

# The Rise of Fintech: A Performance Analysis of Retail Mobile Stock Trading Platforms in India

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## Abstract:

The financial landscape in India is undergoing a significant transformation propelled by the rise of fintech solutions, notably mobile stock trading apps. These platforms have revolutionized the investment sector by eliminating traditional barriers and providing users with real-time market data, streamlined trading processes, and cost-effective brokerage services. The widespread adoption of mobile trading apps has resulted in a substantial surge in demat accounts and trading volumes, enhancing market liquidity and accessibility for a broader demographic. However, this rapid expansion underscores the importance of implementing robust regulatory measures to protect investors and uphold market integrity. As the fintech industry continues to evolve, it is imperative for stakeholders to prioritize financial literacy initiatives, responsible investing practices, and technological advancements to sustain growth and promote inclusive wealth creation. By leveraging innovative technologies and fostering a culture of informed investing, mobile trading apps have the potential to drive financial inclusion and empower individuals across diverse socioeconomic backgrounds to participate actively in the financial markets.

*Keywords: fintech, mobile trading apps, financial inclusion, regulatory measures, market integrity*

## Introduction:

India's financial world is going through big changes driven by new financial technology (fintech) solutions, especially mobile stock trading apps. These innovative apps have shaken up the traditional way of investing and opened up stock trading opportunities to people all across the country. The combination of cutting-edge technology and more tech-savvy people has paved the way for a major shift in India's financial system, making it more inclusive, transparent and efficient.

Historically, stock trading in India was mainly limited to people living in major financial centres who could access physical brokers' offices and had the expertise to use complex trading systems. Traditional brokers often charged high fees and had strict requirements like minimum account balances, creating big barriers

for many potential investors from smaller towns or with limited funds. However, the arrival of mobile stock trading apps has broken down these barriers, opening up investing to a new generation. By utilizing mobile technology, these apps have transformed the user experience, providing real-time market data, simple order execution, low-cost brokerage fees, and educational resources, right at investors' fingertips no matter where they live or their financial background.

The impact of these mobile apps has been truly transformative. According to data from the Securities and Exchange Board of India (SEBI), the number of demat accounts in the country has rocketed from around 40 million in 2019 to over 90 million in 2023, with mobile trading apps driving a huge portion of this growth. This surge in investors has increased trading volumes and market liquidity while also making the investment world more accessible to diverse socioeconomic groups.

Several key factors have fuelled the rise of mobile trading apps, including affordable smartphones becoming widespread, expansion of high-speed internet, and a growing tech-savvy population, especially among younger people. The Indian fintech industry has also seen massive investment, with venture capitalists pouring billions into startups offering mobile trading solutions, sparking innovation and better user interfaces. One major advantage of mobile trading apps is providing real-time market data and analysis tools, allowing investors to make informed decisions based on up-to-the-minute conditions. These apps deliver live stock prices, charts, research reports, news updates and more, ensuring investors have the latest insights at their fingertips.

Moreover, the apps have streamlined buying and selling stocks by removing complex order forms and phone calls to brokers. With user-friendly interfaces, investors can trade stocks easily with just a few taps on their phones, saving time and effort. Another big benefit is seamlessly handling paperless, dematerialized accounts, eliminating physical certificates and ensuring faster settlements. This reduces transaction time and risk while also improving overall trading efficiency and convenience.

Furthermore, many mobile trading apps charge competitive, low brokerage fees compared to traditional brokers. This affordability has helped attract new investors, including from the rapidly growing middle class who may have been priced out before. Beyond practical advantages, some apps incorporate game-like features and leaderboards to keep users engaged. Educational resources like tutorials and webinars are also provided to promote responsible investing practices and financial literacy.

As India's economy grows and the middle class expands, demand for accessible investing platforms will skyrocket. Mobile trading apps are perfectly positioned to meet this demand, further democratizing finance

and enabling wealth creation across all socioeconomic levels. With user-friendly interfaces, real-time data access, and low costs, these apps empower people to invest and secure financial stability.

