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Article

The rise of fintech: Transforming financial markets through mobile trading applications

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Abstract: Analysis, the authors examine the opportunities and threats using the keyword search option of the SCOPUS database. The research shows a significant shift towards the adoption of technological innovations, especially artificial intelligence and fintech solutions. Collaboration patterns indicate a multidisciplinary approach, but in the process, opportunities for efficiency gains and value-added services are identified as well as challenges and threats. It is important for researchers to stay current. This highlights the need for professionals to proactively adapt to mitigate technological risks.

Keywords: stock trading; fintech; artificial intelligence; mobile trading; challenges; financial market; digital innovation

1. Introduction

Financial markets, which serve as a conduit between consumers and companies, are essential for providing firms with liquidity and investors with passive income. The marketplaces where traders transact in different financial assets are referred to as financial markets. This category includes financial products such as stocks, bonds, foreign exchange, commodities, and derivatives. The financial markets function as a venue for businesses to obtain funding to enable their growth. This is the environment in which businesses reduce risk and investors make money.

Financial markets offer a regulated and organized framework that makes it easy for firms to obtain large amounts of cash. The stock and bond markets are utilised for this objective. Furthermore, markets help these firms better manage and reduce risk. This is the use of derivatives such as commodities and foreign exchange futures contracts. Because markets are open to the public, they offer a visible and accessible mechanism for setting pricing for products and services. The incorporation of all currently accessible information on all traded businesses is thorough, which lowers the costs of learning new information.

These marketplaces foster investor confidence, which calms the economy and encourages growth. Trading and investing in the financial markets were a challenging endeavour a few decades ago. Only a small number of individuals were allowed access to the stock exchange floor, and traders would yell at the top of their lungs to bid on a company's stock. Technology has brought about a change in the manner that investments are made nowadays. Technology has completely transformed the way the financial market's function, from the creation of stocks to their trading. In the twenty-first century, smartphones are an excellent instrument for trading financial assets (Dávid and El Archi, 2024).

Fintech refers to businesses that use technology to improve or simplify financial processes and services. The terms "financial" and "technology" are combined to form the term "fintech." The statement cited above concerns a quickly expanding sector that benefits organizations and customers in a variety of ways. Fintech, or financial technology, is a broad topic that includes a variety of applications, such as mobile banking, insurance services, investment apps, and cryptocurrency.

A new wave of technology known as "fintech" attempts to improve and automate financial services. Fintech is a growing industry that includes investment management, stock trading, retail banking, blockchain technology, artificial intelligence, and mobile payments. Modern high-tech electronic stock market trading allows regular investors to buy or sell shares in a matter of seconds, allowing them to effectively do due diligence before making an equity investment.

The numerous seamless services provided by these broker apps, which have fundamentally altered the way the market operates, will also be discussed in this article. With only a tap on their phone, investors could quickly manage their portfolio, browse among the various options, and make any necessary modifications.

The writers of this research have many objectives. Their aim was to present a theoretical synopsis of fintech and its widespread usage among internet-savvy customers, educating them about the technologies employed by trading apps and services that are revolutionizing the investing landscape. We also wanted to find out how these new applications encourage users to take charge of their finances and support them in making wise choices. Lastly, we aimed to list the difficulties and roadblocks that the adoption of financial innovations faces.

The following writers made contributions to the article: B.G.K. and T.S. handled the data collecting and statistical analysis, while S.M. wrote the literature evaluation. The test findings were interpreted with input from all writers. J.B. and Z.Z. came up with the solution.

The article is further organized as follows. The methodological chapter, which includes the sample, the sampling process, and the used test procedures, comes after the literature review. The data is then analysed and interpreted after this. The list of literary references and the conclusion mark the article's conclusion.

2. Review of literature

India is a developing market for financial technology, or fintech, with a population of more than 1.3 billion people. A sizeable fraction of the population in India lacks access to banking, making it a fertile global environment for financial innovations. Fintech, or financial technology, is a rapidly emerging subject that has the potential to drastically alter the existing norms and practices of the traditional financial sector. It is widely acknowledged as a disruptive innovation and transformational force. Over the last five years, the fintech industry in India has grown significantly, and it is expected to continue growing in the near future. In addition to discussing the possible benefits and issues that these technologies may bring to the Indian business scene, the article first looks at the basic categories of financial technologies and their corresponding functionality (Krishna Priya and Anusha, 2019). The rapid adoption of financial technologies in developing nations

like India mirrors trends in other regions, where the integration of technology in finance has been influenced by cultural, economic, and environmental factors, as observed by Kálmán and Szőke (2024).

Fintech is the term for the use of technology in the financial industry to provide non-banking and banking services with alternative possibilities. Within the financial sector, the idea of financial technology, or fintech, is quickly gaining traction. This paper's main goal is to investigate the different opportunities and issues that the fintech industry faces. This essay clarifies the fintech sector's historical development and present situation inside the Indian financial system. Fintech provides enhanced consumer security through digital transaction solutions. Fintech services include benefits including user-friendliness and operational cost savings. India's financial services industry is expanding quickly, making it one of the fastest-growing in the world. It is expected that the adoption of fintech services would have a substantial effect on the customs and conduct of the Indian banking industry (Viaji, 2019). Moreover, as highlighted by Szőke and Garamvölgyi (2020), the adoption of innovative technologies often necessitates a parallel focus on strategic knowledge-sharing within organizations to optimize outcomes.

