroeconomic factors as a proxy of investment decisions, this study adds to the growing body of knowledge in investment decision-making.

REVIEW OF RELATED LITERATURE

Studies Assessing the Level of FL

Researchers found a lack of FL among investors from different countries irrespective of their age, gender and stage of the lifecycle (Andreou et al., 2023; Ansari et al., 2023; Sarpong-Kumankoma, 2023; Cossa et al., 2022; Lahiri & Biswas, 2022; Mirzaei & Buer, 2022; Sconti, 2022; Choudhary et al., 2021; Tahir et al., 2020; Cude et al., 2019; Bourova et al., 2018; Yoshino et al. 2015; Lusardi & Mitchell, 2011; Klapper & Panos, 2011; Al-Tamimi & Kalli, 2009; Volpe et al., 2006). An OECD International Network on Financial Education (INFE) study by Atkinson and Messy (2012) also documented a lack of FK amongst a large proportion of the population in 14 countries across four continents, irrespective of the stage of development of an economy. Angrisani et al. (2023) taking FINRA surveys of 2012 and 2018 found that FL has declined among US investors and the decline is attributed to age. NCFE in its nationwide baseline survey during 2013–14 in India documented that only 29% of the respondents were financially literate which further varied with location, gender, education level and occupation. Except for the study by Sweicka et al. (2020) which demonstrated a good and partially very good, level of FK in young Polish students, other researchers have reported a serious need to address the FL gap.

Studies Examining the Linkage of FLL with Investment Decisions

Earlier studies have shown that FK affects financial behaviour (Woodyard et al., 2017; Babiarz & Robb, 2014), and financial decisions (Grohmann et al., 2018; Tokar Asaad, 2015). Grohmann et al., (2018) found that financially literate people

make prudent financial decisions as they better understand financial instruments and their terms. A lack of FL results in individuals making inappropriate financial decisions and a lower capacity to deal with sudden economic shocks (Hung et al., 2009). The studies of Bellofatto et al. (2018), Hastings and Mitchell (2020) have provided evidence that FL has a significant effect on investment behaviour. Babiarz and Robb (2014); Hung et al. (2009); Nye and Hillyard (2013); Sabri and MacDonald (2010); Pandu and Sankar (2019) found that FL has an impact on saving and spending behaviour whereas, Bhushan and Medury (2013) and Robb and Woodyard (2011) documented a significant impact of FL on the debt behaviour. Rai and Gupta (2021) found a significant positive association between FK, FA and financial behaviour with retirement planning. In the Indian context, Jariwala (2015); Marwaha and Arora (2016) reported a significant positive impact of FLL on the investment decisions of investors. However, Al-Tamimi and Kalli (2009) reported a negative effect of FL on the investment decision. Thus, based on the available literature, the hypotheses of the study are:

H0: Financial literacy has no significant impact on investors' investment decisions.

H1: Financial literacy has a significant impact on investors' investment decisions.

Financial Literacy Constructs

It is observed that the studies examining FL have used a variety of constructs to quantify FL. There is a lack of agreement in defining and measuring FL (Ramalho & Forte, 2019; Xue et al., 2019). When the researchers measure FL by taking the knowledge of concepts important for financial decision-making, the construct is identified to be a uni-dimensional construct. Moore (2003) taking 12 questions; Beal and Delapachitra (2003) taking 25 questions; Lusardi and Mitchell (2011), Beckman (2013); Lusardi and Tufano (2015) taking 3 questions; Van Rooij et al. (2011) taking 16 questions; Jappelli and Padula (2013) taking 4 questions; Boisclair et al. (2017) taking 14 questions; have used uni-dimensional construct in their studies. OECD (2015) suggested measuring FL by taking a multidimensional view and incorporating FB and FA along with FK. Sweicka et al. (2020); Kadoya and Khan (2020); Murendo and Mutsonziwa (2017); Narula (2015); Bhushan (2014) among others have adopted the multi-dimensional construct for measuring FL. Thus, despite the efforts of researchers to provide a uniform construct (e.g., Huston, 2010; Lusardi et al., 2017; OECD, 2018, 2015), differences exist among researchers in the use of constructs for measuring FL. Schuhen and Schürkmann (2014) further argued that all countries cannot be evaluated by the same FL questions and that the questions should be adapted to the country's specificities.

