

IMPACT OF DIGITALIZATION ON RETAIL INVESTORS' INVESTMENT DECISION-MAKING: A QUANTITATIVE STUDY

Tazeen hussain ¹, Dr. Bhavik Vora ², Dr. Anil Sharma ³

¹ Research Scholar, Devi ahilyabai vishwavidyalaya, Indore

² Assistant professor Govt. Swami Vivekanand College, Sarangpur

³ Associate professor Shri Vaishnav college of arts and commerce

ABSTRACT

Digitalization has caused a fundamental shift in the investment sector, particularly by enabling the use of virtual trading platforms, mobile investment applications, the provision of data in real time and such other services that include wealth portfolio management technology. In this research, the impact of digitalization on the investment behavior of retail investors is discussed more in terms of digital platform usability and access to digital information. A quantitative methodology was applied in the study, taking the form of a cross-sectional design, and this was complemented by the use of a structured questionnaire which consisted of 17 items. The dataset is comprised of 120 responses and was analysed with regard to all the analyses and statistical tests employed, such as the means, standard deviations, Cronbach's alpha, Pearson correlation, regression analysis, KMO and Bartlett's tests, and regression diagnosis. The internal consistency of the respondent's questionnaire was strong, with the Cronbach's alpha being very close- ranging between 0.863 and 0.935. The totality of the regression model has a negative R-squared of 0.514, which means that the model explained 58.6% of the variation in the dependent variable. Digitalization, digital platform usability, and digital information accessibility were able to explain these results consistently. Investment experience was positive but not statistically significant. Digital platform usability was the most important element. The current study shows that the consequences of financial digitalization are not only related to the availability of technology but also very importantly to the way that the platform operates and whether its sophisticated application or financial data can be easily accessed by the majority of investors.

Keyword: Digitalization, retail investors, investment decision-making, digital platform usability, digital information accessibility, FinTech.

1. INTRODUCTION

1.1 Background of the research

The entrance of digital technologies into the world has significantly changed how regular individual buyers access the financial market, gather information on the financial market, compare financial instruments, manage their balances and transact. Online brokerage services, mobile apps for investing, robo-advice, digital dashboards, and streaming stock data have eliminated the traditional constraints on investment activities.

The research conducted by Johri et al. (2023) confirms the notion that the use, in this case, of online software to provide ownership of stock extends the reach and empowerment of ordinary as well as professional investors. That is, this study has proven that factors of technology such as its ease of use, reliability, safety, and interface

design or layout suppress or encourage the use of internet-based stock investing.

As asserted by Chen et al. (2023), the evolution of FinTech can make it easier for venture investors to invest in a project. According to those authors, an increase in investees and investors' comfort in technology usage is currently more crucial for the decision of whether to trade or not.

Moreover, as reported by Lim et al. (2021), digital technologies make it possible for individuals to have a larger and less expensive reach of investment opportunities. Nonetheless, they also expressed concern that the changing levels of access to technology may present more financial issues to retail investors. Thus, the benefit of technology by itself may not advance investment-making practices unless investment platforms are easily navigable and have requisite and pertinent information for investors.

In the current research, analyses aim to clarify digitalization as an important factor influencing the complicated choices made by retail investors. As a result, digitalization is applied in two different aspects: Digital Platform Usability and Digital Information Accessibility are introduced separately because they are understood as the most influential in personal financial investment. Investment Experience is offered as a covariate.

1.2 Research Aim

The main aim of the study is:

To explore the effect of digitalization on investment decision-making by retail investors with particular emphasis on digital platform usability and digital information accessibility.

1.3 Research Objectives

The objectives of the research are:

- To analyze the influence of digitalisation on retail investors' investment decision-making.
- To investigate the impact of digital platform usability and accessibility of digital information on retail investors' investment decision-making.
- To investigate the impact of digitalization on investment decision-making, taking into account the investors' investment experience.

1.4 Research Questions

The research questions addressed in the study are:

RQ1. What is the impact of digitalization on retail investors' investment decision-making?

