

Effect of Technology on Financial Literacy and Investment Decisions of Citizens of Udaipur (Rajasthan)

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ABSTRACT: Financial literacy is knowledge and awareness about the financial issues and aspects which lead into better understanding of money related avenues especially investment in the common citizen or public. With the advent of information technology penetration a good in enrichment in observed in the general financial literacy level of common people, as they do in depth study over all the possible aspects of the particular investment avenue before making and investment and several web applications are freely providing assistance to them. Technology is influencing conducts of doing business and also offering interaction with different financial market across the world, in such case understanding the financial market and products depends on the level of financial literacy of the investor and investor can procure all the related information of the market and products from the different web information sources. Financial literacy is vital for the financial prosperity and wellbeing of the individual investor as it is directly related with the economy [1]. So, this study is aimed to assess the effect of information technology on the level of financial literacy of the investor, investment decisions. The sample population of the research work is common public (investors) of Udaipur city of Rajasthan and their responses have been collected through a well structured reliable questionnaire. Data has been statistically analyzed with the help of various statistical tools such as Pearson's Chi-Square Test, Anova and Pearson Correlation. The results of statistical analysis helped to conclude that information technology penetration in making the person financial literate had improved the financial literacy level of the investor and also helping in making better investment decisions. A strong relationship was observed between the information technology enabled financial literacy and investment decision quality.

KEYWORDS: Information Technology, Financial Literacy, Investment, Investment Decision, Knowledge and Awareness

I. INTRODUCTION

Financial inclusion policies of the Indian government are broadening the involvement of common public into the mainstream economy by encouraging them for the investments and availing banking service. To attain the objective of financial inclusion it is required to improve the financial literacy level of individual for their monetary welfare. The same is recorded by Rohtagi et al. in their study on investment patterns of small investor through confirming the need of training and awareness programs related to financial and investment issues for the common investor so that they can perform well by doing more rational investments which can ultimately increase the efficiency in the economy [2]. In order to satisfy the need of market and customers, government, financial and non financial institutions are offering more sophisticated products and services. This is resulting into complex market structure and confused attitude in the investor. Making a decision for finding the most appropriate investment avenue among the available alternatives primarily depends on investors' psychology, information set, and researching and analysis capacity and for that role of technology driven platforms which lead into directing the investor for particular investment avenues is noteworthy. So, assessing the role of information technology driven financial literacy platforms in developing the financial competency in common public is remarkable as several websites, applications, blogs which are providing information about financial market, and products

inclusive of assistance for making investment more effective and beneficiary. Technology enabled financial literacy incorporates building the knowledge of financial products and service, awareness for risks in the investment avenues, risk assessments and building the knowledge about consumer rights and redressal procedure. There are several financial education programmes available online to improve the knowledge and awareness with certain certification. Such programmes improve financial literacy and financial literacy helps in enlightening excellence in the common financial activity of the individual and contributes in monetary growth, progress and development of the country.

Wadhwa et al. in their study mentioned that level of awareness among the people having access to portals, financial news channels, market related TV shows, magazines, blogs etc is higher for the financial products available in the market and their investment knowledge is also higher than other who do not have access to them [3]. Nalini et al. in their study on “Financial Literacy and its Contributing Factors in Investment Decisions among Urban Populace” concluded that financial literacy directly influences investors’ capability of making a good decision over allotment of financial earnings, and improves them overall financial strength. The study also admitted that in order to improve the financial literacy level of investor financial education programmes enabled with advanced teaching technology plays effective role [4]. In the present context where people rely on internet as a source of information and services, integration of financial programmes with the information technology practices will give more significant result in form of improved financial competency.

Prabhu et al. in their study on “Financial Literacy among the young Information Technology workforce in Pune region” revealed that financial literacy among the young IT professionals is above average. The study confirmed that having IT competency is different to have the financial knowledge or competency because it is about assessment capacity of individual between risk and return, but education has its significant impact on rational behaviour for investment. So, it was interpreted that education especially technology enabled education develop a practice among the people to explore new and relevant topics for more aptitude building [5]. Aberu and Mendes studied the relationship between the financial literacy and financial education, and concluded that financial education plays crucial role in developing financial literacy in the individual, higher would be the financial education higher would be the financial literacy. One fact revealed by the study that financial education can be learned by any information available on different cross platforms in this contemporary edge of technology enabled education [6]. Some of the famous blogs and websites, apps which Indian Investor follows for making their investments better and inspiring are here below which offers several videos, articles, client stories, tools and calculators for building the knowledge and awareness among the customers or investors for several financial products and services available especially investment avenues. Some of the website in their paid service category offers tracking of financial flows through expense analysis, budget management, spending categorization, financial calendars, alters and many more to the individual investor as well as company/ organization.

