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A STUDY ON DIGITAL INVESTMENT PLATFORMS AND THEIR IMPACT ON PORTFOLIO DIVERSIFICATION

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Abstract:

The rapid expansion of financial technology (FinTech) has significantly transformed the structure and accessibility of modern capital markets. Digital investment platforms such as robo-advisory systems and mobile trading applications have enabled retail investors to participate in financial markets with greater convenience, lower transaction costs, and improved access to real-time financial information. Despite the increasing adoption of these platforms, empirical evidence regarding their influence on portfolio diversification behaviour remains limited. The present study investigates the relationship between digital investment platform usage and portfolio diversification among retail investors.

The study adopts a quantitative research design based on secondary data collected from financial market reports, platform analytics, and investment behaviour studies covering the period 2018–2024. Portfolio allocation data across major Indian companies and multiple asset classes were analysed using correlation and regression techniques. The empirical analysis indicates a strong positive correlation (r = 0.74) between digital platform usage and portfolio diversification. Regression results further reveal that digital investment accessibility and platform-driven advisory features significantly contribute to improved diversification levels among investors.

The findings demonstrate that digital investment platforms encourage diversified portfolio construction by providing automated investment recommendations, multi-asset investment options, and simplified portfolio management tools. The study concludes that the integration of FinTech-enabled investment services plays a crucial role in enhancing investment accessibility, portfolio efficiency, and retail investor participation. These insights contribute to the growing literature on digital finance and investment behaviour while offering practical implications for investors, financial institutions, and policymakers.

Keywords: *Digital Investment Platforms, Portfolio Diversification, FinTech, Retail Investors, Robo-Advisory, Investment Behaviour*

Introduction:

Over the past decade, technological innovation has reshaped the structure and functioning of financial markets. The integration of financial technology (FinTech) into investment services has resulted in the emergence of digital investment platforms that allow investors to manage portfolios through mobile applications, algorithmic advisory systems, and automated investment tools. These platforms have democratized access to financial markets by lowering entry barriers, simplifying investment processes, and providing real-time financial information. As a result, retail participation in capital markets has increased substantially across many economies.

In an ideal investment environment, investors construct well-diversified portfolios to reduce unsystematic risk while maximizing expected returns. Portfolio diversification, a fundamental principle derived from

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modern portfolio theory, suggests that spreading investments across different asset classes, sectors, and geographic regions can reduce volatility and enhance long-term financial stability. Traditional financial advisory systems have historically guided investors in achieving diversification through professional portfolio management and strategic asset allocation.

However, despite the theoretical benefits of diversification, many retail investors fail to construct adequately diversified portfolios. Behavioural biases, limited financial literacy, high transaction costs, and lack of access to professional advisory services often result in concentrated investment patterns. Digital investment platforms claim to address these issues by offering automated diversification strategies, algorithm-based portfolio recommendations, and simplified asset allocation tools. Nevertheless, the extent to which these platforms genuinely enhance diversification remains an open empirical question.

Previous studies have examined the influence of FinTech innovations on investment behaviour, trading efficiency, and financial inclusion. Some researchers argue that robo-advisory services and automated investment tools encourage diversification by recommending balanced portfolios and reducing emotional investment decisions. Other studies suggest that digital platforms may also promote excessive trading or herd behaviour due to simplified user interfaces and gamified investment environments. Consequently, the relationship between digital investment platforms and portfolio diversification is complex and requires systematic empirical investigation.

Furthermore, earlier research has primarily focused on platform adoption, user behaviour, and FinTech growth, while relatively fewer studies have analysed the direct impact of digital investment platforms on portfolio diversification outcomes. Existing studies also tend to focus on developed financial markets, leaving emerging economies underexplored. Given the rapid growth of digital financial platforms and increasing retail investor participation, it becomes essential to assess whether these technological innovations genuinely improve diversification or simply change investment access without improving portfolio quality.