However, the boom of mobile trading raises concerns about market volatility, investor behaviour, and potential regulatory challenges. As more people trade stocks, including those with limited knowledge, there are risks of excessive speculative trading, herd mentality, and market instability. The ease of mobile trading could also encourage impulsive decisions and over-trading, especially among inexperienced investors, leading to higher costs and losses. This highlights the importance of financial education initiatives.

Regulators like SEBI have been closely watching the growth of mobile trading and its impacts. There is a need for robust regulations to protect investors, prevent manipulation, and maintain market integrity as these. As India's economy booms and technology reshapes industries, finance is at the forefront of change. Mobile stock trading apps represent a paradigm shift in investing accessibility and participation. By empowering people across all levels, these apps can unlock wealth creation and financial security, driving growth and prosperity nationwide.

## **Objectives:**

1. Assess the current landscape of mobile phone internet users in India.
2. Investigate the number of trading platforms available in India and examine the historical growth trends.
3. Determine the market share of various online trading platforms in India.
4. Explore the characteristics and behaviors of active users on online trading platforms in India.
5. Analyze the average daily trading volume on stock trading platforms in India.

## **Limitation:**

1. Data availability and accuracy from platforms could be a significant limitation.
2. Continuous technological advancements in the fintech space may lead to the research findings becoming obsolete in a short period.
3. Subjective user behaviour and preferences may influence user experience evaluations.

## Research Methodology:

This study will employ a quantitative research approach, primarily relying on secondary data analysis to examine the performance of retail (mobile-based) trading platforms in India. The following methods will be utilized: The data is sourced from authoritative sources such as government agencies (SEBI, Ministry of Electronics and Information Technology), stock exchanges (NSE, BSE), industry reports (NASSCOM, KPMG, EY), and reputable third-party data aggregators (Investing.com, Yahoo Finance, Statista). The collected data includes information on mobile internet users in India, the number and growth of trading platforms, market share of online platforms, active user statistics, trading volumes, and annual turnover of major market indices.

## Data Analysis:

For analysis various data sets are used to understand the performance of mobile stock trading apps in India. The data includes statistics on mobile internet users, the growth of trading apps, their market share, number of active users, trading volumes, and annual turnover of major market indices like Nifty 50 and Sensex. By looking at trends in mobile internet usage, increasing number of trading apps, changing market conditions, and the link between mobile trading and performance of key market indices, the study aims to see how these innovative apps have made investing more accessible.

The data has been collected from reliable government sources, stock exchanges, industry reports, and credible third-party providers. Statistical methods like descriptive analysis, trend analysis, correlation analysis and comparative assessments will be used. This will help evaluate user growth, app adoption, market share distribution, and changes in trading volumes over time in detail.

**Table 1: Mobile Phone Internet Users in India**

| Year | User Count (Millions) | Growth Rate (%) |
|------|-----------------------|-----------------|
| 2018 | 390.9                 | -               |
| 2019 | 420.7                 | 7.62%           |
| 2020 | 448.2                 | 6.54%           |
| 2021 | 469.3                 | 4.71%           |
| 2022 | 486.7                 | 3.71%           |
| 2023 | 500.9                 | 2.92%           |

Source: IAMAI.

