Leveraging AI/ML in Kotak Cherry

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Introduction

Kotak Cherry, introduced in 2020 by Kotak Investment Advisors, is a one-stop digital investment platform under Kotak Mahindra Bank. Offering diverse investment options, including Mutual funds, Bonds, Stocks, and more, it caters to investors of all levels. The app provides a seamless experience with personalized portfolios, rich content, and tools for understanding financial markets. Notably, its 100% cloud-native architecture ensures scalability and security. With an open architecture model compatible with any bank account or UPI, Kotak Cherry stands out for its comprehensive product lineup, varied investment options, and heightened engagement features. Easy navigation, robust security, and future plans to introduce international stocks and real estate investments make Kotak Cherry a promising choice in the digital investment landscape. Advances in data availability and accessibility of high computing power - combined with essential achievements in developing machine learning algorithms - have enabled exponential field growth. By implementing artificial intelligence, Kotak Cherry can see major benefits such as cost reduction, ease of use, better suggestions, and improved decision-making by the customers, making it popular in the market and hence becoming the first choice of the customers.
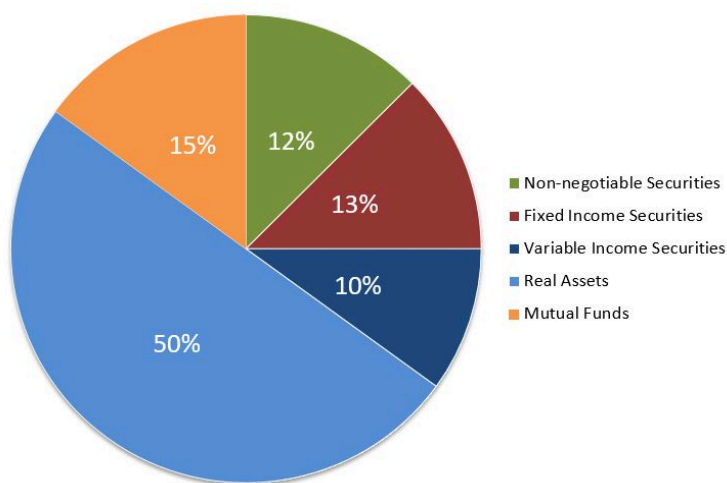

Market Overview

The Indian online stockbroking market is in the midst of a robust expansion, driven by increasing internet penetration, rising disposable incomes, and a growing awareness of the significance of investing. Major industry players like Zerodha, Upstox, Groww, and Angel One dominate this landscape.

Alongside these giants, emerging players like Kotak Cherry, launched in 2020 by the prestigious Kotak Mahindra Group, have successfully carved out a niche. Kotak Cherry caters specifically to

tech-savvy individuals and new investors, offering a platform known for its simplicity, affordability, and user-friendliness.

The industry leaders are strategically leveraging the capabilities of Artificial Intelligence (AI) and Machine Learning (ML) to redefine the user experience, fostering customer-centric growth and delivering substantial profits.

Source: Market Investment Analysis.

📊Zerodha

Zerodha's Kite platform utilizes AI to power its advanced charting tools and technical analysis indicators. These include auto-charting, pattern recognition, and backtesting, which can help traders make more informed decisions.