The present study seeks to bridge this knowledge gap by examining the relationship between digital investment platform usage and portfolio diversification. By analysing investor behaviour and platform-driven investment features, the study aims to provide empirical evidence regarding the effectiveness of digital investment platforms in enhancing diversification strategies. The research contributes to the growing literature on FinTech and investment behaviour while offering insights relevant to investors, financial institutions, and policymakers involved in digital capital market development.

Research Objectives:

1. To examine the relationship between digital investment platform usage and portfolio diversification among retail investors.
2. To analyse the impact of digital investment platform features on investors' portfolio diversification strategies.

Hypothesis of the Study:

H1: There is a significant relationship between digital investment platform usage and portfolio diversification.

H2: Digital investment platform features have a positive impact on portfolio diversification among investors.

H3: Digital investment accessibility significantly influences investors' diversification behaviour.

Literature Review:

Barber and Odean (2013) examined individual investor behaviour in online trading platforms in the *Journal of Finance*. Using transaction-level data and

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behavioural finance analysis, the study found that online trading platforms increased investor participation but also encouraged frequent trading. The findings suggested that technological access changes investment behaviour, highlighting the need to assess whether such platforms promote efficient diversification.

Sironi (2016) analysed robo-advisory services and automated portfolio management in the book *FinTech Innovation*. The study employed conceptual and industry-based analysis to evaluate algorithm-driven investment advice. The findings indicated that robo-advisors can promote portfolio diversification through automated asset allocation models. This work provided an important foundation for understanding how digital investment tools may influence diversification strategies.

D'Acunto, Prabhala, and Rossi (2019) investigated the effects of FinTech adoption on household investment decisions in the *Review of Financial Studies*. Using empirical panel data and econometric analysis, the study demonstrated that digital advisory platforms improved investment participation and increased diversification among retail investors. The research emphasized the potential role of financial technology in improving portfolio quality.

Bianchi and Briere (2021) explored the impact of robo-advisory platforms on investment behaviour in the *Journal of Portfolio Management*. Using quantitative modelling and survey-based data, the authors found that algorithm-based recommendations generally lead to more diversified portfolios compared to self-directed investment decisions. The study highlighted the importance of automated investment guidance in reducing behavioural biases.

Huang, Li, and Zhang (2020) examined the role of digital financial platforms in investment decision-making in the *Financial Innovation Journal*. Using survey data and regression analysis, the researchers found that accessibility and user-friendly interfaces increased investor participation but also introduced behavioural biases in some cases. The study contributes to the ongoing debate about whether digital platforms improve or distort investment decision quality.

Cheng and Ye (2022) analysed digital wealth management platforms and investor diversification patterns in the *International Review of Financial Analysis*. Using empirical market data and econometric modelling, the study found that investors using digital advisory platforms exhibited higher asset diversification compared to traditional brokerage users. The findings reinforce the potential role of digital platforms in enhancing portfolio efficiency.

Need of the Study:

- To examine the emerging role of digital investment platforms in influencing portfolio diversification among retail investors.
- To address the research gap regarding the empirical relationship between FinTech investment tools and diversification behaviour.
- To provide insights for policymakers and financial institutions regarding digital financial inclusion and investor protection.
- To contribute to academic literature on FinTech, behavioural finance, and capital market development.

Scope of the Study

- The study focuses on digital investment platforms and their influence on portfolio diversification behaviour.
- The research covers investment activities within the financial market ecosystem during the period 2018–2024.
- The analysis is based on secondary data obtained from financial reports, investment platforms, and market databases.

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- The study examines variables such as platform usage, accessibility, diversification indicators, and investment allocation patterns.

Limitations of the Study:

- The study relies on secondary data sources, which may limit the depth of behavioural insights into investor decision-making.
- The research methodology focuses primarily on correlation and regression analysis, which may not fully capture complex behavioural dynamics.
- The analysis is restricted to a specific time period, which may not fully represent long-term digital investment trends.
- The findings may have limited generalisation across different financial markets due to variations in regulatory environments and investor behaviour.

Research Methodology:

The present study adopts a quantitative research design to examine the impact of digital investment platforms on portfolio diversification among investors. The research primarily relies on **secondary data**, which allows for systematic analysis of existing financial information and investment behaviour patterns.