METHODOLOGY

FL Measurement

Using a multi-dimensional construct, the FLL of investors was determined by taking 25 questions on financial competence/skills/knowledge, 3 statements of FA, and 12 statements of FB covering cash and credit management, risk management, savings and retirement planning behaviour. The item response theory has been adopted to measure financial competence, thus, correctly answered questions scored 1 point otherwise 0. In the case of financial attitude questions, scoring was done taking the OECD (2022) guidelines, wherein the statements were scored on a scale of 0 to 4 and the average value of responses was taken to be the financial attitude score. The scoring of FB statements was done by using 5 points Likert type scale. The total of points assigned to each of the responses was taken to be the FB score. The final FL score was then derived by adding up the scores in FK (25), FA (3) and FB (12). So, investors can score a highest of 89 and a lowest of 0 points. The investors having scored more than the median percentage of correct answers are classified as highly financially literate, whereas those with less than or equal median scores are classified as having lower levels of FL.

Investment Decisions

The investment decisions were proxied by Personal Financial Need, Accounting Information, Advocate Information,

Neutral Information and Self Image/Firm Image as also used in the earlier studies of Nagy and Obenberger (1984), Al-Tamimi and Kalli, (2009); Merikas et al. (2004), and Jariwala (2015). “Macroeconomic Factors” was introduced as an additional proxy for investment decisions in the present study considering their relevance in investment decision-making (see Chandra, 2018). The present study takes six proxies for investment decisions.

Research Instrument

The questionnaire was designed taking into consideration the OECD as well as SEBI guidelines and also the research conducted in different country contexts. The questionnaire had questions on a) Demographic Profile; b) Investor Profile; c) Financial Attitude and Financial Behaviour; d) Investment Decisions; e) Financial Skills/competence. The questions on financial attitude, behaviour and investment decisions were taken on the five-point Likert scale. The research instrument prepared was sent to the experts in banks, academia and investor associations for pilot testing. Based on the suggestions received, the questionnaire was modified and the final questionnaire was then distributed physically by visiting respondents as well as online through the Google form link. The Cronbach-Alpha values indicate acceptable to excellent consistency of questions of the questionnaire (as presented in Table 1) indicating a reliable research instrument.

Table 1: Reliability Testing of the Questionnaire

Nature of Questions	Number of Items	Cronbach Alpha	Internal Consistency
Financial Competence	25	0.711	Acceptable
Financial Behaviour	12	0.865	Good
Financial Attitude	03	0.807	Good
Investment Decisions Proxies			
Self-Image	10	0.886	Good
Macro-economic Indicators	8	0.934	Excellent
Accounting Information	12	0.915	Excellent
Neutral Information	6	0.888	Good
Advocate Information	12	0.912	Excellent
Personal Financial Needs	12	0.937	Excellent

Source: Survey results.

Population

The city of Ahmedabad is considered the economic capital whereas the city of Vadodara is considered the educational hub and cultural capital of Gujarat. In this context, the researcher wanted to understand the FLL and investment decision-making of the investors from these two cities of

Gujarat. All the individual investors (above the age of 18 years) in the cities of Baroda and Ahmedabad are considered to be the population for this study. The “individual investor” is defined as any person other than an institution who invests money in any of the available investment alternatives/financial markets/financial products.

Sample

For the current study, a non-probability, purposive, sampling technique was used. The individual investor is taken as the sampling unit for the present study. It was proposed to collect data from 100 investors each from the cities of Ahmedabad and Vadodara. The investors from the cities of Ahmedabad and Vadodara were contacted using Snowballing Sampling Method for data collection. The responses rate was 68% comprising 136 responses, out of which 93 responses were received from the city of Ahmedabad whereas 43 were received from the city of Vadodara. All responses received were valid and were used for the analysis. Considering that the population of Ahmedabad is approximately 1.5 times that of Vadodara city (as per Census 2011), the comparative analysis using the sample is justified. Roscoe (1975) estimated that a sample size between 30 and 500 is suitable for behavioural studies. He further suggested that if there has to be comparison between two groups, each group should have a minimum sample size of 30. On this premise, the sample size for the current study is fairly justified.

Data Analysis

Univariate and bivariate techniques of data analysis were

adopted for data analysis. Using descriptive statistics, frequency distribution and cross-tabulation were used for data analysis and presentation. Simple regression analysis was used to examine the impact of FL level on investors' investment decisions. SPSS 19.0TM and MS ExcelTM spreadsheet tools were used to conduct the analysis.