Table (1): Blogs, Websites and Apps for financial literacy

Websites	Blogs	Apps
Investopedia	JagoInvestor	Mint
About.com	OneMint	Clarity
Biz/ed Learning Zone	MoneyExcel	Twine
MyMoney.Gov	ReLakhs	Digit
Khan Academy	StableInvestor	Splitwise
CNN’s Money 101	TaxGuru	Prism
Yahoo! Finance Education	Good Returns Money	Acorns
GCF Learn Free	Chargeback Blog	Stocks
The Motley Fool	FinGyan	Robinhood
Finsafe	InCredibly	Ellevest

Exclusive of aforementioned websites, blogs and apps there are several other websites, blogs and apps are operational with the help the common investor or the individual to understand several financial issues such as lending, investment, insurance, borrowing, asset management, electronic money, broking, crypto asset trading,

trading, crypto asset, crowd funding etc. So, it is very significant and imperative to examine the effect of technology on financial literacy and investment decision of a citizen with reference to the Udaipur city of Rajasthan. The present study will focus on the statistical assessment of citizen opinion or feedback for the effect on technology on their financial literacy or competence and investment decision and association between the participation variable with reference to the demographic difference of the respondents. The geographical scope and locale of the present research work is rural, semi-urban and urban area of Udaipur district of Rajasthan.

II. RESEARCH OBJECTIVES AND HYPOTHESES

Primarily financial literacy is developing knowledge or educating the people about the excellence of financial facilities which can lead into an aptitude of rational investment behaviour within the investor. In order to attain all the obvious and potential benefits of the financial literacy it would be good to integrate the advanced technologies based financial learning programmes for the common people with easy to understand language compatibility, enabled with customized search and financial information. Above stated studies of researchers confirmed that there is imperative relationship between the financial aptitude, literacy and investment decision, and information technology enabled learning systems are offering more detailed information to every person pertaining to financial products and markets. So, the present research work is intended to assess the common public opinion about the role of information technology in developing financial literacy or competence within them and overall effect on their investment decision of Udaipur district of Rajasthan. So, the study has following objectives:

1. To study the respondents' opinion for the effect of information technology on their financial literacy/ competence.
2. To study the respondents' opinion for the effect of information technology on their investment decisions.
3. To study the effect of demographic characteristics of respondents on their financial literacy/ competence.

Geographical Scope of the Study: The geographical location scope of the research work is Udaipur district of Rajasthan. Udaipur is known as a place of rich cultural heritage and a famous tourist destination (also famous for destination marriages) district of Rajasthan state with rich and good mix of socio-economic composition of the rural, urban and semi-urban locality people. Such socio-economic and cultural richness of the research work area is always good for the researches, because it offers several groups and changeability in the feedbacks of the respondents and result into good reliable data set for further statistical analysis.

Research Work Plan: The present research work is intended to assess the common public opinion about the role of information technology in developing financial literacy or competence within them and overall effect on their investment decision of Udaipur district of Rajasthan, and to study the respondents' opinion for the effect of information technology on their financial literacy/ competence, investment decisions and effect of demographic characteristics of respondents on their financial literacy/ competence. For the execution of the aforesaid study objectives, a well structured questionnaire was present to the common public as the respondents of the Udaipur district of Rajasthan. The present research work nature is descriptive and analytical to reach the significant results and discussions.

Sampling Plan: It is tough to find the respondents with the investment behaviour and aptitude inclusive of interest in giving the answers of the questions presented in the questionnaire. For more confined and imperative results people with the rational behaviour of answering, the present research work followed convenience sampling practices and it was ensured that resultant should respond with duly filled questionnaire. The sample size of the present study is 100 common citizens of different backgrounds and locale that incorporated 60 male respondents and 40 female respondents

III. RESEARCH HYPOTHESES

H₀₁: There is no significant association between the financial literacy/ competence and investment decision making.