📈Groww

Groww uses AI to personalize stock recommendations based on your risk tolerance, investment goals, and portfolio mix. It also uses AI for face recognition in customer onboarding processes to ensure a hassle-free onboarding process. Additionally, Groww provides AI-driven stock insights, including news updates, analyst reports, and technical analysis.
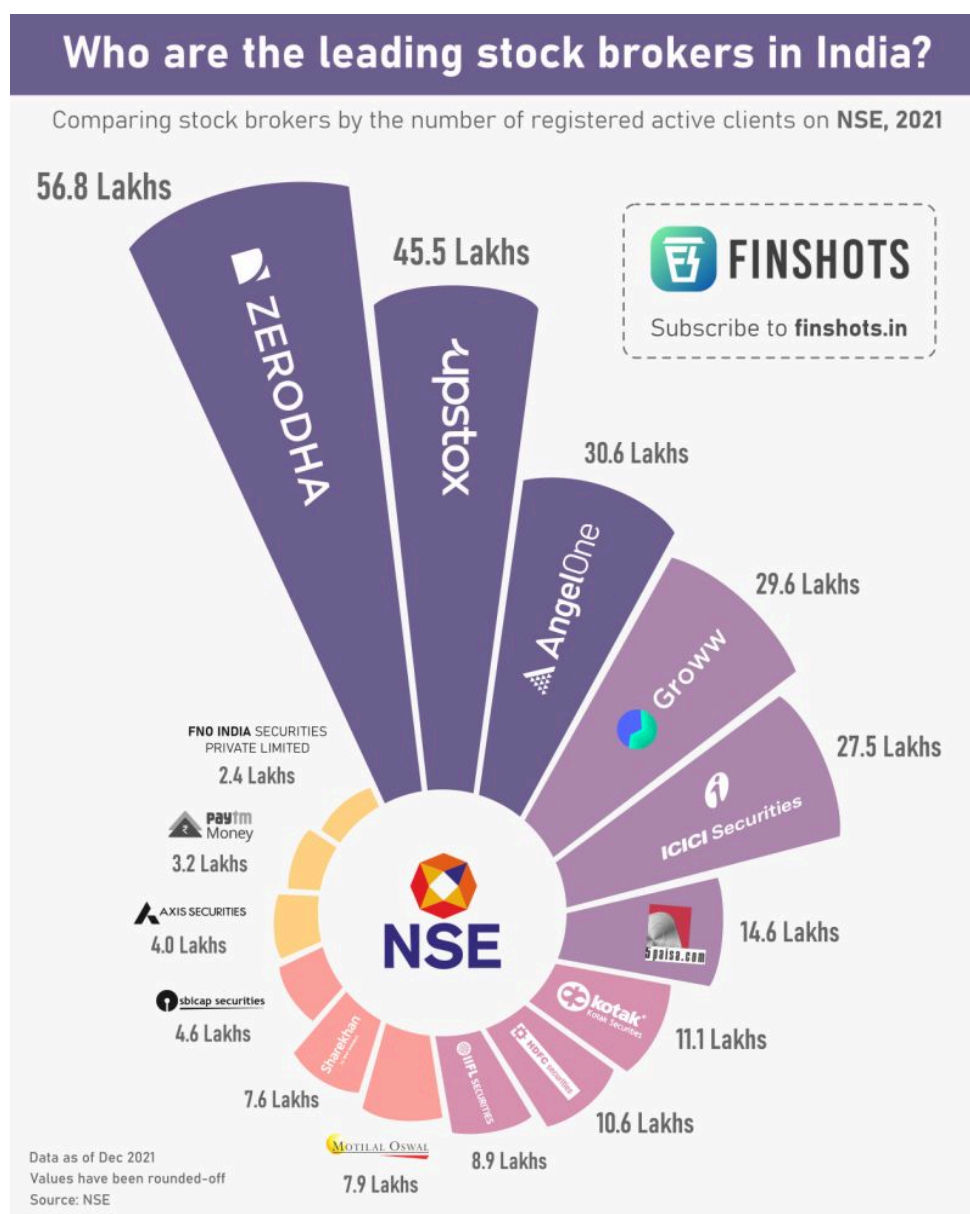
📊Angel One

Offers a Robo Advisor called 'SmartAPI' that automatically creates and manages investment portfolios based on your risk profile and goals. It also provides an algo trading platform for

experienced investors to automate their trading strategies and uses AI to analyze market sentiment and provide insights on how other investors are feeling about different stocks.