RQ2: What impact does the usability of digital platforms and the accessibility of digital information have on retail investors' investment decision-making?

RQ3: Is the impact of digitalization on investment decision-making still significant after controlling for investment experience?

2. LITERATURE REVIEW

Digitalization has led to an investment environment where retail investors can, on their own, engage with financial markets. As **Johri et al.**

(2023) pointed out, the technical and operational features noticeably affect how individuals decide to adopt stock-market investment applications. Their findings show that when the platform is convenient and the digital setup is steady, investors get more autonomy in what they do, and it becomes easier to complete the whole process of investing. Most importantly, digitalization creates this new kind of access that previously was not available in the same way.

According to **Misra et al. (2019)**, new digital platforms are one of the means to overcome some old obstacles regarding retail participation in financial markets. Nevertheless, the authors stated that accessibility and availability of services, literacy in operations and access, and the simplicity of the platform are essential to an investor or a trader's behavior. Their research further concluded that the power of digital technologies is reliant on how comfortable and convenient it is in the context of investors interacting with the digital financial system.

In this regard, digital platform usability is very significant when measuring the effectiveness of the digital investment environment. According to **Lim et al. (2021)**, it was suggested that the expansion of digital investment opportunities not only provides a digital alternative to traditional investment avenues but, more importantly, attracts various types of investors. Based on the results indicated, the acceptance of digital investment architecture has the potential to allow investors to analyze more than one investment opportunity at a time. Therefore, when a given investment platform is clear and well structured, it could enhance the cost-effectiveness of investment decision-making.

In the same vein, **Oehler et al. (2022)** discussed the acceptance level of that service by the investors and pointed out that the reasoning for that could be the fact that digital technologies in investment are highly useful and promise flexibility, being available at all times, lower costs, and inbuilt portfolio management. Their research has proven that the digitization trend is gaining a foothold in retailing in the sphere of investment activities.

The issue of digital accessibility is vital. In fact, **Farrell et al. (2022)** suggest that as new information and communication technologies emerge and shape the flow of information, they

strengthen the idea that the financial services sector's information distribution systems have become increasingly democratized for retail investors. On the other hand, there was evidence retrieved by the researchers that Internet-based investment research makes the trading done by retail investors more informative.

However, using digital information as an effective medium has some demerits. **Arnold et al. (2020)** conducted a study in which they revealed that digital cognition stimuli such as alarm clocks may change the risk-taking behavior of the investor. They further illustrate that the manner in which digital information is given has the potential to influence the decision-making of individuals in terms of finances and if not carefully managed, might propel them to do something unexpectedly.

Additionally, **Chen et al. (2023)** suggested that attention to FinTech correlates with the trading disposition of the investors and the level of market activity. Recent research highlights that for retail investors, digital financial platforms are growing in importance, especially regarding how user-friendly they are and how trustworthy the information they provide is. However, these areas are given little focus because they examine the conditions under which investors make investment decisions.

3. RESEARCH METHODOLOGY

3.1 Research Design

The design of this research is scientific as well as analytical, based on a quantitative and cross-sectional perspective. This method is suitable because the concepts in the study area are mostly descriptive and can be documented using numbers.

The purpose of the study is to assess the effects of the degree of digitalization, the ease of access to digital platforms, and the ability to obtain digital information on investment decisions, both with and without investment experience acting as a mediator.

In their study, **Boateng and colleagues (2018)** mentioned the advantage of employing structured multi-item measurement scales for the purpose of quantifying latent attitudinal and behavioral constructs that could not be done by use of a single measurement technique only.

3.2 Sampling

The population of the research is limited to 120 retail investors. Retail investors are the subjects of the research, merely because the research is on individual investment decision-making within a digital environment.

The respondents were approached through social media like Facebook and WhatsApp. Moreover, some respondents were contacted by sending a Google Form link directly to their email address.

3.3. Data collection technique

The data were collected through an online questionnaire, which was prepared through Google Form. The link of this Google Form was shared with the participants. Participants were selected randomly based on their profile on LinkedIn

Primary data will be collected through a structured questionnaire. The questionnaire is made up of 17 questions.