Model Specification: The impact of FLL on six response variables taken as proxies for investment decisions was examined individually by applying the ordinary least squares model of regression. FLL was taken as the independent variable (explanatory variable) and investment decision was taken as the dependent variable (response variable). The standard model is applied was: $Y = \alpha + \beta_1 X_1 + u_t$

Six OLS regressions were applied to examine the impact of FL on investment decisions.

RESULTS AND DISCUSSION

The demographic profile of investors is presented in Table 2. The discussion is followed by the investor profile, Analysis of FLL and the Hypotheses Testing for the impact of FLL on investment decisions.

Table 2: Demographic and Socio-Economic Profile of the Investors (n=136)

Factors	Ahmedabad	Baroda	Total
Gender Profile			
Male	59 (63.44%)	29 (67.44%)	88 (65%)
Female	34 (36.56%)	14 (32.56%)	48 (35%)
Age Group			
18-19	7 (7.25%)	0	7 (5.14%)
20-29	49 (52.68%)	11 (25.81%)	60 (44.11%)
30-39	19 (20.43%)	20 (46.51%)	39 (28.76%)
40-49	14 (15.05%)	6 (13.95%)	20 (14.70%)
50-59	4 (4.30%)	5 (11.62%)	9 (6.61%)
70-79	0	1 (2.32%)	1 (0.70%)
Education			
Masters' Degree or Professional Qualification	51 (54.83%)	35 (81.35%)	86 (63.25%)
Bachelors' Degree or Vocational Training	35 (37.63%)	8 (18.65%)	43 (31.61%)
Higher Secondary	7 (7.54%)	0	7 (5.14%)
Marital Status			
Unmarried	55 (61.29%)	15 (34.88%)	70 (51.47%)
Married	38 (38.71%)	28 (65.12%)	66 (48.53%)
Income			
Up to ₹300,000	14 (15.05%)	1 (2.33%)	15 (11.03%)
₹300,001 – ₹500,000	16 (17.20%)	7 (16.28%)	23 (16.91%)
₹500,001 – ₹700,000	11 (11.83%)	5 (11.63%)	16 (11.47%)
₹700,001 – ₹1000,000	16 (17.20%)	7 (16.72%)	23 (16.91%)
₹1000,001 – ₹1500,000	15 (16.13%)	7 (16.72%)	22 (16.17%)
Above ₹1500,000	21 (22.58%)	16 (37.20%)	37 (27.21%)

Factors	Ahmedabad	Baroda	Total
Occupation			
Student/Apprentice/Article/Intern	27 (29.03%)	2 (4.65%)	29 (21.32%)
Housewife	1 (1.07%)	1 (2.33%)	2 (1.47%)
Salaried	48 (51.61%)	28 (65.11%)	76 (55.88%)
Professional/Self-Employed	17 (18.28%)	11 (25.57%)	28 (20.58%)
Retired	0	1 (2.32%)	1 (0.70%)
Year of Work Experience			
< 5 years	37 (39.78%)	10 (23.26%)	47 (34.56%)
6 – 10 years	17 (18.28%)	6 (13.95%)	23 (16.91%)
11 – 20 years	16 (17.20%)	19 (44.18%)	35 (25.73%)
21 – 30 years	7 (7.52%)	4 (9.30%)	11 (8.08%)
> 30 years	2 (2.15%)	2 (4.65%)	4 (2.90%)
Not Applicable	14 (15.05%)	2 (4.65%)	16 (11.76%)
Workplace Activity			
Banking, Financial Services, and Insurance (BFSI)	59 (63.44%)	31 (72.09%)	90 (66.17%)
Other than BFSI	15 (16.13%)	9 (20.93%)	24 (17.64%)
Not Applicable	19 (20.43%)	3 (6.97%)	22 (16.17%)
Stage of the Lifecycle			
Single with no financial burdens	31 (33.33%)	5 (11.62%)	36 (26.47%)
Single with few financial burdens	24 (25.81%)	9 (20.93%)	33 (24.26%)
A couple without children and few financial burdens	4 (4.30%)	4 (9.30%)	8 (5.88%)
Young family with a home	15 (16.13%)	11 (25.58%)	26 (19.12%)
Mature family	16 (17.20%)	12 (27.97%)	28 (20.59%)
Preparing for retirement	2 (2.15%)	1 (2.35%)	3 (2.21%)
Retired	1 (1.08%)	1 (2.35%)	2 (1.47%)

Source: Survey results.