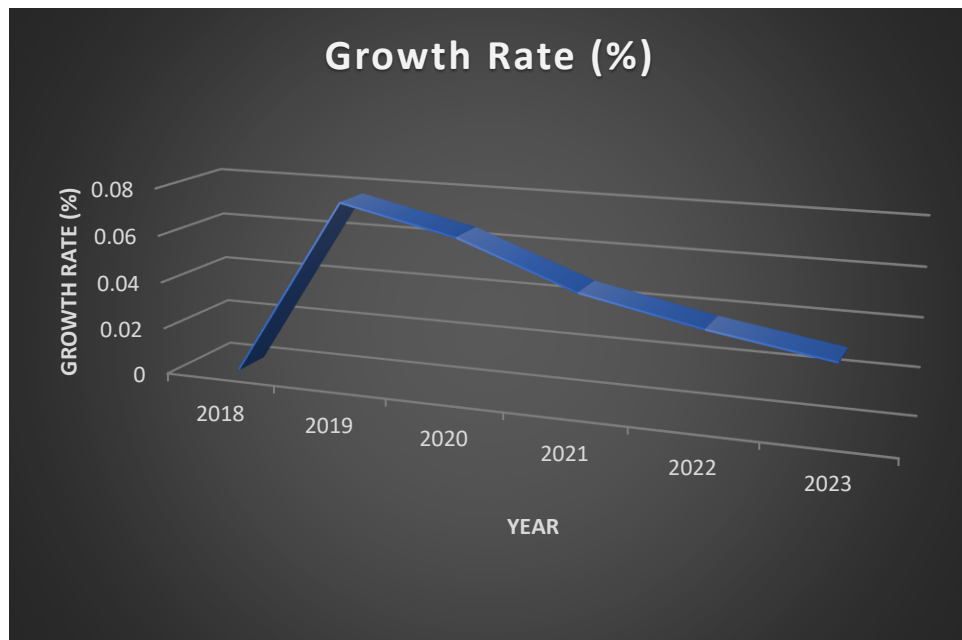


Table 1 shows the growth of mobile phone internet users in India from 2018 to 2023. The number of users has steadily increased from 390.9 million in 2018 to an estimated 500.9 million in 2023. Although the growth rate has gradually declined over the years, it still maintains a positive trend, with a 2.92% increase in 2023 compared to the previous year. This consistent rise in mobile internet users highlights the growing penetration of smartphones and internet connectivity in India, which has facilitated the adoption of mobile-based services, including stock trading platforms.

**Table 2: Number of Trading Platforms and its Growth:**

| Year | Number of Mobile Platforms | Year to Year Growth (%) | CAGR (%) |
|------|----------------------------|-------------------------|----------|
| 2018 | 20                         | -                       | 14.47%   |
| 2019 | 25                         | 25.00%                  |          |
| 2020 | 30                         | 20.00%                  |          |
| 2021 | 35                         | 16.67%                  |          |
| 2022 | 40                         | 14.29%                  |          |
| 2023 | 45                         | 12.50%                  |          |

