RESEARCH
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ISSN 1462 2815

DIGITALIZATION AND ITS IMPACT ON FINANCIAL LITERACY: PERCEPTION AND MEASUREMENT

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DOI: 10.5281/zenodo.11229746

Abstract

The paper emphasizes on the current scenario of how digitalization is shaping the financial literacy ecosystem of the country. Ever since the dawn of the internet era, there have always been technical advancements and innovations towards making a strong financial ecosystem. Some advancements have been in the field to improvise the financial operations, some towards making a robust banking system and many other advancements has been to make a more resilient investment environment, more friendly as well as convenient especially for the retail investor population of the country. Multiple papers were reviewed to understand how digitalization has impacted financial literacy. The paper's objective is assessing the impact of digitalization factors on the ability to make financial decisions.The factors considered are elaborated in the paper. A sample of 500 has been surveyed as a part of the data collection with due emphasis on the demographics, to collect their views and thoughts about how digitalization has impacted their financial decision-making ability. The study aims to identify the most prominent ways by which digitalization is helping to spread the financial literacy and the perspectives of the key stakeholders of the digitalization which is the general public. The analytical tool for data analysis are descriptive statistics, regression and hypothesis testing using the SPSS tool. For regression and hypothesis testing, there are four independent variables considered and their analysis shows that there has been noticeable impact on how these factors have impacted the financial decision-making ability, owing to digitalization.

Keywords: Digitalization, Financial Literacy, Financial Decision-Making, Financial Security, Investment, Technology, Financial Awareness.

1. INTRODUCTION

The past vicennial (2003 to 2023) has been considered to be one of the most marque 20 years for the technological advancements, especially in the field of finance and investments. India has developed a broad range of digitalised financial applications for customers. A key catalyst for this critical change has been acceptance of the technological mindset by the customers. Some of the key digital financial services available in India include Bharat Interface for Money, National Automated Clearing House, Quick Response (QR) code, Unified Payment Interface, Aadhaar Enabled Payment Services, and National Electronic Toll Collection. (T Ravikumar, N Prakash, B Suresha, Kiran Vazirani and T.A. Krishna, 2022). As technology is the next big thing, the potential of digitalisation carries for improvising the financial literacy, is of a significant level (Gomber et al., 2018; Davis & Hasler, 2021).

In the current digital era, where we're surrounded by a plethora of digital financial applications / services. Thus, the necessity for thorough financial learnings, security, and inclusion policies has become paramount to navigate this dynamic landscape (OECD, 2017, 2018). However before using digital financial services, one should be also well versed with basics of finance. These fundamental concepts enable individuals to oversee their financial affairs, compare products and services, make informed financial decisions, and respond to events that may impact their financial well-being. (OECD, 2023). One of the starting points in an individual's life for financial knowledge is through his / her home and the education received at his / her school (Lusardi, 2015; Lusardi et al., 2010).

The study conducted in this research paper aims to understand the how the digitalization has impacted the overall financial literacy ecosystem in India and how has this change has impacted the overall perception of financial literacy. The paper involves a survey of 500 sample size which has been surveyed to know their necessary demographics as well as their perception towards some key digital and financial parameters so as to understand their ability to arrive at the financial decisions.

2. LITERATURE REVIEW

The Financial Literacy is changing rapidly owing to robustness of the digitalization environment and the taking over by the fintech players who are primarily focusing on innovation and introducing novel business models (Elsinger et al., 2018). As the fintech space is getting significant traction, emergence of fintech is also bringing various risks as bi-products which may be mis-use of data, financial frauds and confidentiality issues. Thus the consumers need to have necessary understanding of type and level of associated risks to analyse and use these digital financial services (Eusebio Scornavacca, Tiina Koskelainen, Tero Vartiainen, , Panu Kalmi 2022).

In the present era of rapid digitalization where we see technology at the finger tips every moment, people are so deeply emersed in using technology that computation is not seen as a separate activity (Baskerville et al., 2020). Due to the advent of digitalisation, the recent literature on this topic gave importance to the fact that there is a need to have different perspective of financial literacy with more inclination towards the digital financial literacy than the non-digital one (Lyons & Kass- Hanna, 2021).