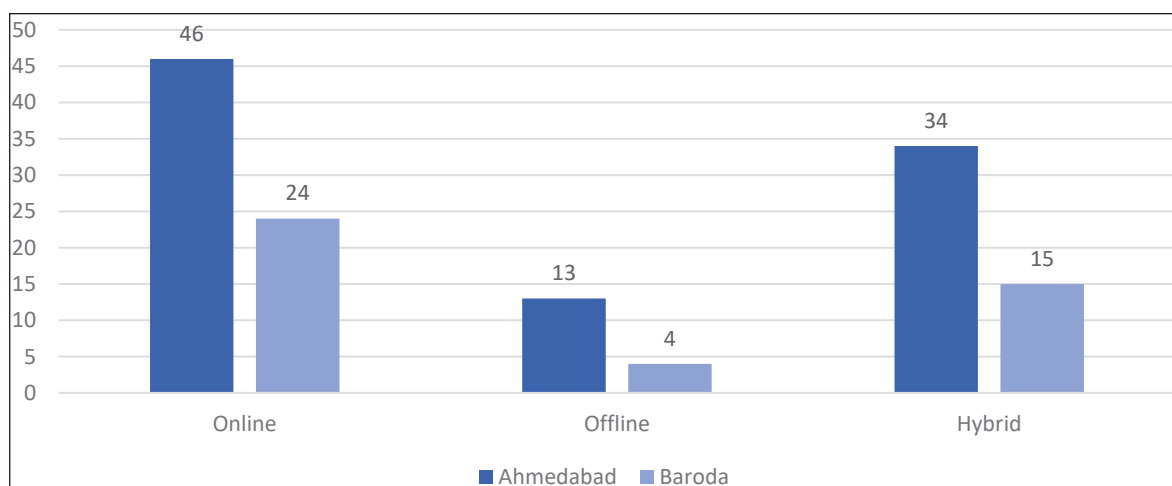
The sample is dominated by male respondents (65%) and unmarried respondents (51.47%). The majority of investors, that is, 44.11%, belonged to the age group of 20–29 (n=60) indicating the sample is dominated by Gen X and Gen Y. Notably, 94.86% of the investors are either graduates or professionally qualified with a postgraduate degree indicating a higher level of education. Thus, this factor shall increase the reliability of the conclusions drawn. The workplace activity of the majority of the investors, that is, 66.18% represents other than Banking, Financial Services, and Insurance (BFSI) sector. BFSI as workplace activity is represented by 17.64% whereas, 16.17% reported not applicable. When profiled based on their occupation, the investors were found to be heavily dominated by salaried persons as represented by 55.88% followed by students (n=29, 21.32%) and self-employed/professionals (n=28, 20.59%). The majority of the investors had work experience of fewer than 5 years (n=47, 34.55%) followed by investors having work experience

between 11 and 20 years (n=35, 25.73%). The annual household income of the majority of the investors was reported as more than ₹1500,000 (n=37, 27.20%). This was followed by 16.91% of investors (n=23) each in the ranges of ₹300,000–500,000 and ₹700,000–1000,000 indicating a good financial position of the investors.

Investors' Profile

The investor profiling was done basis questions related to the mode adopted for making investments, the percentage of monthly income invested and financial resilience.

The Mode Adopted for Making Investments: As can be observed from Fig. 1, the majority of investors in both cities 51.47% (n=70) used online mode for making investments. This indicates the use of sophisticated financial technologies by investors in both cities for making investments.