Global financial industry players are facing challenges due to technological innovation and digitalization. The application of new technology to financial services is referred to as fintech. The study's objective is to analyze this research topic globally between 1975 and 2012. In order to do this, bibliometric methods were used on 2012 publications to produce data on the key thematic axes, their progression, and the output of scientific research. With 45% of publications, scientific activity has grown, mostly in the last ten years. Business, management and accounting, engineering, social sciences, and computer science were the primary theme areas. The analysis of financial, economic, technological transfer, investment, innovation, partnerships and institutions, and commercial factors was the focus of seven study lines that were identified. Analysis on banking, commerce in financial services, legal management, territorial growth, research methods, and the sustainability of financial technology should be developed in future research lines. Economists confirmed that scientific research on financial technology is receiving increasing amounts of attention on a global scale. This aligns with findings by Szőke et al. (2019), who emphasized the importance of robust intellectual capital evaluation methods in fostering innovation within the financial sector. The conclusions drawn from the research serve to enhance our understanding of financial technologies, establish the connection between science and technology, and guide our decision-making (Abad-Segura and González-Zamar, 2020).

2.1. Fintech in India

The financial services landscape in India is being transformed by fintech startups. Unexpectedly, India has attained a very high degree of fintech acceptability because to mobile wallets, trading applications, artificial intelligence, and universal payment interface (UPI) systems (Bain and Company, 2022). Beyond all the major tech, India is also well-positioned for ongoing advancement and global leadership in the FinTech space, where extremely high success rates are being driven by first-

generation entrepreneurs (Mordor Intelligence, 2023). Presumably, India is the only location where a large number of well scaled companies across all categories coexist in the industry while simultaneously growing swiftly and contributing value (NASSCOM, 2023). This is probably exclusive to India and shows the sector's potential for growth and depth (Bain and Company, 2022).

Large IT companies and banks are also keen to work with FinTech startups or launch their own digital financial services offerings. The country's authorities and government are working to build public digital infrastructure or enact regulations that would facilitate the expansion of the fintech industry (Mordor Intelligence, 2023). In this study, we aim to showcase a handful of these triumphs and offer our thoughts on how the sector might reach unprecedented heights (Bain and Company, 2022).

2.2. Mobile trading apps and its impact

Technology has made it easier for online brokerages and stock trading apps like Groww, Upstox, Angel One, and Zerodha to flourish. Using a mobile phone to conduct stock market trades is known as mobile trading. Reputable financial firms already give their customers mobile applications that let them trade stocks, participate in mutual funds, take part in IPOs, and keep an eye on their investment portfolios (Brokerchooser, 2024). While mobile phone trading was authorized by the Securities and Exchange Board of India (SEBI) in 2010, its adoption was slow in the beginning as investors mostly chose to trade through their dealers or relationship managers. Though it still makes up a relatively small share of the total trading volume, the percentage of mobile trading has increased significantly in recent years. 5.1% of all trades were made via mobile devices, according to the Bombay Stock Exchange (BSE) (Select, 2024). Companies were especially susceptible during the COVID-19 epidemic, therefore mobile trade apps' adaptability and accessibility were essential to their survival (Mura et al., 2022). Brokerages now devote a large portion of their resources on technology development. Because of this, trading applications have strong encryption and other security features, which improve trading experience overall. As of late, a considerable proportion of brokerage houses have adopted the job of chief technology officer (CTO), which did not exist before recently (Select, 2024). Apart from regular updates, the programs are consistently improved with security features and other features. The high degree of security is further supported by the finding that a large percentage, more than 50%, of active customers of well-known brokerages trade using mobile apps as opposed to online platforms (Brokerchooser, 2024).

2.3. Smooth and inform trade

Online broking companies and stock trading software such as Groww, Upstox, Angel One, and Zerodha have been made possible by technology. The act of trading stocks on the stock market using a mobile phone is known as mobile trading. Currently, well-known financial institutions provide their customers mobile applications that allow them to trade shares, participate in mutual funds, take part in initial public offerings, and keep an eye on their investment portfolios (Sharma and

Aggarwal, 2021). While the Securities and Exchange Board of India (SEBI) approved mobile phone trading in 2010, investors' inclination to trade hindered its early uptake through dealers or relationship managers (Rathore, 2022). Even yet, the percentage of mobile trading has increased significantly in recent years, even though its share of the overall transaction volume is still rather small. The percentage of trading that occurs on mobile devices relative to total trading volume was 5.1%, as reported by the Bombay Stock Exchange (BSE, 2023). Because brokers currently spend a lot of money on technology, the majority of trading applications provide robust encryption and other security features to enhance the trading experience (Gupta, 2023). The post of chief technology officer was nonexistent until recently, and now a considerable number of brokerages have adopted it (Patel, 2023). The programs receive regular upgrades as well as periodic security feature enhancements in addition to other enhancements. Further proof of the effectiveness of security protocols is provided by the finding that a sizable fraction of active clients of top brokerages conduct trading operations primarily through mobile applications, outpacing web-based platforms (Raghavan, 2024).