Four statements each assess:

Digitalization Use of Digital Platforms

Investment Decision Making, Access to Digital Information

These constructs are measured by a five-point Likert scale as:

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Investment Experience is measured by one ordinal question from "less than one year" to "more than ten years."

Respondents who utilize digital investment services can be reached by distributing digital questionnaires via email, social media, online survey platforms, and investor communities.

3.4 Data Analysis Techniques

The study uses several statistical techniques:

Descriptive statistics were used to determine the mean, standard deviation, minimum, maximum, skewness and kurtosis of study variables.

Internal consistency of the multi-item scales is measured using **Cronbach's alpha**.

The **KMO and Bartlett's Test of Sphericity** check the sampling adequacy and the sufficient correlations among questionnaire items for factor-based analysis.

Pearson correlation analysis is used to calculate the direction and strength of relationships between study variables.

The simultaneous effect of Digitalization, Digital Platform Usability, Digital Information Accessibility and Investment Experience on Investment Decision-Making is analyzed using **multiple linear regression analysis**.

The regression diagnostics include the Variance Inflation Factor, the Durbin-Watson statistic, the Breusch-Pagan test and the examination of residual normality.

3.5 Data Overview

There are 120 observations in the dataset. The combined scores for digitalization, digital platform usability, digital information accessibility and investment decision-making were determined by taking the mean of the four questionnaire items, respectively.

The analytical model is given by:

Investment Decision-Making = $f(\text{Digitalization, Usability of Digital Platform, Accessibility of Digital Information, Investment Experience})$

The dependent variable is investment decision-making, while the independent variables are digitalization, digital platform usability, and digital information accessibility. Experience with investments serves as the control variable.

Cronbach's alpha values were all above 0.80, indicating high reliability of the measurement instrument.

3.6 Research Hypothesis

The following hypotheses were tested:

H1: Digitalization has a significantly positive effect on the investment decision-making of retail investors.

H2: The usability of the digital platform has a significant positive impact on retail investors' investment decision-making.

H3: Digital Information Accessibility has a positive and significant impact on the investment decision-making of retail investors.

H4: Even after controlling for Investment Experience, digitalization continues to be an important predictor of investment decision-making for retail investors.

3.7 Reliability Test: Cronbach's Alpha

Cronbach's α was computed to assess the internal consistency of these four multi-item measures. In accordance with Taber's (2018) statement, it is said that Alpha, Cronbach alpha is usually executed when there is an attempt to gauge the internal consistency of composite scales.

Cronbach's alpha values range between zero and one. However, values reaching or surpassing 0.70 are preferable for the goodness of fit of the data.

4. RESULTS

4.1 Reliability Analysis: Cronbach's Alpha

Reliability results showed good internal consistency:

Table 1. Reliability Analysis (Cronbach's Alpha)

Construct	No. of Items	Cronbach's Alpha	Interpretation
Digitalization	4.000	0.893	Good
Digital Platform Usability	4.000	0.897	Good
Digital Information Accessibility	4.000	0.863	Good
Investment Decision-Making	4.000	0.935	Excellent

4.2 Descriptive Analysis

Table 2 presents descriptive statistics of the respondent scores in the principal variables.

Table 2. Descriptive Statistics

Variable	Mean	Std. Deviation	Minimum	Maximum	Skewness	Kurtosis
Digitalization	3.448	1.019	1.000	5.000	-0.431	-0.299
Digital Platform Usability	3.596	1.043	1.000	5.000	-0.511	-0.630
Digital Information Accessibility	3.638	0.953	1.000	5.000	-0.539	0.023
Investment Experience	2.825	1.128	1.000	5.000	0.281	-0.497
Investment Decision-Making	3.675	1.151	1.000	5.000	-0.563	-0.727

The highest mean of 3.675 was scored by Investment Decision-Making, followed by Digital Information Accessibility at 3.638, and Digitalization with 3.448.

The skewness ranged from -0.563 to 0.281, and the kurtosis ranged from -0.727 to 0.023,

indicating no major distribution issues with respect to any of the variables.