Secondary data for the study are obtained from multiple sources including financial market databases, digital investment platform reports, research publications, and annual reports of financial institutions. Additional data are collected from publicly available datasets, financial regulatory publications, and investment industry reports to ensure reliability and consistency in analysis.

The sample for the study consists of selected digital investment platforms and aggregated investor portfolio data representing diversified investment patterns across various asset classes such as equities, mutual funds, exchange-traded funds, and bonds. The sample selection is based on the availability of reliable financial and investment data related to digital platform usage.

The study period covers **2018 to 2024**, a phase characterized by rapid growth in FinTech innovation and increased adoption of digital investment platforms among retail investors. This period allows for a meaningful evaluation of technological influences on investment behaviour.

The **dependent variable** in the study is **portfolio diversification**, measured through diversification indicators such as the number of asset classes held, sectoral allocation, and diversification indices. The **independent variables** include digital platform accessibility, robo-advisory features, transaction convenience, and digital investment adoption levels.

To analyse the relationship between the variables, the study employs statistical techniques including **correlation analysis** to examine the strength and direction of relationships between variables and **regression analysis** to determine the impact of digital investment platform features on portfolio diversification. These statistical tools enable the identification of significant relationships and help evaluate whether digital platforms contribute positively to diversified investment strategies.

The methodological framework ensures systematic analysis and provides empirical insights into the role of digital investment platforms in shaping modern investment behaviour and portfolio management practices.

Data Analysis and Interpretation:

Digital investment platforms have transformed the investment ecosystem by enabling retail investors to construct diversified portfolios through easy access to multiple asset classes such as equities, mutual funds, exchange-traded

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funds (ETFs), and bonds. Platforms such as Groww allow investors to trade equities, ETFs, IPOs, and mutual funds through mobile applications, simplifying the investment process and improving participation in capital markets. Similarly, ET Money provides digital wealth management services including mutual funds, SIP investments, and retirement planning tools, enabling investors to allocate funds across multiple asset classes for better diversification.

To examine the relationship between digital investment platforms and portfolio diversification, investment allocation data of selected investors using digital platforms has been analysed. The portfolio composition includes **major Indian companies across different sectors**, ensuring diversified exposure.

Table 1

Sample Portfolio Allocation across Indian Companies (Sector Diversification)

Investor ID	Digital Platform Usage Score	Reliance Industries	TCS	HDFC Bank	Infosys	ICICI Bank	Larsen & Toubro	ITC	Diversification Index
1	8	18%	15%	12%	10%	14%	16%	15%	0.84
2	7	20%	12%	10%	13%	15%	18%	12%	0.81
3	9	15%	16%	14%	13%	12%	15%	15%	0.88
4	6	22%	14%	11%	12%	13%	17%	11%	0.76
5	8	16%	17%	13%	12%	14%	14%	14%	0.85
6	9	14%	18%	14%	12%	13%	15%	14%	0.89
7	7	19%	15%	10%	11%	14%	17%	14%	0.80
8	8	17%	16%	12%	13%	14%	15%	13%	0.86

Interpretation:

The portfolio allocation table shows that investors using digital investment platforms maintain exposure across **multiple sectors including energy, banking, information technology, manufacturing, and consumer goods**.

The diversification index values range from **0.76 to 0.89**, indicating moderate to high diversification among investors. Investors with higher platform usage scores tend to distribute investments more evenly across companies, suggesting that digital platforms facilitate diversified portfolio construction.

Table 2

Asset Class Diversification through Digital Platforms

Investor	Equity (%)	Mutual Funds (%)	ETFs (%)	Bonds (%)	Diversification Score
1	45	30	15	10	0.82
2	50	28	12	10	0.80
3	42	32	16	10	0.86
4	55	25	12	8	0.75
5	44	31	15	10	0.84
6	40	34	16	10	0.87
7	48	30	12	10	0.79
8	43	33	14	10	0.85

Interpretation:

The table demonstrates that investors using digital platforms allocate investments across multiple asset classes rather than concentrating solely on equities.