2.4. Role of technology

Progress in technology is a prerequisite for innovation in any field. Emerging technologies like machine learning, blockchain, and artificial intelligence have a big impact on the financial technology (fintech) industry and can improve benefits for both customers and financial institutions (Abad-Segura and González-Zamar, 2020; Lee, 2020; Nagy et al., 2023). Fintech and related technologies will surely have a significant impact on the future of the finance sector given the growing digitalization of banks and other financial institutions (Krishna Priya and Anusha, 2019; Kovács and Vinkóczi, 2022). In light of this, education has to be prioritized (Annus, 2017 and Annus, 2021). The COVID-19 pandemic brought to light how financial institutions may be profoundly impacted by the confluence of technical and societal difficulties, underscoring the significance of technology's involvement (Poór et al., 2021).

2.5. Artificial intelligence

Because artificial intelligence (AI) is developing more quickly than mankind can keep up with, it has been the focus of a large body of scientific and popular writing. AI is becoming increasingly important in various industries as a result of the necessity for data-analyzing software and techniques to handle the exponentially growing volume of data, or "Big data" (Ton et al., 2022; Vinkóczi et al., 2023a). Artificial intelligence (AI) systems are machine-learning systems with variable degrees of autonomy that may produce recommendations, judgments, or forecasts within a predetermined set of human-defined goals. Large amounts of "big data," in addition to data analytics and other data sources, are increasingly necessary for AI approaches (Wang, 2003). The above-described information is fed into machine learning (ML) models, which are then employed to enable automatic learning from data and experience. Without the requirement for human programming, this method seeks to increase overall performance and foresee results more accurately (Widmer,

1996). Artificial intelligence (AI) techniques are employed in asset allocation and stock selection in both the buy-side and sell-side segments of the market (Pollari, 2016). Due to issues and risks with data quality, data privacy and confidentiality, cyber security, and fairness considerations, using big data in AI-driven applications might result in a significant nonfinancial risk (Rabbani et al., 2020). Focusing on strict regulation and rigorous inspection of industrial processes aimed at limiting hazards and boosting public trust in technical breakthroughs is crucial for efficiently managing the risks associated with technological progress (Remsei et al., 2023).

2.6. Block chain

A distributed, immutable database called a blockchain makes it easier to keep track of assets and record transactions inside a business network (Nakamoto, 2008; Pilkington, 2016). A broad range of valuable assets may be recorded and transferred within the framework of a blockchain network, reducing risk and improving operational efficiency for all parties concerned (Underwood, 2016). In the corporate world, knowledge acquisition is essential. When information is provided quickly and with a high level of accuracy, the best results are obtained (Steffen et al., 2024; Tapscott and Tapscott, 2016). Because it can deliver real-time, shareable, and completely transparent data, blockchain technology is thought to be very successful at promoting the distribution of information (Yli-Huumo et al., 2016). Only authorized users of a limited network are allowed to access this data, which is kept on an immutable ledger (Zheng et al., 2017). A blockchain network can track and log the status of orders, payments, accounts, and manufacturing processes in addition to many other features (Christidis and Devetsikiotis, 2016). Moreover, because everyone has the same access to the same version of reality, everyone can see every aspect of a transaction from the beginning to the end. This increased degree of openness not only promotes more confidence but also opens up new opportunities and maximizes effectiveness (Crosby et al., 2016).

2.7. How block chain works

A blockchain is an immutable, decentralized ledger that makes it possible to efficiently track assets and record transactions inside an enterprise network. A wide range of valuable assets may be recorded and exchanged within the framework of a blockchain network, which lowers risk and increases operational efficiency for all parties involved. Within the business area, knowledge acquisition is of great significance. The timely transmission and high degree of accuracy of the information aid in achieving the best possible outcomes. The blockchain technology is widely acknowledged for its effectiveness in streamlining information sharing because to its ability to provide real-time, completely transparent, and shareable data. Only authorized users inside a restricted network may access the data, which is safely stored on an immutable ledger. A blockchain network has the ability to track and record the progress of orders, payments, accounts, and manufacturing processes, among many other functions. Furthermore, because each person has equal access to an identical representation of reality, it is possible to thoroughly examine each step of a transaction from start to finish. Greater confidence is facilitated by the enhanced

transparency, which also creates new opportunities and boosts productivity.