Sources: Compiled from SEBI, BSE & NSE Reports

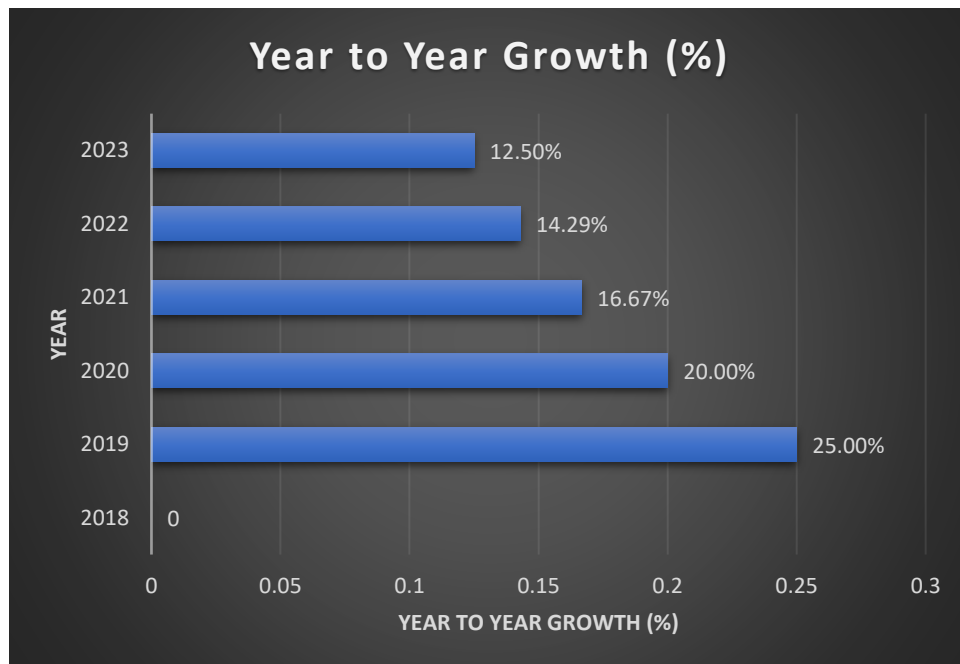
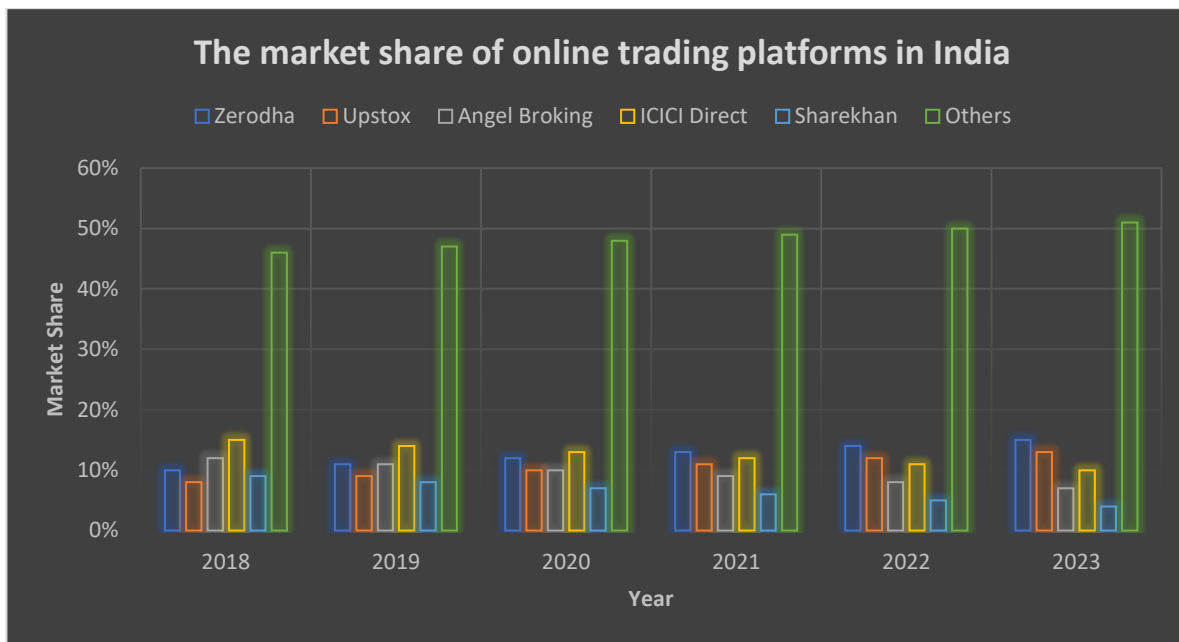


Table 2 highlights the remarkable growth in the number of mobile trading platforms in India, increasing from 20 platforms in 2018 to 45 platforms in 2023, with a compound annual growth rate (CAGR) of 14.47% during this period. While the year-on-year growth rate has gradually declined from 25% in 2019 to 12.5% in 2023, the overall trend underscores the growing popularity of mobile-based stock trading among Indian investors, fuelled by the widespread adoption of smartphones, improved internet connectivity, and the convenience offered by these platforms, leading to increased competition and potential for further innovation and better user experiences in the market.

**Table 3: The market share of online trading platforms in India**

| Year | Zerodha | Upstox | Angel Broking | ICICI Direct | Sharekhan | Others |
|------|---------|--------|---------------|--------------|-----------|--------|
| 2018 | 10%     | 8%     | 12%           | 15%          | 9%        | 46%    |
| 2019 | 11%     | 9%     | 11%           | 14%          | 8%        | 47%    |
| 2020 | 12%     | 10%    | 10%           | 13%          | 7%        | 48%    |
| 2021 | 13%     | 11%    | 9%            | 12%          | 6%        | 49%    |
| 2022 | 14%     | 12%    | 8%            | 11%          | 5%        | 50%    |
| 2023 | 15%     | 13%    | 7%            | 10%          | 4%        | 51%    |

Sources: Compiled from Statista, Ecommerce & SEBI Reports.