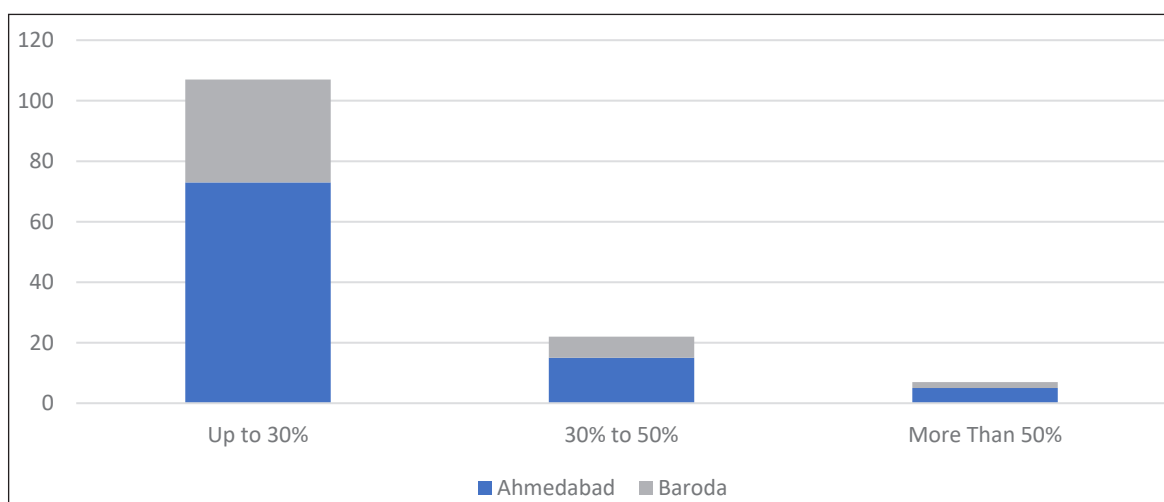


Source: Survey results.

Fig. 1: Mode of Investment Adopted by Sample Investors

It is equally noteworthy to note that 36.56% of investors in Ahmedabad ($n=34$) and 34.88% of investors in Vadodara ($n=15$) have adopted a hybrid mode for making investments. Only 13.98% of investors in Ahmedabad ($n=13$) and 9.30% of investors in Vadodara ($n=4$) consider an offline mode of making investments. Thus, it can be inferred that a greater number of investors are moving toward digital financial services.

The proportion of savings invested by the investors: As can be seen from Fig. 2, 78.68% of investors ($n=107$) invest up to 30% of their monthly income which is a healthy trend. This is followed by approximately 16.18% of investors investing 30–50% of their monthly income and around 5% investing more than 50% of their incomes.



Source: Survey results.

Fig. 2: Proportionate Savings of Sample Investors

Financial Resilience of the Investors: Investors are considered to be financially resilient when they have sufficient contingency funds for unfortunate circumstances in life. A contingency fund equal to or more than 6 months of current monthly expenditure is considered to be a sufficient cushion. Thus, investors holding such emergency funds

for precautionary motives are considered to be financially resilient. From Table 3, it can be seen that a large number of investors, that is, 36.03% of investors ($n=49$) hold emergency funds to the extent of 1 year of their current financial needs indicating that the majority of the investors from both cities are financially resilient.

Table 3: City-Wise Contingency Fund of the Investors

Sr. No.	Emergency Fund Availability	Name of City		Overall number and %Age of Respondents
		Ahmedabad	Vadodara	
1	1 year	29 (31.18%)	20 (46.51%)	49 (36.03%)
2	6 months	19 (20.43%)	12 (27.91%)	31 (22.79%)
3	3 months	23 (24.73%)	7 (16.28%)	30 (22.06%)
4	1 month	9 (9.67%)	3 (6.98%)	12 (8.82%)
5	No such funds are available	13 (13.98%)	1 (2.33%)	14 (10.29%)
	Total	93 (100%)	43 (100%)	136 (100%)

Source: Survey results.

FLL of Investors

The descriptive statistics on FL scores based on 25 financial knowledge questions are presented in Table 4. It can be observed that 62.50% of investors could answer 68% of questions on financial knowledge/skills/competence correctly. Thus, the investors have high FLL (n=85), followed by moderately financially literate (n=28, 20.58%) which is followed by 16.91% (n=23) of investors having a low level of FLL.

Table 4: Descriptive Statistics for Financial Knowledge Score (n = 136)

Statistic	Mean Score	Percentage of Correct Score
Mean	17	67.80% (n=85)
Median	18	68.00% (n=83)
Mode	20	80% (n=59)
Standard Deviation	4.57	

Source: Survey results.