2.8. Robo-advisory

A particular kind of financial advisor called a "robo-adviser" provides financial advice and investment management online with little to no human intervention. They provide digital financial advice based on algorithms or mathematical concepts (Marr, 2019). These algorithms were developed with assistance from software engineers, data scientists, investment managers, and financial counselors (Belanche et al., 2019). A client does not require financial advice from a human adviser since software performs these algorithms (Salo, 2020). The program uses its algorithms to automatically allocate, manage, and maximize customer funds for either long-term or short-term investment (Jung et al., 2018). Robo-advisors are classified according to the degree of discretion, customization, engagement, and human involvement (D'Acunto et al., 2019). Upstox has launched its 'Start Karke Dekho' campaign to promote the Indian Premier League. The campaign aims to stimulate more financial participation in the country by highlighting the importance of taking the first step (Upstox, 2022). The assertion highlights how simple it is to invest with Upstox, right from the beginning (Upstox, 2022). To close the knowledge gap among investors, Groww recently launched a novel financial education initiative dubbed "Ab India Karega Invest" (Groww, 2023). Groww aims to leverage the growing trend of investing activities within the millennial population, which is made possible by the easily navigable nature of investment applications like Groww (Patel and Singh, 2023).

2.9. Marketing and advertising strategies

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2.10. Outcomes of strategies and services

In the preceding fiscal year, Upstox's client onboarding process tripled, bringing the company's entire customer base to over 4 million (Upstox, 2022). Remarkably, more than 80% of these clients are in the 18–36 age group (Upstox, 2022). Additionally, in the year 2022, Angel Broking accomplished a gross customer acquisition rate that was almost twice as high as it was in the preceding fiscal year (Angel Broking, 2022). The National Stock Exchange (2023) reports that the younger generation is principally responsible for the increase in new investors, based on empirical data from stock exchange statistics. Of the 70 million users of the

Border Security Force (BSF), 38 percent are between the ages of 30 and 40, and 24 percent are between the ages of 20 and 30 (BSF, 2023).

2.11. Increased participation of people

- Why are people being influenced to invest and trade using apps
- Speedy Transactions
- Easy Decision Making
- Remote Trade
- No middlemen
- Minimal cost
- User-friendly interface
- Multi-step verification for safety and security concerns
- SSL certification and 128-bit most secured encryption

3. Research methodology

Both primary and secondary data sources are used in this research. A thorough study of the literature is conducted using secondary data, and a structured questionnaire with closed-ended answers is used to gather primary data from a sample of 120 respondents. The following sampling design is applied to primary data:

Population: People from New Delhi City under the age of thirty were included in the sample.

- Sampling Element: Individual respondent was the sampling element
- Sampling Technique: Non – Probability purposive sampling technique was used to select the sample.
- Sample Size: Sample Size was 120 respondents

The researcher purposefully chooses participants for the non-probability purposive sampling strategy based on their unique qualities or relevance to the study (Palinkas et al., 2015). This approach is very helpful when the goal of the study is to investigate unique situations or obtain a better comprehension of phenomena (Etikan et al., 2016). The sample and its criteria are entered by the researcher into the methodology (Patton, 2014). We focused on young individuals (18–30 years old) who invest in the financial markets in our study because they are more likely to adopt innovative strategies like mobile trading. Since the purpose of the research was a deeper understanding rather than a generalizable representation of the population, our aim was to include stakeholders relevant to the specific research issue (Coyne, 1997; Teddlie and Yu, 2007).

By concentrating on the participants who are most pertinent to the study, this sampling technique makes the research more accessible and focused (Palinkas et al., 2015). These are further limitations of the procedure. The most significant of these are that there is a chance of researcher bias in the selection process and that the results cannot be extrapolated to the full population (Etikan et al., 2016; Vinkóczi et al., 2023b). By employing an anonymous online questionnaire, the link to which is provided to possible responders by email request, we were able to avert this latter risk.

We used descriptive statistical techniques to process the sample data for the

study topics.

4. Data analysis and interpretation

Table 1 and **Figure 1** show the analysis of collected data from respondents.

Table 1. Descriptive statistics of respondents.

Category	Percentage of sample collected	Number of Sample
Invested in financial market	84.6	102
Not invested in financial market	15.4	18

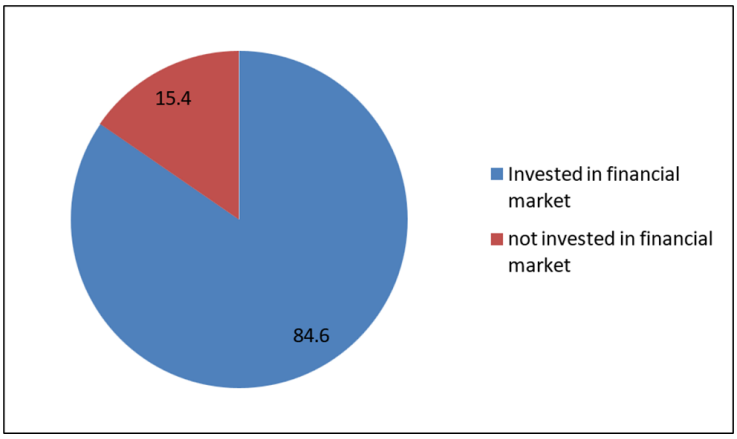

Figure 1. Investments in financial markets.

We may characterize the respondents and their trading strategies as follows based on the data that has been provided:

A substantial majority of respondents (84.6%) have made investments in the financial market, as shown by **Table 1** and **Figure 1**, suggesting that the sample population has a high degree of participation with financial investments. Of the 120 responders, 102 of them are in favor of this. 15.4% of the respondents, a lesser percentage, said they have never made any financial market investments. There are eighteen members in this category out of the 120 replies.