H_{a1}: There is significant association between the financial literacy/ competence and investment decision making.

H₀₂: Demographic characteristics of respondents do not influence their financial literacy/ competence.

H_{a2}: Demographic characteristics of respondents significantly influence their financial literacy/ competence.

H₀₃: Information technology penetration does not affect the financial literacy/ competence and investment behaviour of the common investor.

H_{a3}: Information technology penetration significantly affects financial literacy/ competence and investment behaviour of the common investor.

DATA ANALYSIS FOR EFFECT OF TECHNOLOGY ON FINANCIAL LITERACY AND INVESTMENT DECISION OF CITIZENS OF UDAIPUR (RAJASTHAN)

Reliability Analysis: In order to assess the validity of the data set encoded from the feedbacks given by the respondents in form of duly filled questionnaire Cronbach’s alpha (α) test was performed. The threshold value or score of the test is 0.7, and it is to be ensured for the dataset that reliability statistic should be greater than equal to 0.7 as it represents the goodness of the quality of data. If α statistic is found lower to 0.7, then it is to be ensured that reliability should be improved through incorporation of more questions, scales improvement, more data points and by higher sample population size.

Table (2): Reliability Test Statistics

Reliability Statistics	
Cronbach's Alpha (α) Value	N Items
0.912	39

Source: Statistical Analysis Output

Above Table 2 of reliability test statistics computed over the encoded dataset produced through responses given by the respondents in the form of questionnaire or 39 different data points revealed that Cronbach’s alpha (α) value is 0.912 and it is greater than threshold value 0.7 and confirms the goodness of the quality of data. So, the dataset values can be used or applied over other statistical tests.

Percentage (%) Distribution Analysis of Demographic Variables: Frequency or Percentage (%) based distribution of the different classes of demographic variables is presented in the Table 3, shown below. Frequency or Percentage (%) columns of the table represents number of respondents belong to that class of the demographic variable. It is helpful to estimate the dominance of particular class of respondents over the other class respondents’ feedback or opinion.

Table (3): Demographics’ Percentage Distribution for Sample Population

Variables	Categories	Frequency	Percentage
Gender	Male	60	0.6
	Female	40	0.4
Age	Under 30 years	18	0.18
	30 – 40 years	54	0.54
	40 – 50 years	24	0.24
	Above 50 years	4	0.04
Occupation	Bank Employee	22	0.22
	Corporate Employee	36	0.36
	Engineer	11	0.11
	Lawyer	8	0.08
	Doctors and Others	22	0.22
Monthly Income	Below 20,000	10	0.1

	20,000 – 40,000	59	0.59
	Above 40,000	31	0.31
Qualification	Below Graduate	1	0.01
	Graduate	12	0.12
	Post Graduate	65	0.65
	Professionally Qualified	22	0.22
Marital Status	Married	78	0.78
	Unmarried	22	0.22
Locality	Urban	46	0.46
	Semi Urban	32	0.32
	Rural	22	0.22

Source: Primary Data

Table 3 of percentage and frequency distribution of demographic characteristics of common people respondents of Udaipur revealed that out of total sample population of 100 respondents of Udaipur, male respondents were 60 (60%) and remaining 40 (40%) were female respondents, it confirms good mix of male and female respondent combination and helps to conclude that inference would not be gender biased. Out of the 100 sample population for age as demographic variables it was found that 18 (18%) respondents were of below 30 year age group, 54 (54%) were in between 30 to 40 years, 26 (26%) citizen respondents were in between 40-50 years, and only 4 (4%) citizens were more than 50 years of age. For occupation based percentage distribution it was found that 22% were bank employees, 36 were corporate employee, 11 were engineer, 8 were lawyer, and 22 other were doctor and involve with categories of occupation. For monthly income based classification it was found that 120 (10%) respondents' monthly income was lesser to Rs.20000, 59 (59%) respondents' monthly income was in between Rs.20000-Rs.40000, and 31 (31%) respondents' monthly salary was more than Rs.40000.