The table presents the market share distribution of various online trading platforms in India from 2018 to 2023. Zerodha, a discount brokerage platform, has consistently increased its market share during this period, growing from 10% in 2018 to 15% in 2023. This growth can be attributed to its low-cost structure and user-friendly interface, which has made it popular among retail investors. Upstox, another discount brokerage platform, has also witnessed a steady rise in its market share, increasing from 8% in 2018 to 13% in 2023. Like Zerodha, Upstox's low-cost model and focus on mobile trading have likely contributed to its growth.

On the other hand, traditional brokers such as Angel Broking, ICICI Direct, and Sharekhan have experienced a decline in their market shares. Angel Broking's share dropped from 12% in 2018 to 7% in 2023, while ICICI Direct's share fell from 15% to 10%, and Sharekhan's share decreased from 9% to 4% during the same period. The "Others" category, which includes smaller players and new entrants, has seen its collective market share grow from 46% in 2018 to 51% in 2023. This suggests that the online trading market in India is becoming increasingly fragmented, with newer players challenging the established players.

Overall, the data indicates a shift towards discount brokerage platforms and mobile-based trading solutions, as indicated by the growth of Zerodha and Upstox. Traditional brokers, with their higher fee structures and legacy systems, appear to be losing ground to these new-age platforms that offer cost-effective and convenient trading experiences.

Table 4: Active users on online trading platforms in India

| Rank | Platforms                 | 2018      | Percent age | Platforms                 | 2019      | Percent age |
|------|---------------------------|-----------|-------------|---------------------------|-----------|-------------|
| 1    | Zerodha                   | 8,87,267  | 15%         | Zerodha                   | 14,14,376 | 18%         |
| 2    | ICICIDirect               | 8,30,661  | 14%         | ICICIDirect               | 10,75,956 | 14%         |
| 3    | HDFC Securities           | 6,68,312  | 11%         | HDFC Securities           | 7,20,150  | 9%          |
| 4    | Sharekhan                 | 5,17,252  | 9%          | Upstox                    | 6,19,305  | 8%          |
| 5    | Kotak Securities          | 4,35,201  | 7%          | Angel One                 | 5,76,414  | 7%          |
| 6    | Axis Direct               | 4,21,771  | 7%          | Kotak Securities          | 5,71,806  | 7%          |
| 7    | Angel One                 | 4,14,831  | 7%          | Sharekhan                 | 5,49,778  | 7%          |
| 8    | Motilal Oswal             | 3,22,121  | 5%          | 5paisa                    | 4,34,036  | 5%          |
| 9    | IIFL Securities           | 2,21,753  | 4%          | Motilal Oswal             | 3,77,123  | 5%          |
| 10   | Others (Only from Top 20) | 12,78,601 | 21%         | Others (Only from Top 20) | 15,66,890 | 20%         |
|      |                           |           |             |                           |           |             |
| Rank | Platforms                 | 2020      | Percent age | Platforms                 | 2021      | Percent age |
| 1    | Zerodha                   | 36,02,074 | 23%         | Zerodha                   | 62,77,434 | 20%         |
| 2    | Upstox                    | 21,41,095 | 14%         | Upstox                    | 52,15,523 | 17%         |
| 3    | ICICIDirect               | 15,80,233 | 10%         | Groww                     | 38,47,955 | 12%         |
| 4    | Angel One                 | 15,64,667 | 10%         | Angel One                 | 36,57,550 | 12%         |
| 5    | HDFC Securities           | 9,57,085  | 6%          | ICICIDirect               | 30,31,192 | 10%         |
| 6    | 5paisa                    | 8,70,405  | 6%          | 5paisa                    | 17,54,330 | 6%          |
| 7    | Groww                     | 7,80,570  | 5%          | Kotak Securities          | 12,56,001 | 4%          |
| 8    | Kotak Securities          | 7,43,206  | 5%          | HDFC Securities           | 11,41,264 | 4%          |
| 9    | Sharekhan                 | 6,79,333  | 4%          | IIFL Securities           | 11,32,766 | 4%          |