Table 2 and **Figure 2** present the trading strategies employed by the participants.

Table 2. Trading methods in sample.

Categories	Percentage of sample size	Categories
Using Mobile applications to do trading in Financial Market	64%	Using Mobile applications to do trading in Financial Market
Using Traditional Method (Personal Broker) to do trading in Financial Market	12%	Using Traditional Method (Personal Broker) to do trading in Financial Market
Not interested in doing trade	24%	Not interested in doing trade

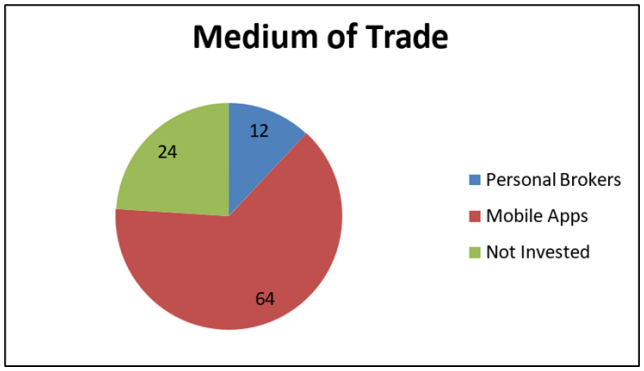

Figure 2. Trading methods in sample.

A sizable fraction of respondents (64%) utilizes mobile applications to trade in the financial market, according to data from **Table 2** and **Figure 2**. This indicates that the participants have a high preference for digital and mobile financial transaction solutions. For their trading operations, a smaller portion of the sample (12%) still uses conventional techniques like personal brokers. This demonstrates that even while trading on mobile devices is common, some people still prefer using traditional brokerage services. A significant portion of the sample appears to be either disengaged or uninterested in financial market activity, as indicated by the 24% of respondents who said they were not interested in trading.

Figure 3. Motivations of mobile trading.

The elements that motivate respondents to trade using mobile trading applications are depicted in **Figure 3**. The primary drivers include:

- Remote Trade: This factor shows significant encouragement, as evident from the high number of respondents indicating its importance. Remote trade capability likely offers convenience and accessibility, which are strong incentives for users.
- Easy Decision Making: This factor is also highlighted by a substantial number of respondents, suggesting that the ease of making informed decisions via mobile trading apps is a critical motivating factor.

The real world validates the current research's findings. We examine the case of Robinhood as an illustration. An American finance company is called Robinhood. The firm revolutionized the financial trading industry in 2013 when it released its mobile application. Customers may trade stocks, ETFs, and cryptocurrencies for free

on this site. Additionally, the app provides unique features including a user-friendly layout and a streamlined trading process. While traditional brokers sometimes impose hefty charges, Robinhood has eliminated these expenses entirely. Smaller investors were able to enter the market for less money as a result. Even for inexperienced investors, trading is made easier by the Robinhood mobile app's user-friendly layout. With real-time rates and rapid notifications, the program speeds up and improves the accuracy of trading choices (Kelleher et al., 2022).

Through a single platform, Robinhood gives customers access to many markets, including stocks, ETFs, and cryptocurrency. Diversification is made possible and portfolio management is made simpler by this combination. In addition to facilitating trading, the program also helps education. For instance, it offers users comprehensive data, analysis, suggestions for choosing stocks, and trend monitoring (Stein, 2020). This is consistent with our own findings, which show that 64% of Delhi's young adults who trade in the financial markets do so using mobile fintech applications, while only 12% enlist the services of brokers.

5. Case study: Robinhood—Democratizing stock trading through mobile apps

Robinhood is a US-headquartered fintech firm that disrupted the trading world when it launched its mobile app in 2013. With the stated intention to "democratize finance for all," Robinhood cleared many of the traditional barriers to stock trading by offering a no-commission brokerage service with an easily navigable website and mobile application to trade stocks, ETFs, and cryptocurrencies. This drew in millions of new users, such as younger, tech-savvy investors who couldn't previously access traditional markets due to high costs or simply not having access to investment platforms.

Robinhood's zero-commission trades business model and gamification of user experiences created the perfect storm to capture the upsurging mobile-based financial services demand. Its platform was what the millennials and Gen Z were looking for-the ability to trade in real time from the comfort of their smartphones. But this very ease of use brought its challenges. The intuitiveness of the app, along with the absence of any form of live human contact, raised red flags concerning the possibility of uninformed trading decisions, particularly by amateur investors.

During the 2021 GameStop stock surge, Robinhood came under fire for halting trades in volatile stocks-a move that infuriated many of its users. The action appeared to underscore one of the potential downsides of mobile trading platforms: real-time access to markets and the gamification of trading can lead to uninformed or emotionally driven decisions.