From the qualification point of view 65 (65%) respondents were post graduate, 22 (22%) respondents were professionally qualified, and 1 (1%) respondents were below graduate. Out of the sampled population 78 (78%) respondents were married, and remaining 22 (22%) respondents were unmarried. According to the locality to which respondent belongs it was found that 46 (46%) respondents were of urban area, 32 (32%) respondents were of semi urban area and remaining 22 (22%) respondents were from the rural part of Udaipur.

So, good combination of demographics variables' class wise participation of the respondents was observed for the study and it result into good quality of data for future analysis.

Chi-Square Test to Measure Association between the Financial Literacy/ Competence and Investment Decision Making – This section of the research paper will present the assessment of relationship or association between the respondents' level of financial literacy/ competence and related investment decision making capacity of the respondents. To measure this association between the aforesaid variables chi-square test was used. Hypothesis stated under is to be examined:

H₀₁: There is no significant association between the financial literacy/ competence and investment decision making.

H_{a1}: There is significant association between the financial literacy/ competence and investment decision making.

Table (4): Chi-Square Test to measure association between the financial literacy/ competence and investment decision making

Financial Literacy/ Competency Variables	Chi-Square Value	P-Value
Financial Knowledge	14.089	.003
Financial Behaviour	25.021	.000
Financial Attitude	25.442	.000
Understanding of Financial Numeric	19.174	.003

Financial Awareness	21.019	.001
Financial Planning	11.456	.005

Source: Primary Data

Chi-Square Test statistics of relationship between the financial literacy/ competence and investment decision making helped to conclude that chi square and corresponding p-value for Financial Knowledge (14.089, .003), Financial Behaviour (25.021, .000), Financial Attitude (25.442, .000), Understanding of Financial Numeric (19.174, .003), Financial Awareness (21.019, .001), and for Financial Planning (11.456, .005) were found lesser to the 0.05 significance level which helped to conclude that hypothesis H_{a1} must be accepted which confirms that there is significant association between the financial literacy/ competence and investment decision making. It was identified that respondents are agreeing that financial literacy or knowledge overall improves their understanding for the financial market and products which influences their decision making capacity and tendency of investment.

Table (5): Status of Hypothesis established to measure association between the financial literacy/ competence and investment decision making

Hypothesis	Accepted For
H_{a1} : There is significant association between the financial literacy/ competence and investment decision making.	Financial Knowledge, Financial Behaviour, Financial Attitude, Understanding of Financial Numeric, Financial Awareness, and for Financial Planning

Source: Table 4

ANOVA Analysis to Measure the Impact of Demographic Variables on Financial Literacy/ Competence: Demographic variables like age, income, qualification, marital status, gender, occupation, and locality influences the financial understanding of the respondents or not, to measure the significance of the difference in the mean score values of different segments/ classes of the variables were compared in the all the possible combinations of groups. The significance of comparative value F is measured by P-value.

H_{02} : Demographic characteristics of respondents do not influence their financial literacy/ competence.

H_{a2} : Demographic characteristics of respondents significantly influence their financial literacy/ competence.

Table (6): ANOVA Test to Measure Impact of Demographic Variables on Financial Literacy/ Competence

Distinctive Demographics	F-Value	P-Value	Null Hypothesis Result
Gender	4.431	.038	Rejected
Age	5.227	.013	Rejected
Occupation	7.229	.000	Rejected
Monthly Income	7.211	.000	Rejected
Qualification	6.551	.000	Rejected
Marital Status	5.696	.010	Rejected
Locality	6.223	.000	Rejected

Source: Primary Data

So, from the statistics of the ANOVA test to measure the impact of demographic variables on financial literacy/ competence as presented in Table 6 helped to conclude on the basis of F value and significance value that for demographic characteristics such as gender (4.431, .038), age (5.227, .013), occupation (7.229, .000), monthly income (7.211, .000), qualification (6.551, .000), marital status (5.696, .010) and for locality (6.223, .000) respondents are significantly agreeing that demographic characteristics significantly influence their financial literacy/ competence it is because for all the demographics significance values were lesser to 0.05 which confirms the differences in the mean score. So, it could conclude that H_{a2} must be accepted that confirms that demographic characteristics of respondents significantly influence their financial literacy/ competence.

