

The Influence of Technological Advancements on Retail Investment Decisions

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Abstract:

The modern population is increasingly aware of investment opportunities due to the rapid development of technology. The increasing number of new demat account openings has demonstrated how quickly retail investors engage in equity markets, which has grown since the epidemic. The current study explores the primary determinants influencing retail investors in adopting technology-driven trading platforms and also tries to understand whether using technology-based trading platforms helps retail investors make better investment decisions. The shift in investment preferences favoring digital platforms is due to elements such as ease of use, accessibility, and the availability of real-time information. Despite these advancements, the influence of technology is not without challenges. Cognitive biases, misinformation, and a lack of understanding of technology-driven tools often lead to suboptimal decision-making. By addressing these challenges through education, regulation, and innovations, the financial ecosystem can better support retail investors in leveraging technology for sustainable and strategic investment outcomes. The current study was conducted using secondary data sources. Further research can be conducted by using primary data and analyze the impact of technological advancement on investment behavior.

Keywords: Investment Decision, Retail Investors, Technological advancements, Challenges.

Introduction

With the growth of the media and the business sector, the modern population is increasingly recognizing the accessibility of investment opportunities. However, many individuals still lack the necessary knowledge to manage these opportunities effectively. At the same time, the range of financial and physical assets available for investment continues to expand. New types of securities and financial products are constantly emerging, offering investors the potential to allocate their funds more profitably while catering to diverse risk and return preferences.

Moreover, investing across various asset classes is influenced by factors that affect the anticipated returns and the level of risk linked to each investment option. When selecting specific investment avenues, every investor exhibits a unique mindset and makes individual choices based on their risk tolerance and investment objectives. It is essential for the investor to determine how to distribute their assets and construct an appropriate investment portfolio.

Growth of Retail Investors

(Business India, 2024) Over the past three years, India has witnessed a significant increase in retail investor engagement, marked by a compounded annual growth rate (CAGR) exceeding 30% in demat account openings. The mutual fund sector has also experienced substantial growth, with assets under management

(AUM) for retail investors expanding from ₹12 lakh crore in 2020 to over ₹61.33 lakh crore by mid-2024. Systematic Investment Plans (SIPs) have become a popular investment avenue, with monthly contributions reaching approximately ₹21,000 crore, offering investors a disciplined approach to market participation.

Historically, stock market investments were predominantly accessible to affluent and well-connected individuals. However, technological advancements have democratized access, enabling a broader population to engage in equity markets. The proliferation of user-friendly investment applications and the widespread availability of financial information through social media platforms have further facilitated this shift. Consequently, individuals can now effortlessly open demat accounts, execute trades, and build investment portfolios using their smartphones, fostering a culture of long-term wealth creation.

This democratization of finance has not only transformed capital formation dynamics but has also empowered millions of Indians to invest in wealth-generating assets, contributing to the nation's economic growth. The increasing number of demat accounts underscores the rapid engagement of retail investors in the equity markets, a trend that has been particularly pronounced since the onset of the pandemic.

Review of literature

(Briere, 2023) The advancement of Financial Technology (FinTech) has reshaped the way people access financial services. With the changing era, a new class of investors emerged, with new types of motivation and behavior. Since 2020, smartphones have been ranked the most influential consumer technology. In 2020, the number of smartphone users worldwide reached 3.6 billion, and an average user spends a quarter of their working time on their smartphones every day. This widespread adoption of smartphones has led to a boom in the development of mobile trading applications allowing investors to access market information and to trade at anytime and anywhere.

(Johri, Mohammad, Kaur, & Asif, 2023) examined the user's perspective on stock market investment through online applications. The study suggests that users' awareness, benefits & choice of investment, reliability, safety, risk-related factors, financial literacy, technical aspect, and dependency significantly influence the users' adoption behaviour in using stock trading applications. (Kumar, 2024) retail investors' attitudes towards digitalization are shifting. Investors are moving away from traditional investment methods and towards digital platforms in great numbers, and their decision making criteria now give priority to elements like accessibility, ease and real-time access to financial data. The behavior and tastes of retail investors have been significantly shaped by technologies such as online brokerage services, digital wallets, robo-advisors, and AI driven investments. Technology developments have also given investors access to powerful internet trading tools that provide transparency and real-time price movement information. Easy-to-use investing tools have also been made possible by technological improvements, and social media has made community conversation accessible to everybody. (Srivastav, Habil, Thakur, Jain, & Saini, 2024) fintech and digitalization have a significant impact on investment decisions. Investors are increasingly relying on digital platforms for portfolio management and decision-making, driven by factors such as convenience and real-time information availability. (Syed, 2024) AI-driven robo-advisors as a vital component of the future financial landscape. As these platforms continue to evolve and mature, they will play an increasingly integral role in helping investors achieve their financial goals.