📈Upstox

Upstox uses AI to generate insightful research reports on various companies and sectors. These reports include sentiment, fundamental, and technical analyses, which can help investors make more informed decisions.
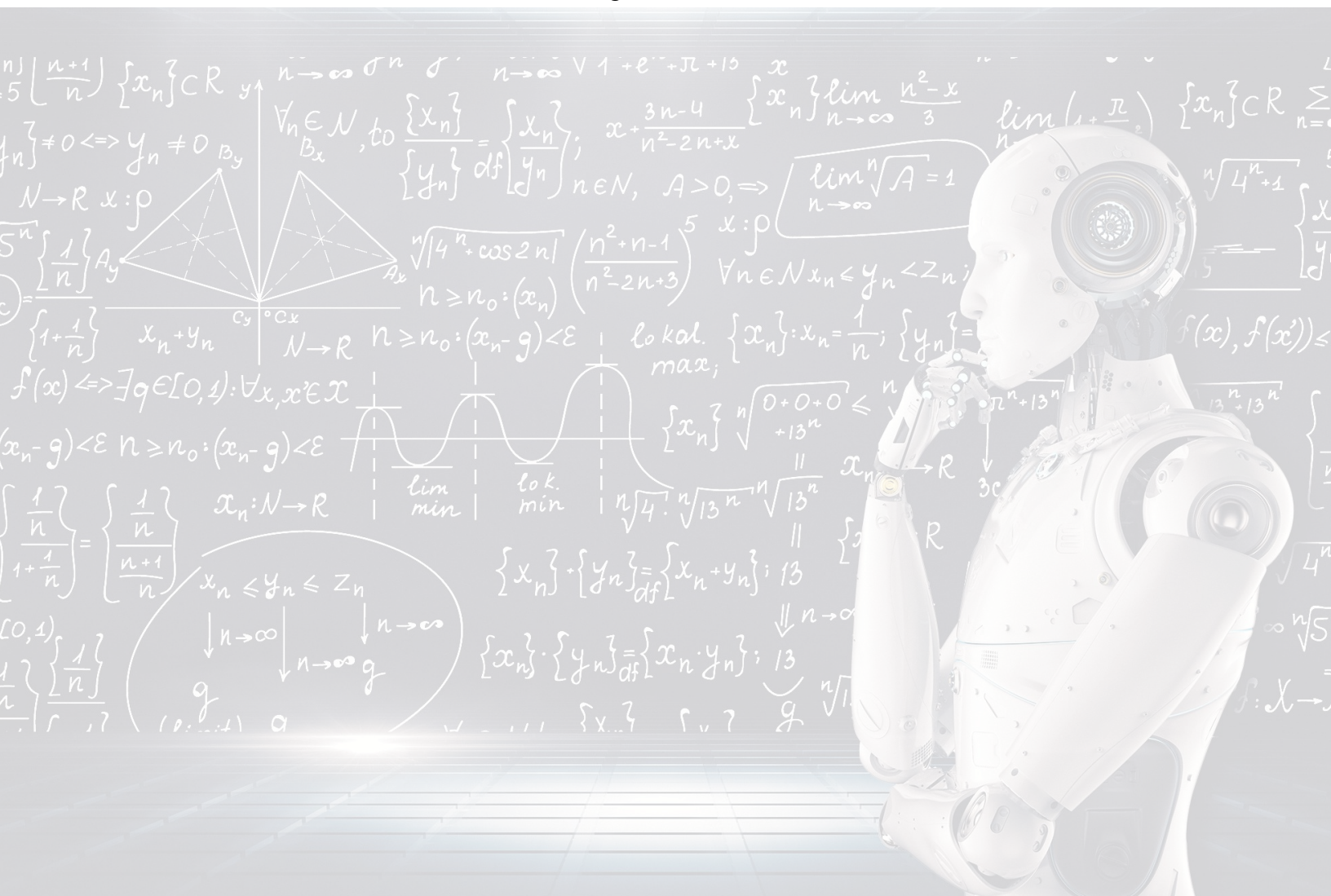

Source: Finshot. Number of Registered Active Clients as on Dec, 2021

Overall, the AI-powered features offered by these brokerage apps are making it easier for investors of all levels to make informed investment decisions. As AI technology continues to evolve, we can expect to see even more innovative features and functionalities emerge in the stock market brokerage app market.

How is Kotak Cherry currently using AI and ML?