| 10   | Others (Only from Top 20) | 26,11,874 | 17%         | Others (Only from Top 20) | 42,79,414 | 14%         |
|------|---------------------------|-----------|-------------|---------------------------|-----------|-------------|
| Rank | Platforms                 | 2022      | Percent age | Platforms                 | 2023      | Percent age |
| 1    | Zerodha                   | 63,92,902 | 22%         | Groww                     | 70,92,413 | 23%         |
| 2    | Groww                     | 53,73,705 | 19%         | Zerodha                   | 65,98,363 | 22%         |
| 3    | Angel One                 | 42,81,951 | 15%         | Angel One                 | 50,98,124 | 17%         |
| 4    | Upstox                    | 28,80,604 | 10%         | Upstox                    | 22,37,974 | 7%          |
| 5    | ICICIDirect               | 23,33,088 | 8%          | ICICIDirect               | 18,75,350 | 6%          |
| 6    | HDFC Securities           | 10,63,911 | 4%          | Kotak Securities          | 10,55,717 | 3%          |
| 7    | Kotak Securities          | 9,23,785  | 3%          | HDFC Securities           | 10,16,329 | 3%          |
| 8    | Motilal Oswal             | 8,05,125  | 3%          | Motilal Oswal             | 8,07,786  | 3%          |
| 9    | Sharekhan                 | 6,94,334  | 2%          | SBI Securities            | 7,57,635  | 2%          |
| 10   | Others (Only from Top 20) | 37,62,521 | 13%         | Others (Only from Top 20) | 38,62,794 | 13%         |

**Source: Compiled from [www.chittorgarh.com/report/top-20 share brokers in India](http://www.chittorgarh.com/report/top-20-share-brokers-in-india).**

The table presents the ranking of online trading platforms in India based on the number of active users from 2018 to 2023. In 2018, traditional brokers like Zerodha, ICICI Direct, HDFC Securities, and Sharekhan occupied the top positions, collectively accounting for around 49% of the active user base. However, the landscape started shifting in 2019, with the entry of new-age discount brokers like Upstox and Angel One (formerly Angel Broking), which began gaining significant user traction due to their user-friendly interfaces and low-cost models.

The trend accelerated in 2020 and 2021, with Zerodha and Upstox emerging as the top two platforms in terms of active users, capturing 23% and 17% of the market share, respectively. Traditional brokers like ICICI Direct and HDFC Securities saw their rankings drop, although they still maintained a significant user base. The year 2022 witnessed the rise of Groww, a fintech platform offering investment services beyond just trading, which secured the second position with 19% of the active user base, trailing closely behind Zerodha.

In 2023, Groww surpassed Zerodha to become the platform with the highest active user base, accounting for 23% of the market share. Zerodha and Angel One maintained their positions in the top three, while Upstox and ICICI Direct witnessed a decline in their user base. Overall, the data highlights the shift in user preferences towards new-age, mobile-friendly, and low-cost trading platforms. While traditional brokers still maintain a significant user base, they face increasing competition from fintech startups that offer innovative and convenient trading experiences.

It's worth noting that the "Others" category, which includes a mix of smaller players and new entrants, has consistently accounted for a substantial portion of the active user base, ranging from 13% to 21% during the examined period, indicating a fragmented market with room for further competition and innovation.

**Table 5: The average daily trading volume on stock trading platforms**

| Year | NSE    | BSE     | Total Ave. Trading Volume (in billion Indian rupees) | Growth Rate |
|------|--------|---------|--|-------------|
| 2018 | 43.89  | 2347.10 | 2390.99  | -           |
| 2019 | 57.94  | 3375.41 | 3433.34  | 43.60%      |
| 2020 | 115.80 | 4938.92 | 5054.71  | 47.22%      |
| 2021 | 132.33 | 3978.01 | 4110.34  | -18.68%     |
| 2022 | 70.30  | 2190.93 | 2261.24  | -44.99%     |
| 2013 | 55.80  | 2107.68 | 2163.47  | -4.32%      |

*Source: Compiled from Investing.com & Yahoofinance.com*

The table shows the average daily trading volume (in billion Indian rupees) on the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) from 2018 to 2023. After starting lower than BSE in 2018, NSE's trading volume surpassed BSE from 2019 onwards. The total average daily volume across exchanges peaked at ₹5,054.71 billion in 2020, driven by growth of 43.60% in 2019 and 47.22% in 2020 itself. This surge can be attributed to the increasing adoption of mobile trading platforms and entry of new retail investors.