Need and Significance of the study.

Advancements in technology have greatly enhanced access to financial markets, enabling investors of

varying experience levels to participate. Online trading platforms simplify the process of buying and selling stocks, bonds, and other assets, while robo-advisors offer personalized investment guidance and portfolio management services. These technological tools empower investors to take greater control over their financial decisions and manage their portfolios more effectively. Given this transformative impact, it is essential to understand the key factors that influence retail investors' adoption of technology-driven trading platforms. This study addresses this need by examining the primary determinants affecting retail investors' acceptance and use of such platforms, thereby contributing valuable insights for investors, financial service providers, and policymakers aiming to enhance digital financial inclusion and optimize investment outcomes.

Objectives of the study

1. To identify the factors influencing retail investors in adoption of technology driven trading platforms.
2. To know whether the adoption of technology driven platforms helps retail investors to make better investment decisions.

Scope of the study

The study is confined to retail investors only. The paper concentrates on the most significant influencing factors, which have been identified through a comprehensive review of existing literature.

Methodology of the study

The study is based on the secondary sources of data collected from research articles, journals, magazines, and research websites etc.

Major Findings

Determinants influencing retail investors in adoption of technology driven trading platforms.

Ease of Use and Accessibility: Ease of use and accessibility are pivotal factors influencing the adoption of technology-driven trading platforms among retail investors. Platforms that offer intuitive designs and straightforward navigation significantly enhance user engagement, aligning with the Technology Acceptance Model (TAM), which posits that perceived ease of use is a critical determinant in technology adoption (Davis, 1989). Additionally, mobile accessibility plays a vital role, as apps optimized for smartphones and tablets facilitate seamless trading anytime and anywhere, catering to the on-the-go needs of modern investors. Furthermore, a quick and hassle-free account setup and onboarding process lowers entry barriers, encouraging more users to adopt these platforms with confidence. Collectively, these elements create a user-friendly environment that fosters widespread acceptance and sustained use of digital trading technologies.

Cost efficiency: Cost efficiency plays a significant role in attracting retail investors to technology-driven trading platforms. (Otcere, 2023) The emergence of low or zero commission fees has made investing more accessible and appealing, removing financial barriers that previously deterred many potential users. Alongside competitive pricing, transparent fee structures contribute to building trust between investors and platforms, as clear and straightforward costs eliminate uncertainties and foster confidence. Together, these factors enhance the overall attractiveness of digital trading platforms by making investment more affordable and trustworthy.

Technology and advanced features: Technology and advanced features are key drivers in the adoption of modern trading platforms. Access to real-time data, including live market updates, charts, and analytical tools, empowers investors to make informed decisions quickly and effectively. (Kshetri, 2018) Artificial intelligence further enhances the trading experience by providing personalized insights and risk assessments tailored to individual investor profiles. Additionally, automation features such as algorithmic trading and automatic portfolio rebalancing appeal to tech-savvy users by enabling efficient, hands-free management of investments. Together, these technological advancements create a dynamic and user-centric environment that meets the evolving needs of today's investors

Trust and security: Trust and Security are fundamental factors influencing the adoption of technology-driven trading platforms. Compliance with regulatory standards assures investors of the legitimacy and safety of their investments, helping to build confidence in the platform. Equally important is robust data security, where strong cybersecurity measures protect personal and financial information from unauthorized access and potential breaches. Additionally, a platform's reputation—shaped by positive word-of-mouth, online reviews, and favourable media coverage—plays a crucial role in attracting and retaining users. Together, these elements establish a secure and trustworthy environment that encourages investor participation.