Correlation Analysis to Measure the Relationship between Information Technology and Financial Literacy/ Competence and investment behaviour: In this age of digitalization where all kind of information related to financial market and their products are available on the web, individual can read and can take the assistance to make the information understandable as per his/ her need, measuring the respondents’ own opinion about the information technology effect on their financial literacy/ competence and investment behaviour is statistically examined through correlation analysis. The related hypothesis is stated below here under:

H₀₃: Information technology penetration does not affect the financial literacy/ competence and investment behaviour of the common investor.

H_{a3}: Information technology penetration significantly affects financial literacy/ competence and investment behaviour of the common investor

Table (7): Correlation Test to Measure the Impact of Information Technology on Financial Literacy/ Competence and Investment Behaviour

Correlations			
		Financial Literacy/ Competence	Investment Behaviour
Information Technology enabled Financial Information	Pearson Correlation	.492**	.302**
	Sig. (2-tailed)	.000	.000
	N	100	100
** 0.01 level (2-tailed)			

Source: Primary Data

Correlation test statistics of measuring the impact of information technology on financial literacy/ competence and investment behaviour is presented in Table 7. The statistics of table revealed that Pearson Correlation value between IT enabled or enriched Financial Information and Financial Literacy/ Competence is .492**, IT enabled Financial Information and Investment Behaviour is .302**. Both the values were found significant at 0.01 (2-tailed) levels. So, it could conclude that H_{a3} must be accepted which ensured that Information technology penetration significantly affects financial literacy/ competence and investment behaviour of the common investor.

IV. RESULTS AND DISCUSSION

Statistical inferences produced from the dataset produced as the result set of encoding of feedback given by the sampled respondents it was found that results were derived from the good and noteworthy combination of different classes of demographic variables of the respondents, which results into good quality datasets (Cronbach’s alpha (α) value was 0.912) and produced imperative results. A noteworthy relationship was observed between the financial literacy/ competence and investment decision making of the respondents, which confirms that financial literacy or knowledge overall improves their understanding for the financial market and products. Pertaining to the demographic variables effect on financial literacy/ competence it was found that all the demographic variables such as gender, age, occupation, monthly income, academic qualification, marital status, and locality are the key demographic variables which influences financial literacy/ competence of individuals. Higher correlation was observed between Information Technology enabled Financial Information and Financial Literacy/ Competence, and Information Technology enabled Financial Information and Investment Behaviour revealed that information technology significantly drives individuals’ understanding for the financial market and products which leads into the rationalized investment by the individual investor. It is recommended that more specific association between financial learning variables and investment variables, and information technology enabled financial information variables must be proposed.

V. REFERENCES

[1] Ambarkhane, D., Venkataramani, B., and Singh, A.S. (2015). Financial Literacy Index for College Students. Annual Research Journal of Symbiosis Centre for Management Studies, Vol. 3, pp. 1-25.
 [2] Rohatgi, S.K., Kavidayal, P.C. and Singh K.K. (2019). A Study Of Savings And Investment Patterns of Small Investors: A Literature Review, International Journal of Scientific & Technology Research Vol. 8, No. 12, pp. 3684-3688.

- [3] Wadhwa, B., Uppal, A., Vashisht, A., and Kaur, D. (2019). A Study on Behaviour and Preferences of Individual Investors towards Investments with Special Reference to Delhi NCR, *International Journal of Innovative Technology and Exploring Engineering*, Vol. 8, No. 6S2, pp. 92-99.
- [4] Nalini, R., Alamelu, R., Amudha, A., Shakila, L. (2016). "Financial Literacy and Its Contributing Factors in Investment Decisions among Urban Populace," *Indian Journal of Science and Technology*, Vol. 9, Issue-27, PP. 1-9.
- [5] Prabhu, G. and Pawar, S. (2016). "Financial Literacy among the young Information Technology workforce in Pune region", *IOSR Journal of Business and Management (IOSR-JBM)*, 8th International Business Research Conference, IES Management College and Research Centre, Mumbai, India, PP. 22-26.
- [6] Abreu, M. and Mendes, V. (2010). "Financial Literacy and Portfolio Diversification," *Quantitative Finance*, Vol. 10, Issue 5, PP. 515–528.