Kotak Cherry is prominently recognized for its AI/ML-powered calculators, such as retirement and crorepati calculators, yet specific information regarding broader AI/ML integration remains limited. Amidst ongoing technological advancements in the BFSI industry, asset management organizations actively explore innovative ways to leverage Artificial Intelligence (AI) and Machine Learning (ML) to optimize investment decision-making, enhance risk management, and streamline portfolio optimization.
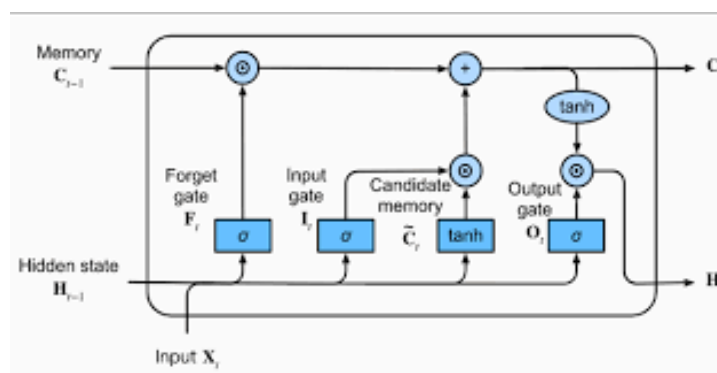
The following section delves into the various dimensions of integrating AI/ML with Kotak Cherry, encompassing aspects like Natural Language Processing (NLP), the development of predictive models, and the implementation of recommender systems. The subsequent discussion delves into the intricate details of these integration solutions.

Solutions

Artificial intelligence will undoubtedly represent one of the critical factors transforming the future of business across all industries, and the financial sector is leading the race in terms of current AI adoption and future AI demand trajectory. One of the most important financial innovations in the coming years is the application of artificial intelligence to various segments of business and the transformation of investment management companies to be more flexible, efficient, and profitable. Using the same idea, AI/ML can be integrated with the Kotak Cherry Product in the following ways.

- Enhancing the user experience in mutual funds search, Kotak Cherry can employ an advanced pattern recognition algorithm powered by artificial intelligence. This innovative approach saves customers valuable time by eliminating the need to enter lengthy text and significantly boosts user-friendliness. By intelligently understanding patterns, the system can provide tailored recommendations, streamlining the search process and making it more efficient for users. This user-centric design aims to simplify the overall experience, making mutual fund exploration more accessible and convenient. LLM, BERT, and Generative Adversarial Networks can be used to implement the efficient pattern recognition algorithm.

Source: LSTM Architecture

- Face recognition models built using OpenCV can be used for customer onboarding, increasing the security of the customer's assets and information.

- PCA, that is, Principal Component Analysis, can provide the customers with the main factors affecting the market trend so that they can invest or buy stocks accordingly.

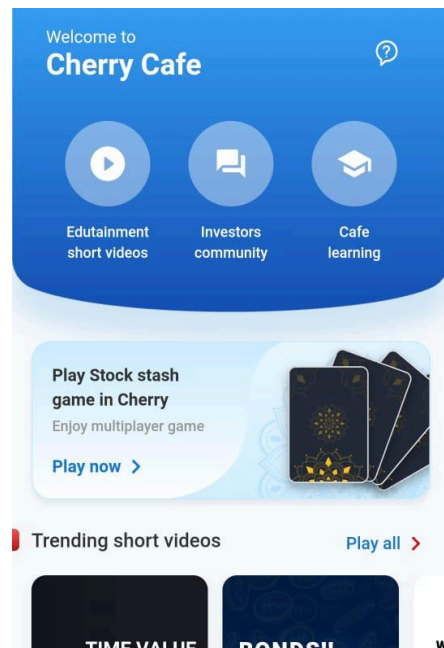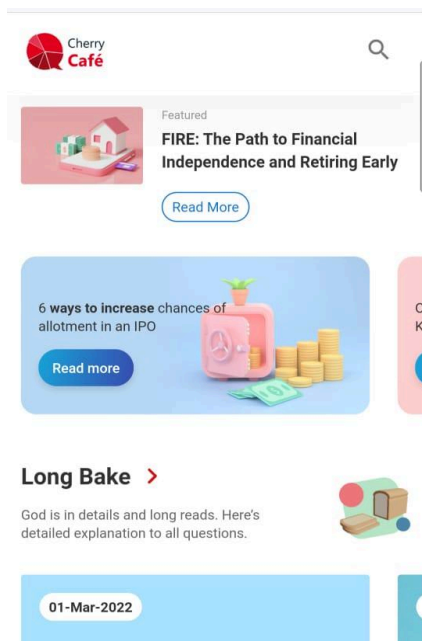## Personalized Content Recommendations for Kotak Cherry's Kotak Cafe

This feature is based on providing content recommendations to the users of Kotak Cafe based on collaborative filtering and portfolio analysis of those users. The algorithm will provide separate recommendations for existing and new users.