Educational Resources: In order to promote investor confidence and well-informed decision-making, especially for novices, educational resources are crucial. Users can develop a solid understanding of trading and investment methods with the aid of platforms that provide learning resources including webinars, tutorials, and educational content. (TIO Markets, 2024) Demo accounts also offer a risk-free setting where users may practise trading and learn about the capabilities of the platform and how the market works. These resources increase users' confidence and comprehension, increasing the likelihood that they will trade digitally in an active and responsible manner.

Social and Community Aspects: On technologically advanced trading platforms, social and community elements are essential for increasing user engagement. For novices looking for direction and assurance, features like social trading—which let users imitate and follow the tactics of profitable investors—are especially alluring. A sense of community and mutual learning are also promoted via systems that facilitate community engagement through forums, discussion groups, and peer exchanges. This cooperative setting makes the entire trading experience more engaging and helpful by promoting user involvement and facilitating knowledge exchange.

Market Access and Product Offering: Market access and product offerings are crucial in attracting a wide range of retail investors to digital trading platforms. By providing diverse investment options—such as stocks, exchange-traded funds (ETFs), cryptocurrencies, and derivatives—platforms cater to the varied preferences, risk appetites, and financial goals of investors. In addition, access to international markets enhances the appeal for those seeking global diversification, allowing users to explore investment opportunities beyond domestic boundaries. This breadth of choices empowers investors to build more balanced and customized portfolios, thereby increasing the overall attractiveness and competitiveness of the platform.

Personalization and Customization: Customisation and personalisation greatly improve the user experience on trading systems that rely on technology. Investors can watch preferred assets, concentrate on particular interests, and remain up to date on market developments that are pertinent to their objectives using customised dashboards that have customisable interfaces and alerts. Additionally, tailored investment strategies based on individual risk profiles and trading behaviour are provided by AI-powered

adaptive recommendation systems. By increasing the trading experience's relevance, effectiveness, and alignment with each investor's particular needs, this degree of personalisation not only increases user engagement but also raises overall happiness.

Customer Support: In order to foster confidence and guarantee a satisfying user experience on trading platforms, customer service is essential. 24/7 support makes sure that customers get timely assistance when problems occur, which strengthens the platform's dependability and user confidence. Additionally, by removing language barriers, multilingual assistance serves a varied user base and increases the platform's accessibility for investors with different linguistic backgrounds. When combined, these support services increase user happiness and promote wider platform adoption in various communities and geographical areas.

Psychological and Social Influences: Psychological and social factors significantly influence the adoption of technology-based trading platforms. The Fear of Missing Out (FOMO), often driven by marketing strategies showcasing trending opportunities or investment success stories, can prompt individuals to join these platforms (Przybylski, Murayama, DeHaan, & Gladwell, 2013). Endorsements from well-known influencers also play a key role, as their credibility can persuade potential users to explore new trading tools. Furthermore, social influence from peers—such as seeing friends or colleagues using a particular platform—can encourage others to follow suit. Together, these elements contribute to increased interest and participation in digital trading solutions.

Macroeconomic and External Factors: Macroeconomic and external factors play a significant role in influencing the adoption of technology-driven trading platforms. Periods of increased market volatility often push retail investors toward platforms that provide fast execution and advanced trading tools, enabling them to respond swiftly to market changes. (Baker, 2020)The COVID-19 pandemic further accelerated this trend by emphasizing the convenience and necessity of remote trading options as more people worked from home. Additionally, regulatory changes aimed at promoting financial inclusion and encouraging digital adoption have supported greater uptake of these platforms, making trading more accessible to a broader population. Together, these factors contribute to the growing popularity and utilization of digital trading technologies.

Does the adoption of technology driven platforms help to make better investment decisions?

Investors' perceptions and choices of investment options have been significantly impacted by technological advancements in the form of fin-tech solutions and digital platforms. There is a shift in investment preferences in favour of digital platforms due to elements like ease of use, accessibility, and the availability of real-time information. Fintech tools are being used by investors more and more for portfolio management, risk assessment, and decision-making. Despite these advancements, the influence of technology is not without challenges. Cognitive biases, misinformation, and a lack of understanding of these tools often lead to suboptimal decision-making.