4.3 KMO and Bartlett's Test

The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.907, which is excellent.

Table 3. Sampling Adequacy and Factorability

Test	Statistic	df	p-value
Kaiser-Meyer-Olkin (KMO)	0.907		
Bartlett's Test of Sphericity	1405.551	120.000	< .001

Bartlett's Test of Sphericity was significant, χ^2

$\chi^2 (120) = 1405.551, p < .001$

The results show that the item correlation structure of the questionnaire is sufficient for construct-based analysis.

4.4 Pearson Correlation Analysis

Table 4. Pearson Correlation Matrix

Variable	DIG	DPU	DIA	EXP	IDM
Digitalization	1.000	0.598**	0.513**	-0.061	0.573**
Digital Platform Usability	0.598**	1.000	0.442**	-0.143	0.593**
Digital Information Accessibility	0.513**	0.442**	1.000	0.114	0.552**
Investment Experience	-0.061	-0.143	0.114	1.000	-0.015
Investment Decision-Making	0.573**	0.593**	0.552**	-0.015	1.000

** Correlation is significant at the 0.01 level (two-tailed); * significant at the 0.05 level.

Investment Decision-Making positively correlates with Digitalization ($r = 0.573$, $p < 0.01$). Decision-making exhibited a substantial relation to Digital Platform Usability ($r = 0.593$, $p < 0.01$), with Digital Information Accessibility enjoying a positive and significant relationship as well. ($r = .552$, $p < .01$).

Investment Experience was not significantly related to Investment Decision-Making.

4.5 Multiple Regression Analysis

The multiple regression model in general was statistically significant:

Table 5. Multiple Regression Model Summary

R	R Square	Adjusted R Square	Std. Error of Estimate	F	p-value
0.697	0.486	0.468	0.839	27.175	< .001

$F(4,115) = 27.175$, $p < .001$

The model produced:

- **$R = .697$**
- **$R^2 = .486$**
- **Adjusted $R^2 = .468$**
- **Standard Error of Estimate = .839**

Overall, Digitalization, Digital Platform Usability, Digital Information Access and Investment Perception together were the factors that described around 48.6% of the adjustment in Investment Decision-Making.

4.6 Regression Coefficients

Table 6. Regression Coefficients and Multicollinearity

Predictor	B	Std. Error	Standardized Beta	t	p-value	Tolerance	VIF	Result
Constant	0.171	0.399		0.428	0.670			
Digitalization	0.259	0.100	0.229	2.576	0.011	0.565	1.771	Significant
Digital Platform Usability	0.366	0.095	0.331	3.838	< .001	0.600	1.668	Significant
Digital Information Accessibility	0.346	0.098	0.287	3.534	< .001	0.680	1.471	Significant
Investment Experience	0.014	0.070	0.013	0.195	0.846	0.939	1.065	Not significant

The strongest predictor was Digital Platform Usability ($\beta = .331$), followed by Digital Information Accessibility ($\beta = .287$) and Digitalization ($\beta = .229$).

4.7 Multicollinearity and Regression Diagnostics

Table 7. Regression Diagnostics and Assumption Checks

Diagnostic	Statistic	p-value Criterion	/	Interpretation	Conclusion
Durbin–Watson	1.912	Approx. expected	2	Residual independence is satisfactory	Acceptable
Breusch–Pagan	0.608	0.657		$p > .05$; no evidence of heteroscedasticity	Acceptable
Shapiro–Wilk residual normality	0.924	< .001		Residuals deviate from strict normality	Use caution / inspect Q-Q plot
Maximum VIF	1.771	< 5 preferred		No problematic multicollinearity	Acceptable
Maximum standardized residual	2.824	< 3 preferred		No extreme standardised residuals	Acceptable

The VIF values were in the range of 1.065 to 1.771, which showed no problematic multicollinearity.

The Durbin-Watson statistic was 1.912, indicating acceptable independence of residuals.

The Breusch-Pagan test was statistically insignificant ($p=.657$), suggesting no evidence of heteroscedasticity.