Digital financial literacy consists of a proper blend of skills, approach, knowledge and behaviours necessary for individuals so that they are well aware while using the digital financial services and technologies (OECD, 2023). People require digital financial literacy not only to access the advantages of available digital financial services but also to acquaint themselves with the associated risks through the application of these services. (Eusebio Scornavacca, Tiina Koskelainen, Tero Vartiainen, , Panu Kalmi 2022).

The condition of being financial literate is not just limited to the professional world. Households with good conceptual understanding of finances are less likely to make blunders than the other households (Campbell and Sodini, 2009). Other researches have indicated that being financially literate has a positive correlation with retirement planning (Klapper and Panos, 2011) and those having less financial literacy tend to show lower inclination towards investing in stocks / equity related products (Wenxiu Hu, Yan Shen and C. James Hueng, 2018). The results of the survey conducted by OECD in 2023 in the context of digital financial literacy, indicated an average score of 53 out 100 across all the participating countries, in contrast with the minimum targeted score of 70 out of 100 (OECD / INFE 2023 international survey of adult financial literacy).

Deepening the focus of this research, one of the most important research focus has to be given to the usage of interest. Quite an amount of research is also carried out for understanding how internet is being used on spreading financial literacy. A study found a considerable positive correlation between internet usage and the level of

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financial inclusion across 40 developing and 25 developed countries (Song and Hou, 2017). Also those who are considerably inclined to reading newspapers, magazines, exploring information on the internet and seeking financial advice from advisors are showing higher levels of financial literacy compared to those who are not engaging themselves in these activities (Rooij et al, 2011). Implementing technology in providing financial learnings can offer numerous benefits and effectively strengthen the foundations of financial literacy. (OECD, 2021a). Technology establishes a platform for the more efficient delivery of financial education, assisting citizens in cultivating financial resilience and well-being However, at the same time, the public authorities must built the necessary ecosystem for implementing these tech-based initiatives to meet the financial literacy levels (OECD, 2022).

Thus to summarize the reviews, though there seems to have a sizeable impact of the digitalisation on financial literacy and the with the spreading technology in the remote most corners, a lot depends on how the investors or the general public use this technology for their benefits and equally important is the robustness of the ecosystem in order to make an effective use of digitalisation for financial literacy. The use of internet in this era of digitalisation is not just confined to spreading financial literacy but a host of many factors.

3. RESEARCH METHODOLOGY

a. Data Collection

In order to conduct descriptive analysis of the current scenario digitalisation and how is it impacting the changing dynamics of financial literacy environment, the data has been collected using the survey method from adults. The key parameters considered are the demographics as well as the questionnaire to understand their perception towards digitalisation effect on financial literacy. The sample size consisted of both male & female with varied age group, employment status and varied income level as well. The sample size considered was 500 and the survey was conducted mostly among the areas around the areas of the city of Nagpur, India. The sample size consisted of both male and female citizens with people of varied ages, employment levels and earnings. Financial literacy has shown quite dependency on gender and age (N Prakash, T Ravikumar, B Suresha, T.A. Krishna, and Kiran Vazirani, 2022).

The survey questionnaire consisted of both demographics data collection as well as the questionnaire pertaining to the perception of the sample on the digitalisation effect on inducing financial literacy.

b. Descriptive Analysis

Based on the sample survey data collected which consisted of varied factors from the perspective of the demographics, the following charts elaborate the descriptive analysis of the data.

Table I

Age		
Category	**Count**	**%**
Upto 25	143	28.6%
26 to 45	146	29.2%
46 to 60	66	13.2%
61 and above	145	29.0%

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Table II

Gender		
Category	**Count**	**%**
Female	270	54.0%
Male	230	46.0%

Table III

Marital Status		
Category	**Count**	**%**
Married	330	66.0%
Unmarried	170	34.0%

Table IV

Employment Status		
Category	**Count**	**%**
Employed	172	34.4%
Retired	66	13.2%
Self-employed	79	15.8%
Student	145	29.0%
Unemployed	38	7.6%

Table V

Annual Income		
Category	**Count**	**%**
0 - 5 lakhs	183	36.6%
10 to 20 lakhs	111	22.2%
20 lakhs and above	89	17.8%
5 to 10 lakhs	117	23.4%

c. Regression and Hypothesis Testing

In order to understand the impact of digitalisation and also considering the literature review of the papers considered, the following parameters are being considered for doing the regression analysis and the subsequent hypothesis testing.