For Existing Users:

- Analyze the user's portfolios and content engagement with similar profiles (similar asset allocation, risk tolerance, etc.).
- Recommend videos and blog posts based on the combined insights from **portfolio analysis and collaborative filtering**. This will recommend content about sectors or specific stocks the user holds or shows interest in and suggest content focused on achieving the user's investment goals (e.g., wealth creation, retirement planning), risk appetite, and content popular among users with similar portfolios or trading styles.

For Newcomers:

- Implement a short quiz during onboarding to assess the user's investment knowledge, risk tolerance, and goals and highlight popular content among the overall user base, allocating it to a specific user segment based on **clustering algorithms** on the user assessment.
- Allow users to rate and review content, providing valuable insights for newcomers.
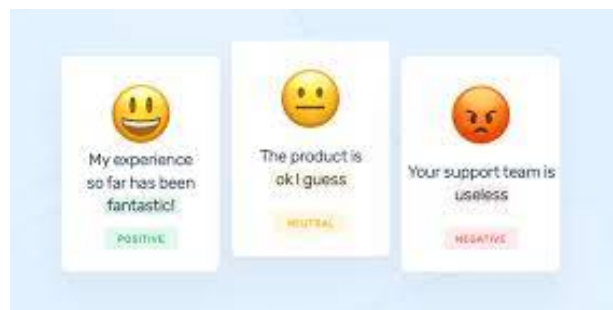

Source: Kotak Cherry Interface

Benefits:

- Personalized recommendations keep users engaged and returning for more, increasing app usage and loyalty.
- Recommendations tailored to individual portfolios and goals can improve investment choices.
- Newcomers benefit from expert-curated content and insights from experienced users, lowering the barrier to entry into the stock market.

Sentiment Analysis

Recent research has highlighted the significant impact of social media sentiment on stock market decisions, particularly on platforms like Twitter. Notably, influential figures' sentiments on specific stocks have emerged as critical catalysts for driving changes in the market. To harness this influence, the integration of the Twitter API has become a pivotal tool for sentiment extraction, explicitly focusing on analyzing posts with higher engagement metrics such as likes, comments, and reactions. The objective is to provide users with real-time stock status updates through an upcoming app, offering valuable insights into upward and downward trends.

Leveraging cutting-edge technologies such as machine learning, large neural networks, transformers, and diverse algorithms, the app aims to predict stock prices based on historical trends. A critical feature of the app is its ability to categorize social media messages as positive, negative, or neutral, enhancing the precision of market trend predictions. Users will be empowered with a probability of success for each prediction, facilitating informed decision-making and enabling them to enhance their overall predictive strategies. The model powering the app undergoes rigorous training and testing, utilizing historical data from the past 5 months or 1 year to bolster its accuracy in forecasting market movements. The outcome of the sentiment analysis can be used as the input feature along with the other factors for the time series-based prediction of the stock or return on the mutual fund investment using models like LSTM, ARIMA, N-Beats, LightGBM, etc.

Conclusion

The integration of artificial intelligence (AI) solutions in various industries, particularly the financial sector, has been facilitated by the increased availability and diversity of data, enhanced computing power, and the advent of cloud computing. In investment management companies, AI implementation brings several benefits. These include cost reductions through automation across departments, revenue gains from more efficient sales and marketing strategies, and customer acquisition and retention improvements. The financial sector, particularly asset management, stands out in leveraging AI, with its most prominent application being trading. Machine learning algorithms have proven more effective than traditional analytical methods, addressing specific challenges such as forecasting asset prices, analyzing factors influencing prices, and predicting market volatility based on macroeconomic variables. Hence, the above-mentioned solutions can be integrated with Kotak Cherry to provide the customers with a better experience and make it more user-friendly. It will enhance Kotak Cherry's customer acquisition and engagement in the upcoming years. The recent advancements in AI/ML that include the discovery of **LSTM**, **Bert Model**, **GANs**, **LLM**, **and Ensemble models** can be fruitful to implement the above-discussed solutions, resulting in the better efficiency of Kotak Cherry than the other current key competitors of the product in the market.

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