The Shapiro-Wilk test revealed a slight deviation from strict residual normality ($p < .001$), but no extreme normal residuals were found. The regression model is still interpretable. However, in future empirical analyzes, bootstrap or reliable standard errors might be considered.

4.8 Hypothesis Testing Summary

Table 9. Hypothesis Testing Summary

Hypothesis	Relationship	Test Evidence	P-value	Decision
H1	Digitalization → Investment Decision-Making	$B = 0.259$; $\beta = 0.229$	0.011	Supported
H2	Digital Platform Usability → Investment Decision-Making	$B = 0.366$; $\beta = 0.331$	< .001	Supported
H3	Digital Information Accessibility → Investment Decision-Making	$B = 0.346$; $\beta = 0.287$	< .001	Supported
H4	Digitalization remains significant after controlling for Investment Experience	Overall model $R^2 = 0.486$; DIG $p = 0.011$	0.011	Supported

5. CONCLUSION

In conclusion, it can be stated that digitalization considerably impacts the investment decision-making of retail investors. The most powerful factor of all appeared to be the usability of the Digital Platform, followed by Digital Information Accessibility and Digitalization in total. This model explained 46.8% of the variation in investment decision-making.

The analysis suggests that issues related to financial digital currencies should not be viewed exclusively through a technological lens. It is as important as the quality and the availability of

financial information that the platforms are user-friendly.

Thus, investment-platform providers should furnish applications that are user-friendly, intuitive, and articulate. Transaction processes should also be performed in an easy and simple manner such that an ordinary retail investor can use the tools for managing investment accounts.

REFERENCES

- [1]. Arnold, M., Pelster, M., & Subrahmanyam, M. G. (2022). Attention triggers and investors' risk-taking. *Journal of Financial Economics*, 143(2), 846–875.

- <https://doi.org/10.1016/j.jfineco.2021.05.031>
- [2]. Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quinonez, H. R., & Young, S. L. (2018). Best practices for developing and validating scales for health, social, and behavioral research: A primer. *Frontiers in Public Health*, 6, 149.
<https://doi.org/10.3389/fpubh.2018.00149>
 - [3]. Chen, R., Huang, J., Jin, C., Yang, Y., & Chen, B. (2023). Multidimensional attention to FinTech, trading behavior and stock returns. *International Review of Economics & Finance*, 83, 373–382.
<https://doi.org/10.1016/j.iref.2022.09.007>
 - [4]. Farrell, M., Green, T. C., Jame, R., & Markov, S. (2022). The democratization of investment research and the informativeness of retail investor trading. *Journal of Financial Economics*, 145(2), 616–641.
 - [5]. Johri, A., Wasiq, M., Kaur, H., & Asif, M. (2023). Assessment of users' adoption behaviour for stock market investment through online applications. *Heliyon*, 9(9), e19524.
<https://doi.org/10.1016/j.heliyon.2023.e19524>
 - [6]. Kim, J. H. (2019). Multicollinearity and misleading statistical results. *Korean Journal of Anesthesiology*, 72(6), 558–569.
<https://doi.org/10.4097/kja.19087>
 - [7]. Lim, S., Donkers, B., van Dijk, P., & Dellaert, B. G. C. (2021). Digital customization of consumer investments in multiple funds: Virtual integration improves risk-return decisions. *Journal of the Academy of Marketing Science*, 49, 723–742.
<https://doi.org/10.1007/s11747-020-00740-4>
 - [8]. Misra, R., Goel, P., & Srivastava, S. (2021). Examining drivers and deterrents of individuals' investment intentions: A qualitative multistage analysis. *Qualitative Research in Financial Markets*, 13(5), 608–631.
 - [9]. Oehler, A., Horn, M., & Wendt, S. (2022). Investor characteristics and their impact on the decision to use a robo-advisor. *Journal of Financial Services Research*, 62, 91–125.
<https://doi.org/10.1007/s10693-021-00367-8>
 - [10]. Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48, 1273–1296.
<https://doi.org/10.1007/s11165-016-9602-2>