Dependent Variable:

As the paper primarily focuses on how the digital era has contributed to financial literacy, the dependent variable considered here is the *“Ability of making financial decision due to digitalisation”.*

Independent Variables:

The independent variables considered here are being considered based on the extent of digitalization in financial education or services. Following are the independent variables considered for conducting the regression analysis:

- *Influence of Digitalisation for accessing financial information*
- *Concern about financial security while using digital tools*
- *Awareness of financial risks and opportunities due to digitalization*
- *Participation in Financial Education Seminar*

Considering the above mentioned dependent and independent variables, the following hypothesis are being considered (H1 = Null Hypothesis and H2 = Alternative Hypothesis)

Hypothesis I

H1: "Influence of Digitalisation for accessing financial information" has no impact on the "Ability of financial decision making due to digitalisation"

H2: "Influence of Digitalisation for accessing financial information" has an impact on the "Ability of financial decision making due to digitalisation"

Hypothesis II

H1: "Concern about financial security while using digital tools" has no impact the "Ability of financial decision making due to digitalisation"

H2: "Concern about financial security while using digital tools" has an impact on the "Ability of financial decision making due to digitalisation"

Hypothesis III

H1: "Awareness of financial risks and opportunities due to digitalization" has no impact the "Ability of financial decision making due to digitalisation"

H2: Access to Online Financial Education Resources has an impact on the "Ability of financial decision making due to digitalisation"

Hypothesis IV

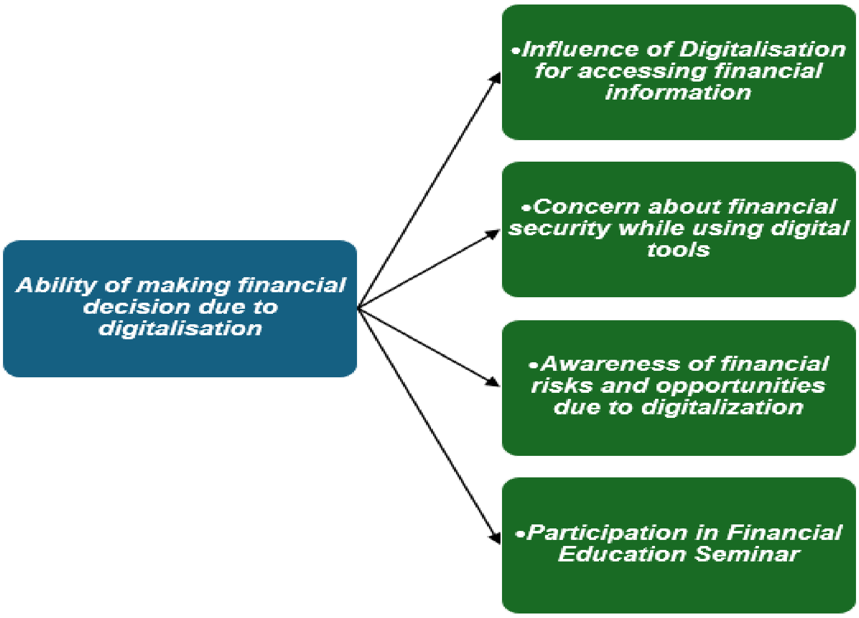
H1: "Participation in Financial Education Seminar" has no impact the "Ability of financial decision making due to digitalisation"

H2: "Participation in Financial Education Seminar" has an impact on the "Ability of financial decision making due to digitalisation"

Regression Analysis

Depending on the considered dependent variables as told in the previous chapter, the tool used for conducting the analysis is the multiple liner regression model. The multilinear regression analysis has been performed using the SPSS tool.

Research Model



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Considering the above model with the dependent and independent variables on SPSS tool, the multilinear regression analysis is showing the following output

Table VI

Model Outcome (Regression)			
R	**R-Square**	**Adjusted R-Square**	**Std. Error**
.404	0.164	0.157	0.568

In a multilinear regression analysis, the values in the model summary table provide a summary to understand the robustness of the regression model and the reliability of the predictions made by the model.

In this scenario, the most critical R value arrived at 0.404 indicates a fair level of positive correlation amongst the independent and dependent factors / variables. In other words, there is around 40.4% of the relation between dependent and independent variable.

Overall, the model shows a moderate level of correlation and explains a fair level of the variability in the outcome variable.