Challenges Faced by Retail Investors

Cognitive Biases: Retail investors often face significant challenges due to inherent cognitive biases that influence their decision-making. One such bias is overconfidence, where the simplicity and constant access provided by modern trading platforms can cause investors to overestimate their knowledge and ability to predict market movements. This often results in excessive trading and increased risk exposure (Barber, 2001). Another critical bias is loss aversion, a psychological tendency where individuals fear

losses more intensely than they value equivalent gains. During market downturns, this can lead to emotional and impulsive decisions, such as panic selling or holding onto losing assets in the hope of a rebound (Kahneman, 1979). Furthermore, herd mentality is prevalent among retail investors, especially with the growing impact of social media. Investors frequently follow popular trends or mimic the actions of others without conducting thorough research, often driven by FOMO (Fear of Missing Out) (Bikhchandani, 1992). These behavioral patterns can significantly impair rational investment decisions and overall financial outcomes.

Misinformation and Social Media Risks

Social media platforms have become influential tools in shaping retail investors' decisions, but they also introduce serious risks, particularly through the spread of misinformation. One major concern is market manipulation, in such cases, certain stocks are artificially inflated through hype and misleading information, enticing retail investors to buy in at high prices, only for early promoters to sell off their shares, leaving others with significant losses. Additionally, the heavy use of community-driven platforms can foster echo chambers, where investors are repeatedly exposed to like-minded opinions. This leads to confirmation bias, causing individuals to ignore critical or opposing viewpoints and rely on emotionally driven narratives instead of fundamental analysis (Cinelli, 2021). These dynamics can distort market perceptions and hinder rational financial decision-making among retail investors

Overreliance on Technology: While technological advancements have made investing more accessible and efficient, an overreliance on digital tools poses significant challenges for retail investors. One major concern is the use of robo-advisors, which automate investment decisions based on algorithms and user profiles. Although convenient, many investors may not fully comprehend the underlying strategies or risks involved, leading to blind trust in technology without adequate financial literacy or oversight (Sironi, 2016). Additionally, automated trading systems, though effective in stable market conditions, often lack the human intuition and contextual judgment necessary to respond appropriately to sudden market volatility or unprecedented events (Lo, 2019). As a result, retail investors depending solely on algorithm-driven platforms may face unanticipated losses or miss critical opportunities that require nuanced decision-making and experience.

Cybersecurity Concerns: With the growing digitization of retail investing, cybersecurity has become a major concern for both investors and trading platform providers. Retail investors are particularly at risk of data breaches and financial scams, especially when utilizing platforms that lack strong security measures. Sensitive personal and financial information, if not properly protected, can be exploited by malicious actors, resulting in significant financial losses and identity compromise. Additionally, the rise of phishing attacks and identity theft poses a growing threat in the digital investment landscape. Fraudsters often use deceptive emails, fake websites, or mobile apps to trick users into revealing login credentials or banking information (FINRA, 2022). These evolving cyber threats highlight the importance of robust security measures, user awareness, and regulatory oversight to protect retail investors in an increasingly connected financial ecosystem.

Information Overload and Analysis Paralysis: In today's fast-paced digital investing environment, retail investors are constantly exposed to a flood of real-time data, market updates, and financial news. While access to information is crucial for making informed decisions, the overabundance of data can have the opposite effect. This phenomenon, known as information overload, often leads to analysis paralysis—a state where investors struggle to process or prioritize information, resulting in delayed decisions or

reliance on incomplete insights (Eppler, 2004). Consequently, overwhelmed investors may either refrain from taking action altogether or make impulsive choices without fully understanding the implications (Agnew, 2005). This challenge underscores the importance of effective information filtering tools and investor education to promote better decision-making.

Conclusion

Technology has profoundly influenced the investment decisions of retail investors, offering unprecedented access and efficiency. The widespread adoption of technology-driven trading platforms has facilitated greater participation among retail investors through user-friendly interfaces, cost-effective solutions, real-time information, and personalized investment tools. This democratization of finance, supported by increased financial literacy and educational resources, has contributed to more informed investment decisions. However, challenges such as cognitive biases, misinformation, and overreliance on technology underscore the need for balanced, informed approaches. By addressing these challenges through education, regulation, and innovation, the financial ecosystem can better support retail investors in leveraging technology for sustainable and strategic investment outcomes. The present study relies on secondary data sources. Future research could build upon this by utilizing primary data to explore and analyze how technological advancements influence investment behavior.

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