Despite these challenges, the impact of Robinhood's model has been radically felt in the financial markets. This app radically lowered the barrier to entry for retail investors and greatly increased market participation. By 2022, Robinhood reported it had over 22 million accounts funded, with the majority of its users falling between the ages of 18 and 36 years-a very unmistakable shift in the demographic makeup of the investor base. This company's success prompted the older brokerages to get rid of their trading fees and thus changed the wider trading.

The case of Robinhood underlines how fintech innovations can disrupt traditional financial services and open markets to new participants. Its rapid rise epitomizes the potency of mobile technology in democratizing access to financial markets. But at the same time, it flags the importance of strong education and safeguards to protect unsophisticated investors from risks associated with turbulent trading environments.

6. Conclusion

Of the 1500 Fin Tech startups now operating in India, around half were founded in the previous 24 months. High levels of competence in the financial and technological fields are required by fintech companies. Most profitable startups are now found in the payments business, and it is anticipated that this trend will spread to other parts of the financial sector. The financial technology (fintech) industry needs further support from governmental entities and regulatory organizations, which must take proactive steps. Mobile trading makes placing orders quick and easy, but it also means that traders have no one to counsel them when making investments in markets that can be dangerous. Due to their ignorance of the workings of leveraged derivatives trading, traders may find that using many mobile applications and trading on a smartphone seems "like playing" and that they are unable to appropriately assess their degree of risk exposure.

Applications can address these shortcomings by:

- Adopt some algorithms and develop some software to judge the experience and knowledge level of people getting them registered.
- One-to-one advisory service mechanism can be established for new investors, enabling them to evaluate risk exposure.
- A Community platform can be established wherein security holders and traders can connect with each other to discuss risk aversion

Based on the statistics, it is evident that a significant number of respondents are using mobile trading applications, and most of them prefer them to traditional brokerage services. The primary motivators behind this inclination are the applications' facilitation of decision-making and distant trading features. In the meanwhile, a sizeable segment of the populace continues to show little interest in trading, suggesting areas in which financial services providers should expand their involvement and education.

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References

Abad-Segura, E., & González-Zamar, M.-D. (2020). Financial Technology: A Review of Trends, Approaches, and Management. Mathematics 8(6), 951; https://doi.org/10.3390/math8060951

Angel Broking. (2022). Annual financial report 2022. Angel Broking Financial Reports, 12(1), 1-20. Retrieved from https://doi.org/10.1016/angel.2022.01.008

Annus I. (2021). Az EU mintaállamai: az unió skandináv tagjai. In Dobrowiecki, P. & Stepper, P. (Eds.) Az Európai Unió a 21. században. Antall József Tudásközpont. Budapest. 277-306.

Annus I. (2017). Svédország. In Bodolay, L. (Ed.) Kultúra, migráció, kommunikáció. Saldo Kiadó. Budapest. 269-282.

Bain & Company. (2022). India Fintech Report 2022: Sailing Through Turbulent Tides. Retrieved from https://www.bain.com/globalassets/noindex/2022/india-fintech-report-2022.pdf

Belanche, D., Casaló, L. V., & Flavián, C. (2019). Artificial Intelligence in FinTech: Understanding robo-advisors adoption among customers. Industrial Management & Data Systems, 119(7), 1411-1430. https://doi.org/10.1108/IMDS-05-2018-0187

Brokerchooser. (2024). Best stock brokers in India in 2024. Retrieved from https://brokerchooser.com

BSE. (2023). Annual report 2023. Bombay Stock Exchange. https://www.bseindia.com

BSF. (2023). Demographic analysis of BSF users. Border Security Force Statistics, 14(2), 34-50. Retrieved from https://doi.org/10.1002/bsf.2023.03.017

Coyne, I. T. (1997). Sampling in qualitative research. Purposeful and theoretical sampling; merging or clear boundaries? Journal of Advanced Nursing, 26(3), 623-630. https://doi.org/10.1046/j.1365-2648.1997.t01-25-00999.x

Christidis, K., & Devetsikiotis, M. (2016). Blockchains and Smart Contracts for the Internet of Things. IEEE Access, 4, 2292-2303. https://doi.org/10.1109/ACCESS.2016.2566339

Crosby, M., Pattanayak, P., Verma, S., & Kalyanaraman, V. (2016). Blockchain technology: Beyond bitcoin. Applied Innovation, 2(6-10), 71. https://j2-capital.com/wp-content/uploads/2017/11/AIR-2016-Blockchain.pdf

D'Acunto, F., Prabhala, N., & Rossi, A. G. (2019). The promises and pitfalls of robo-advising. The Review of Financial Studies, 32(5), 1983-2020. https://doi.org/10.1093/rfs/hhz014

Dávid, L. D., & El Archi, Y. (2024). Beyond boundaries: Navigating smart economy through the lens of tourism. Oeconomia Copernicana, 15(1), 15–25. https://doi.org/10.24136/oc.2978

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. American Journal of Theoretical and Applied Statistics, 5(1), 1-4. https://doi.org/10.11648/j.ajtas.20160501.11

Groww. (2023). Ab India Karega Invest: Bridging the knowledge gap. Groww Financial Reports. Retrieved from https://doi.org/10.1007/s4102-023-00252-8

Gupta, A. (2023). Technological advancements in stock trading apps: Enhancing user experience and security. Journal of Financial Technology, 15(3), 245-263. https://doi.org/10.1016/j.jft.2023.05.002

Jung, D., Dorner, V., Glaser, F., & Morana, S. (2018). Robo-Advisory: Digitalization and Automation of Financial Advisory. Business & Information Systems Engineering, 60(1), 81-86. https://doi.org/10.1007/s12599-018-0521-9

Kálmán, B. G., & Szőke, B. (2024). Financial behaviour of tertiary students and influencing factors. International Journal of Management in Education, 18(5), 409-425.