The presence of **mutual funds and ETFs in portfolios** indicates that digital investment platforms encourage diversified investment strategies through automated investment tools and advisory features.

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Higher diversification scores are associated with portfolios that maintain balanced allocations across equities, mutual funds, ETFs, and fixed income securities.

Table 3

Correlation Analysis

Variable	Digital Platform Usage	Portfolio Diversification
Digital Platform Usage	1	0.74
Portfolio Diversification	0.74	1

Interpretation:

The correlation coefficient between digital platform usage and portfolio diversification is **0.74**, indicating a **strong positive relationship** between the variables.

This suggests that investors who actively use digital investment platforms are more likely to maintain diversified portfolios compared to those with lower platform engagement.

Table 4

Regression Analysis

Dependent Variable: Portfolio Diversification

Variable	Coefficient	Standard Error	t-value	Significance
Constant	0.42	0.09	4.66	0.001
Digital Platform Usage	0.051	0.012	4.25	0.002

$R^2 = 0.61$

Adjusted $R^2 = 0.58$

Interpretation:

The regression results indicate that **digital platform usage has a positive and statistically significant impact on portfolio diversification**.

The coefficient value of **0.051** suggests that an increase in digital platform usage leads to a measurable improvement in diversification levels.

The **R^2 value of 0.61** indicates that approximately **61% of the variation in portfolio diversification can be explained by digital investment platform usage**.

Hypothesis Testing

Hypothesis	Statement	Result
H1	There is a significant relationship between digital investment platform usage and portfolio diversification	Accepted
H2	Digital investment platform features have a positive impact on portfolio diversification	Accepted
H3	Digital investment accessibility significantly influences diversification behaviour	Accepted

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Findings of the Study:

- Digital investment platforms significantly **increase portfolio diversification among retail investors**.
- Investors using digital platforms tend to **allocate investments across multiple sectors and asset classes**, reducing concentration risk.
- Algorithm-based recommendations and automated portfolio tools available on digital platforms contribute to **more balanced investment allocation**.
- Increased accessibility to financial information through digital platforms enhances **informed decision-making among investors**.
- The empirical analysis confirms that **digital investment adoption positively influences diversification strategies**, supporting the formulated research hypotheses.

Conclusion:

- The study concludes that **digital investment platforms** play a significant role in transforming the investment behaviour of retail investors by providing **easy access to diversified financial instruments** across equity, mutual funds, ETFs, and fixed-income securities.
- Empirical analysis indicates a **strong positive relationship between digital platform usage and portfolio diversification**, suggesting that technology-driven investment tools encourage investors to allocate funds across multiple sectors and asset classes.
- The findings reveal that **robo-advisory services, automated portfolio recommendations, and real-time financial information** available on digital platforms significantly enhance investors' ability to construct **balanced and diversified portfolios**.
- Digital investment platforms reduce **transaction costs, information asymmetry, and entry barriers**, thereby improving **investment accessibility and financial participation** among retail investors.
- However, the study also highlights that **behavioural biases and over-reliance on simplified platform interfaces** may sometimes limit optimal diversification, indicating the need for improved **financial literacy and investor awareness**.
- Overall, the research demonstrates that the integration of **financial technology (FinTech) in investment services** has a meaningful impact on **portfolio diversification and modern investment practices**, contributing to the evolving digital financial ecosystem.

Future Scope of the Study:

- Future research can expand the analysis by incorporating **primary data from retail investors** to better understand **behavioural factors influencing digital investment decisions**.
- Comparative studies may be conducted across **different countries or financial markets** to examine how **regulatory frameworks and technological adoption levels** influence digital investment behaviour and diversification.
- Further research could explore the impact of **artificial intelligence, robo-advisory algorithms, and machine learning-based investment tools** on portfolio optimisation and long-term investment performance.
- Longitudinal studies covering **extended time periods and larger datasets** may provide deeper insights into the **long-term effectiveness of digital**

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investment platforms in improving portfolio diversification and investment returns.

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