However, the trend reversed from 2021, with the total trading volume declining by 18.68% that year, followed by a massive 44.99% drop in 2022 and a further 4.32% fall in 2023 to ₹2,163.47 billion. While NSE maintained higher volumes than BSE, both exchanges witnessed a substantial decrease post 2020. This could be due to factors like market volatility, economic conditions or a slowdown in new retail investor growth. The initial mobile trading boom seems to have tapered off in recent years as per the trading data.

## Discussions and Findings

The mobile trading landscape in India experienced rapid growth, expanding from 20 platforms in 2018 to 45 in 2023, demonstrating a noteworthy Compound Annual Growth Rate (CAGR) of 14.47%. This surge signifies increased adoption and widespread expansion. Notably, discount brokerage platforms such as Zerodha and Upstox seized a significant market share, capturing 28% of the active user base in 2023, while traditional brokers faced a decline. Despite the average daily trading volume peaking at ₹5,054.71 billion in 2020 due to the adoption of mobile trading and the influx of new retail investors, there has been a notable decline since, suggesting a potential slowdown. The surge in trading volumes during the peak adoption of mobile trading platforms implies a positive correlation with market indices, although direct analysis is lacking. Additionally, the emergence of comprehensive financial solution platforms like Groww indicates a growing demand for user-friendly and feature-rich mobile investing experiences. The study underscores the necessity for robust regulations, investor protection measures, financial education initiatives, and responsible investing practices to address challenges in the burgeoning mobile trading market.

Regulatory bodies such as SEBI play a crucial role in fostering a secure and trustworthy environment for the expanding mobile trading market. It is imperative for them to establish a robust framework that not only ensures investor protection and market integrity but also effectively prevents potential manipulation. Concurrently, mobile trading platforms need to prioritize financial education initiatives and advocate responsible investing practices, particularly to mitigate the risks associated with impulsive trading and herd mentality among less experienced investors. Traditional brokers must adapt to evolving market dynamics by enhancing their mobile trading offerings with user-friendly interfaces and competitive pricing models to stay relevant and retain their user base. Additionally, fintech start-ups should continue to innovate by introducing value-added services, leveraging emerging technologies like artificial intelligence and data analytics, and catering to the evolving needs of investors to differentiate their offerings in the competitive landscape.

## Conclusion:

The quick growth of mobile trading apps in India has truly changed the country's financial world. The findings show these apps are spreading widely, increasing from just 20 in 2018 to 45 in 2023, with a high yearly growth rate of 14.47%. This expansion has been driven by low-cost apps like Zerodha and Upstox, which have gained a large 28% share of active users in 2023. Their easy-to-use designs and affordable fees have disrupted traditional brokers, causing them to lose market share.

Additionally, the study reveals daily trading volumes peaked in 2020 at a massive ₹5,054.71 billion, fuelled by new retail investors using mobile trading. However, the later decline in volumes raises concerns about a possible limit in new investor growth, highlighting the need for ongoing innovation to sustain growth. The rise of apps like Groww, offering comprehensive financial services beyond just trading, shows investors want user-friendly mobile investing with more features. This diversification could further boost mobile finance adoption and enable more financial inclusion and wealth creation across India.

While mobile trading's transformative impact is clear, the study emphasizes the pressing need for strong regulations, investor protection, financial education, and responsible investing practices. These measures are crucial for maintaining market integrity, safeguarding investors, and addressing challenges from this sector's rapid expansion. As India's economy continues growing and the middle class expands, the demand for accessible, easy-to-use investing platforms will increase. Mobile trading apps are well-positioned to shape finance's future, drive economic growth, and enable widespread wealth creation nationwide. Witnessing the ongoing evolution of these innovative apps will be an exciting journey.

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