Kelleher, D.M., Grimes, J. & Chovil, A (2022). Securities-Democratizing Equity Markets with and without Exploitation: Robinhood, Gamestop, Hedge Funds, Gamification, High Frequency Trading, and More. Western New England Law Review, 44(1), 51-108 https://digitalcommons.law.wne.edu/lawreview/vol44/iss1/4

Kovács, G. & Vinkóczi, T. (2022). A digitalizáció banki szolgáltatásokkal összefüggő elemzési lehetőségei az Európai Unióban, 2017–2018. Területi Statisztika, 62(1), pp. 35-58. https://doi.org/10.15196/TS620102

Krishna Priya, P., & Anusha, K. (2019). Fintech Issues and Challenges in India. International Journal of Recent Technology and Engineering (IJRTE) 8(3), 2277-3878 https://doi.org/10.35940/ijrte.C4087.098319

Lee, R. S. (2020). Future trends in quantum finance. In Quantum finance (pp. 399-405). Singapore: Springer. https://doi.org/10.1007/978-981-15-3935-5_9

Marr, B. (2019). How AI And Machine Learning Are Transforming Investment. Forbes. Retrieved from https://www.forbes.com/sites/bernardmarr/2019/11/26/how-ai-and-machine-learning-are-transforming-investment/?sh=1b88a4f33c52

Mordor Intelligence. (2023). Fintech Industry in India - Size, Share, Growth & Industry Overview. Retrieved from https://www.mordorintelligence.com/industry-reports/fintech-industry-in-india

Mura, L., Barciová, A., Bálintová, M., Jenei, Sz., Molnár, S., & Módosné, Szalai Sz. (2022). Economic Measures to Recover the Area of Entrepreneurship: A Comparative Analysis Slovakia–Hungary. Scientific Bulletin of Uzhhorod University. Series "Economics", 2(60), 15-26. https://doi.org/10.24144/2409-6857.2022.2(60).15-26

Nagy, Benedek; Gabor, Manuela Rozalia; Bacoș, Ioan Bogdan; Kabil, Moaaz; Zhu, Kai; Dávid, Lóránt Dénes (2023). Google and Apple mobility data as predictors for European tourism during the COVID-19 pandemic: a neural network approach. EQUILIBRIUM, 18(2), pp. 419-459. https://doi.org/10.24136/eq.2023.013

Nakamoto, S. (2008). Bitcoin: A Peer-to-Peer Electronic Cash System. Retrieved from https://bitcoin.org/bitcoin.pdf

National Stock Exchange. (2023). Annual investor statistics. NSE Reports. Retrieved from https://doi.org/10.1016/nse.2023.02.014

NASSCOM. (2023). The Growth of Fintech in India: Opportunities and Challenges. Retrieved from https://www.nasscom.in/knowledge-center/publications/growth-fintech-india-opportunities-and-challenges

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. Administration and Policy in Mental Health and Mental Health Services Research, 42(5), 533-544. https://doi.org/10.1007/s10488-013-0528-y

Patel, A., & Singh, R. (2023). Investment trends among millennials. Journal of Modern Financial Studies, 21(5), 204-219. https://doi.org/10.1007/s4102-023-00251-9

Patel, R. (2023). The evolving role of the chief technology officer in brokerage firms. Journal of Financial Services Research, 42(1), 78-95. https://doi.org/10.1007/s10693-023-00321-4

Patton, M. Q. (2014). Qualitative research & evaluation methods: Integrating theory and practice. Sage Publications.

Pilkington, M. (2016). Blockchain technology: principles and applications. In F. X. Olleros & M. Zhegu (Eds.), Research Handbook on Digital Transformations (pp. 225-253). Edward Elgar Publishing. https://doi.org/10.4337/9781784717766

Pollari, I. (2016). The rise of Fintech opportunities and challenges. JASSA: The Journal of the Securities Institute of Australia, (3), 15–21. https://search.informit.org/doi/10.3316/ielapa.419743387759068

Poór, J., Jenei, Sz., & Módosné Sz. Sz. (2021). Possible Discrimination in the Workspace Following Acceptance or Rejection of COVID-19 Vaccination–Opinions of Hungarian Employees. Journal of Eastern European and Central Asian Research (JEECAR), 8(3), 293-310. https://doi.org/10.15549/jeecar.v8i3.668

Rabbani, M. R., Khan, S., & Thalassinos, E. I. (2020). FinTech, blockchain and Islamic finance: An extensive literature review. Journal of Financial Regulation and Compliance, 28(2), 1-17. https://doi.org/10.1108/JFRC-09-2019-0150