A summary of the responses of investors to the financial knowledge questions is presented in Table 5. Rank is assigned to the questions which were always answered correctly. It is observed from Table 5 shows that 93% of the respondents answered the question on the division correctly which indicates basic numeracy skills. Additionally, 13 concepts related to interest on loan, inflation, home financing, investing, the risk-return trade-off of two assets, investment time horizon and fluctuations, diversification, the risk-return trade-off, simple interest, consumer rights and responsibilities, mortgage, the relationship of asset growth with investment time horizon, knowledge of mutual funds were also observed to have correct responses above the median value and indicating a good knowledge of this construct. However, investors were found lagging on important financial decision-making and investment concepts like compound interest, amount of interest on a loan, functioning of the stock market, net worth, time value of money, buying on credit, disposable income, asset allocation, money illusion and insurance, the relationship between interest and bond prices as evident from their less than median scores.

Table 5: Summary of Responses to Financial Knowledge Questions

Sr. No.	Financial Skill/Knowledge Question	No. of Correct Responses	% of Correct Responses	No. of Incorrect Responses	% of Incorrect Responses	Rank
1	Division	126	93%	10	7%	I
2	Interest on loan	119	88%	17	13%	II
3	Inflation	112	82%	24	18%	III
4	Home Financing	112	82%	24	18%	III
5	Investing	112	82%	24	18%	III
6	Risk-return trade-off of two assets	111	82%	25	18%	III
7	Investment time horizon and fluctuations	108	79%	28	21%	IV
8	Diversification	107	79%	29	21%	IV
9	Risk-return trade-off	105	77%	31	23%	V
10	Simple interest	101	74%	35	26%	VI
11	Consumer rights and responsibilities	98	72%	38	28%	VII
12	Mortgage	97	71%	39	29%	VIII
13	Asset growth - investment time horizon and relationship	96	71%	40	29%	VIII

Sr. No.	Financial Skill/Knowledge Question	No. of Correct Responses	% of Correct Responses	No. of Incorrect Responses	% of Incorrect Responses	Rank
14	Knowledge of mutual funds	94	69%	42	31%	IX
15	Compound interest	91	67%	45	33%	X
16	Amount of interest on loan	91	67%	45	33%	X
17	Functioning of stock market	90	66%	46	34%	XI
18	Net worth	89	65%	47	35%	XII
19	Time value of money	87	64%	49	36%	XIII
20	Buying on credit	79	58%	57	42%	XIV
21	Disposable income	77	57%	59	43%	XV
22	Asset allocation	71	52%	65	48%	XVI
23	Money illusion	69	51%	67	49%	XVII
24	Insurance	62	46%	74	54%	XVIII
25	Relationship between interest and bond prices	58	43%	78	57%	XIX

Source: Survey results.

Taking the OECD (2022) guideline, the present study measured FL using a multidimensional construct containing questions related to FB, FA and FK. The total FL score is out of 89 as discussed in methodology section which has been further normalised to out of 100 to draw inferences. The same is presented in Table 6. Overall, it can be observed that

59.55% of respondents are highly financially literate when, FK, FA and FB scores are taken with a score of 74.35% in all the FLL questions. This is followed by moderately financially literate (n=53, 38.97%) which is followed by 6.61% (n=9) of investors having a low level of FLL.

Table 6: Summary of Financial Literacy Scores

Descriptive Statistics	Ahmedabad (n=93)				
	FK Score (25)	FA Score (4)	FB Score (60)	Total (89)	Out of 100
Average	17.15	2.93	43.28	63.36	71.19
Median	18	3	44	65.67	73.78
Mode	20	4	44	69	77.53
SD	4.40	0.91	9.15	11.61	13.05
Descriptive Statistics	Vadodara (n=43)				
	FK Score (25)	FA Score (4)	FB Score (60)	Total (89)	Out of 100
Average	17.84	2.91	44.93	65.68	73.80
Median	20	3	47	68	76.40
Mode	21	4	48	73	82.02
SD	4.92	0.97	7.40	9.79	10.99
Descriptive Statistics	Total (n=136)				
	FK Score (25)	FA Score (4)	FB Score (60)	Total (89)	Out of 100
Average	17.37(69.48%)	2.93 (72.50%)	43.80 (73%)	64.10	72.02% (n=81)
Median	18 (72%)	3 (75%)	45 (75%)	66.17	74.35% (n=74)
Mode	20 (80%)	4 (100%)	48 (80%)	66	74.16% (n=76)
SD	4.57	0.93	8.64	11.08	12.45

Source: Survey results.