Table VII

ANOVA					
Particulars	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig. (P-value)**
Regression	31.215	4	7.804	24.188	<.001
Residual	159.703	495	0.323		
Total	190.918	499			

The ANOVA table as shown above provides evidence that the model of regression is statistically suggestive to explain the variability in dependent variable. F-statistic 24.188 and a p-value <0.001, indicates that the model has level of significance. Thus on a holistic basis the model can be inferred to be useful for predicting the dependent variable.

Table VIII

Particulars	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	0.873	0.156		5.607	0.000
Influence of Digitalisation for accessing financial information	0.111	0.038	0.122	2.911	0.004
Concern about financial security while using digital tools	0.251	0.048	0.225	5.257	0.000
Awareness of financial risks and opportunities due to digitalization	0.134	0.043	0.150	3.108	0.002
Participation in Financial Education Seminar	0.203	0.066	0.147	3.093	0.002

The above table shows the necessary parameters of the multivariate regression model for the independent variables considered. The independent variables considered here are being shown in the research model diagram above.

In line with the independent variables defined and the parameters obtained in table VIII, we arrive at the following inference of the variable-wise regression model as well as the decision on the four hypothesis mentioned before.

Variable 1 - Influence of Digitalisation for accessing financial information:

The B value for this variable is 0.111, indicating that a one-unit increase in the influence of digitalization for accessing financial information is associated with a 0.111 increase in the ability to make financial decisions due to digitalization. With the p-value 0.004 which is below the threshold value of 0.05, the respective null hypothesis for this variable is rejected and it can be inferred that the influence of digitalization for accessing financial information has a meaningful impact on financial decision-making ability.

Variable 2 - Concern about financial security while using digital tools:

The B value is 0.251, indicating a one-unit increase in the concern about financial security while using digital tools is associated with a 0.251 increase in the ability to make financial decisions due to digitalization. With p-value of 0.000 which is less than the threshold value of 0.05, the respective null hypothesis for this variable is rejected and it can be inferred that the concern about financial security while using digital tools has a substantial impact on financial decision-making ability.

Variable 3 - Awareness of financial risks and opportunities due to digitalization:

The B value is 0.134, indicating a one-unit increase in the awareness of financial risks and opportunities due to digitalization is associated with a 0.134 increase in the ability to make financial decisions due to digitalization. With the significance level or the p-value of 0.002 which is less than the threshold value of 0.05, we reject the respective null hypothesis for this variable and can infer that the awareness of financial risks and opportunities due to digitalization has a noticeable impact on financial decision-making ability.

Variable 4 - Participation in Financial Education Seminar:

The B value for this variable is 0.134 which indicating a one-unit increase in the participation in Financial Education Seminar is associated with a 0.134 increase in the ability to make financial decisions due to digitalization. With the significance level or the p-value of 0.002 which is less than the threshold value of 0.05, we reject the respective null hypothesis for this variable can infer that Participation in Financial Education Seminar has a significant impact on financial decision-making ability.

Based on the findings above, rejecting the null hypothesis and accepting the alternative hypothesis for each independent variable in relation to the dependent variable, the study has demonstrated that the considered independent variables significantly influence the ability to make financial decisions due to digitalization.

4. CONCLUSION

In the past decade, due to the onset of technological advancement, emergence of fintech and overall adoption of the deep technology in the ecosystem, the perception is mostly inclined towards the fact that the impact on digitalisation on financial literacy has been quite eloquent. However the same inference was to be established through a proper study, which was one of the key objectives of this paper.

India, being a home to a major part of the world population and that too a significant portion of the population having their presence in rural areas, the penetration of technology definitely poses a significant challenge and so is the penetration of financial literacy using digital platforms. Whenever there is a discussion on financial literacy and how digitalisation has impacted the same, at the core we are just trying to understand as to how effective is the financial decision-making ability of the person is for zeroing down on the decision and close it.

The paper primarily focused on four basic parameters which re accessing financial information, financial risk and security, financial risk & opportunities and participation on financial seminars and how they impact the decision-making ability. Afterall, it is all about taking a decision based on the available information and closing it.

Thus, we may infer that there has been a significant impact of digitalisation on financial literacy and in the coming times, when technology and digitalisation are making their way to show their presence in the remote most corner of our country, the penetration of digitalisation is poised to create a deeper impact on the financial literacy ecosystem of the country. The way forward can be expected to have a more robust landscape for making more informed and confident financial decision by the citizens of this country.

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