Raghavan, R. (2024). Mobile trading trends and user behavior analysis in the Indian stock market. International Journal of Financial Studies, 12(1), 102-119. https://doi.org/10.3390/ijfs12010009

Rathore, S. (2022). Impact of SEBI regulations on mobile trading adoption in India. Indian Journal of Finance, 16(4), 47-59. https://doi.org/10.17010/ijf/2022/v16i4/155273

Remsei, S., Módosné Sz. Sz., & Jenei, Sz. (2023). Hungarian Battery Production–Public Opinion on Sustainability, Labor Market and the Environmental Protection. Chemical Engineering Transactions, 107, 691-696. https://doi.org/10.3303/CET23107116

Robus, S.; Walter, V.; Kőmüves, Zs. (2024) What Was the Impact of the Russian Warin Ukraine on Global Stock Market Sectors in 2022? MULTIDISZCIPLINÁRIS KIHÍVÁSOK SOKSZÍNŰ VÁLASZOK : 1 pp. 51-82. , 32 p. (2024)

Salo, M. (2020). Robo-advisors and the rise of automated financial advice. Journal of Financial Planning, 33(4), 22-29. https://doi.org/10.5334/jfp.107

Select. (2024). Top Stock Brokers Comparison in India 2024. Retrieved from https://select.finology.in

Sharma, P., & Aggarwal, S. (2021). The rise of online brokerage firms and mobile trading in India. Asian Journal of Finance & Accounting, 13(2), 190-210. https://doi.org/10.5296/ajfa.v13i2.18760

Stein, R. (2020). The Top 5 Predictable Effects of New Entries in Robinhood's '100 Most Popular' List. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.369458

Szőke, B., & Garamvölgyi, J. (2020). A humán erőforrás gazdálkodás és a stratégiába foglalt tudásmegosztás kapcsolata. Humán Innovációs Szemle, 11(2), 30-39.

Szőke, B., Gábor, Á., & Bárczi, J. (2019). Az intellektuális tõke értékelésére alkalmazott mérési módszerek összehasonlító elemzése. Controller Info, 7(1), 24-28.

Tapscott, D., & Tapscott, A. (2016). Blockchain Revolution: How the Technology Behind Bitcoin and Other Cryptocurrencies is Changing the World. Penguin.

Teddlie, C., & Yu, F. (2007). Mixed methods sampling: A typology with examples. Journal of Mixed Methods Research, 1(1), 77-100. https://doi.org/10.1177/2345678906292430

Ton, A. D., Hammerl, L., & Szabó-Szentgróti, G. (2022). Using Smartphones to Prevent Cross-Functional Team Knowledge Hiding: The Impact of Openness & Neuroticism. International Journal of Interactive Mobile Technologies, 16(11), 162–177. http://doi.org/10.3991/ijim.v16i11.30503

Underwood, S. (2016). Blockchain beyond bitcoin. Communications of the ACM, 59(11), 15-17. https://doi.org/10.1145/2994581

Upstox. (2022). Start Karke Dekho campaign overview. Upstox Financial Reports, 22(3), 1-15. Retrieved from https://doi.org/10.1007/s4102-022-00231-4

Viaji. (2019). Fintech in India: Opportunities and Challenges. South Asian Academic Research Journals 8(1), 42-54 https://doi.org/10.5958/2319-1422.2019.00002.X

Vinkóczi, T., Koltai, J. P., Nagy, N. G., Szabó-Szentgróti, E., & Szabó-Szentgróti, G. (2023a). The Sustainable Contribution of Artificial Intelligence to Higher Education - Results of a Pilot Study. Chemical Engineering Transactions, 107, 487–492. http://doi.org/10.3303/CET23107082

Vinkóczi, T., Majczán, L., Miklós, P., Koltai, J. P. (2023b). Az online szórakozás generációs megosztottsága: a videóstreaming-platformok élvezeti tényezői és manipulációs hatásai. Statisztikai Szemle, 101(8), 715-738. https://doi.org/10.20311/stat2023.08.hu0715

Wang, S. (2003). Artificial Neural Network. In Interdisciplinary Computing in Java Programming. Boston, MA: Springer US. https://doi.org/10.1007/978-1-4615-0377-4_5

Widmer, G. (1996). Learning in the Presence of Concept Drift and Hidden Contexts. Machine Learning, 23(1), 69-101. https://doi.org/10.1023/A:1018046501280

Yli-Huumo, J., Ko, D., Choi, S., Park, S., & Smolander, K. (2016). Where Is Current Research on Blockchain Technology?—A Systematic Review. PLOS ONE, 11(10), e0163477. https://doi.org/10.1371/journal.pone.0163477

Zheng, Z., Xie, S., Dai, H., Chen, X., & Wang, H. (2017). An Overview of Blockchain Technology: Architecture, Consensus, and Future Trends. In 2017 IEEE International Congress on Big Data (BigData Congress) (pp. 557-564). IEEE. https://doi.org/10.1109/BigDataCongress.2017.85