Thus, the findings of the study are unique as the present study reports a high level of FL as against the studies of Jariwala (2015), Nalini et al. (2016), and Gupta (2017) which

reported low levels of FL in the Indian context. The findings also show improved FLL when compared with NCFE (2019) Survey Report. The overall FLL in the west region above

68% was reported only for 37% of the respondents whereas; in the present study 62.50% of the investors are found to be having FLL of 74% and above. The possible reasons for an increased level of FL can be attributed to increased awareness among the people. This increased awareness is on account of various government initiatives like NCFE, FL campaigns, observing of FL Week; FL course materials

shared by the government as well as increased use of social media.

Hypotheses Testing for FLL and Investment Decisions

The summary of the results is presented in Table 7.

Table 7: Summary of OLS for FLL and Investment Decisions

Proxies for Investment Decision	Multiple R	R ²	Adjusted R ²	Beta	t-statistic	F-test	H0
Self-image/Firm image	0.43	0.18	0.18	0.30	5.47*	29.98*	Rejected
Macroeconomic Factors	0.44	0.19	0.18	0.28	5.62*	31.57*	Rejected
Accounting information	0.35	0.12	0.12	0.31	4.37*	19.09*	Rejected
Neutral information	0.32	0.10	0.10	0.15	3.85*	14.81*	Rejected
Advocate information	0.20	0.20	0.04	0.18	2.39*	5.72*	Rejected
Personal financial need	0.45	0.20	0.19	0.43	5.84*	34.13*	Rejected

* Indicates significance at a 1% level of significance.

Source: Survey results.

From the above table, it can be observed that the hypothesis is rejected in all the cases, indicating that the FLL has a significant positive impact on investors' investment decisions. Considering the values of adjusted R², personal financial needs followed by accounting information are the important factors among the financially literate for investment decision-making. The results support the theory that financially literate investors take informed investment decisions (Fedorova et al., 2015; Hung et al., 2009). In particular, the results support the findings of Marwaha and Arora (2016) and Jariwala (2015). However, the results contradict the findings of Al-Tamimi and Bin Kalli (2009) who found a significant negative impact of FLL on investment decisions.

CONCLUSION

The present study assessed the FLL of investors in the cities of Ahmedabad and Vadodara in the Gujarat state using a multi-dimensional construct. We conclude that the majority of the investors preferred the online mode of investment followed by those who invest through hybrid mode (i.e., both online and offline mode). A majority of investors invested up to 30% of their monthly income and maintained emergency funds equal to or more than six months indicating that they are financially resilient. The study revealed a high level of FL among the respondents with 62.50% of the respondents being highly financially literate and the remaining having a comparatively lower degree of FL. It was found that the respondents had sufficient understanding of the 14 concepts

related to division, interest on the loan, inflation, home financing, investing, the risk-return trade-off of two assets, investment time horizon and fluctuations, diversification, the risk-return trade-off, simple interest, consumer rights and responsibilities, mortgage, investment time horizon-asset growth relationship and knowledge of mutual funds. It was found that the investors although financially savvy still lacked an understanding of important financial decision-making and investment concepts like compound interest, amount of interest on the loan, functioning of the stock market, net worth, time value of money, buying on credit, disposable income, asset allocation, money illusion, insurance, the relationship between interest and bond prices. Using OLS, we demonstrated a significant positive impact of FLL of the investors on their investment decisions. All the proxies for investment decision-making via, personal financial need, self-image/firm image, advocate information, macroeconomic information, accounting information and neutral information were significantly predicted by FLL. In this context, it is suggested that financial education providers, policymakers and regulatory authorities should promote financial product literacy and specifically insurance products. Findings also imply that there has to be a variety of financial literacy programmes to address the needs of individuals with varying levels of financial literacy. Employers should regularly organise sessions to educate their employees on the investment products and the cost-benefit and risk-return analysis to financially empower them and thus achieve the better financial well-being.

Limitations of the Study and Scope for Future Research

The study may have sampling bias due to the location (limited to urban areas only), and respondent bias. Therefore, it is suggested that future studies may have a larger sample covering both rural and urban areas across the country. Researchers are encouraged to use the construct developed in the present study in different country contexts to assess FLL. Future studies should introduce macroeconomic factors as an important proxy for investment decisions and examine if the results are the same or different.

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