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Research Article

Impact of FinTech on the Indian Mutual Fund industry

Ms. Ramya V[1], Dr.B.Kanammai[2], Zhang YuJie[3], Dr Meena Sunildutt Sharma[4]
[1] *Assistant Professor, MOP Vaishnav college for Women (Autonomous),*
[2]*Asst Professor, Nallamuthu Gounder Mahalingam College, Pollaci*
[3]*Faculty of Education, Shinawatra University*
[4]*Professor & Head of the Department, Universal Ai University, Maharashtra India 410201.*

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ABSTRACT

The application of blockchain technology in the field of accounting is essential as it guarantees increased transparency, security and reliability as well as shredding time and expenses of financial reporting. In this paper, the challenges have been discussed concerning the use of blockchain in Thailand's accounting industry, its benefits, and possibilities in the future. To achieve the stated research objectives, interpretivist approach, inductive reasoning, survey, descriptive analysis, and correlation analysis were used. The research also shows that the implementation of blockchain leads to increased efficiency of financial reporting in the organization, low incidence of fraud and increased regulation compliance. The numerical results portray strong correlation between blockchain acquaintance and its believed effect on transparency (r=8.83), reliability (r = 0.91), and willingness to adopt (r = 0.96). Moreover, challenges like high-cost hamper adoption shown by (r = 0.51). Traditional users resist change (r = -0.89) and there is high belief of blockchain replacement (r = 0.98). The findings reveal that there is the opportunity and need for more formalized approaches to transition from regular accounting methods to blockchain based systems to improve the effectiveness of financial professionals and strength of data.

Keywords: Blockchain technology, Accounting, Financial Reporting, Transparency, Machine learning

INTRODUCTION

Technology has a ubiquitous presence in the business world. Its impact in solving business problems and helping business attain its objectives has more often created a game changing experience. Technology initiative spawns across multiple industries like manufacturing, banking, aviation, retail etc and the financial services is no exception to this. Investopedia defines FinTech as "the integration of technology into offerings by financial service companies to improve their use and delivery to consumers". It consists of a combination of algorithms and specialized software which runs on host devices like smartphones and computers to facilitate efficient utilization of resources in executing financial operations and enhance the lives of its stakeholders. This emerging technology assists financial institutions and the intermediaries in accelerating the service delivery process in an innovative and economical manner. On the customer front, it promotes financial literacy, empowers the customer to advance his financial situation by capitalizing on technology.

(Subramanian, 2022) reports in the Economic Times that the Indian Fintech industry is growing at a tremendous pace with increasing internet connectivity. The Fintech adoption rate in India stands at 87% as against the global average of 64% which is a testimony to the rapid rate at which the service is penetrating the length and breadth of this country. Progressive policy initiatives like "Digital India" have further propelled the growth and adoption rate of FinTech. The functionality of Fintech is further enhanced by the usage of AI and ML tools that add convenience, simplify the business operations and provide customization. This conceptual paper highlights the challenges faced by the mutual fund industry and the ways to address the challenges using the FinTech ecosystem.

MUTUAL FUNDS

Indian economy is the fifth largest economy in the world boasting of a GDP of 3.5 trillion USD as of 2022 (Relli, 2022). The GDP is accelerating at the rate of 7% as per the national income data published by NSO to target the USD 5 trillion mark by the year 2027. The services sector comprising of the financial services, real estate and professional services contributes to nearly 23.07% of the country's overall GDP (Implementation, 2021). Mutual funds are a primary component of the financial services sector that mobilizes household savings and channelizes it to the deficit industrial units which are focused on the real economic growth of the nation. The 44 Asset

Management companies operating in India offer a wide variety of fund schemes that cater to the milestones of individuals like children's education, marriage, retirement planning etc . The overall Assets under Management (AUM) spanning across varied fund categories like debt funds, equity funds, money market instruments etc account to Rs. 44.39 lakh crores as of June 2023 (AMFI, 2023)

CHALLENGES AND OPPORTUNITIES IN THE INDIAN MUTUAL FUND INDUSTRY:

The industry boasts of an enviable growth in AUM at the rate of 29% in the retail space during the second quarter of the year(India, 2023). In spite of such optimistic estimates portrayed by the Industry, the AUM-to-GDP ratio which is a key mutual fund penetration indicator stands at a staggering 16% in India as against the global average of 75% (Nair & Baid, 2023). This showcases tremendous opportunities to further the reach of mutual funds and broad base its customers across the retail and institutional front. The industry is well aware of its potential and has set a target of reaching the Rupees 100 trillion mark by the year 2030. It is also observed that only 8% of the PAN holders invest in a mutual fund which leaves a lot of headroom to increase awareness about this instrument and subsequently create financialization (Jani & Shah, 2023).

1.1 Unequal distribution: The AUM is not evenly distributed across the rural and urban areas of the country. Some of the cities like Mumbai. Ahmedabad, Surat etc have been classified as T-30 cities and those beyond fall under the category of B – 30 cities. The T-30 cities have contributed to nearly 82% of the overall AUM as against 18% from the B 30 cities (Patnaik & Gour, 2023). It is a clear indication of the unhealthy participation which exists across prominent cities compared to the lesser commercial ones, that needs to be addressed in order to expand the industry.

The industry is also skewed in terms of the top 8 fund houses (3 bank backed AMCs) contributing to nearly 74.6% of the overall AUM and the bottom 10 AMCs contribute to approximately 1% of the overall AUM of the industry (Jani & Shah, 2023).This can be attributed to the high touch nature of the business and the brand trust built by these established businesses.

A study conducted on the opportunities and challenges in the Indian Mutual fund industry by the SEBI Development Research group (Chakrabarti, Malik, Khairnar, & Verma, 2014) concluded that the industry was debilitated by lack of investor awareness, low retail participation, lack of proper distribution channels and deficiency of a proper governance and risk management implementation.

1.2 Household savings: Most Indian households who have a strong savings propensity continue to operate with the traditional investment products like FD, Gold, Real estate etc. Lack of understanding about basic financial concepts like risk-return ratio, asset allocation, diversification etc has been plaguing the society and dampening the spirit of exploring newer financial instruments. Mutual funds and stock market investments are perceived as risky and compared to a gambling exercise. A joint study conducted by National Council of Applied Economic Research (NCAER) and Max New York life on " How India earns, spends and saves?" suggests that the households save in order to meet their short term goals and also achieve financial security (Shukla, 2008).The study highlighted that 65% of household savings is in liquid assets like bank/post office deposits and liquid cash, 23% in gold and real estate investments and a minor 12% in financial instruments. Life insurance is treated as the most prominent from among the financial instruments. The opportunity lies in expanding the portion of the pie that relates to financial instruments.

The AMCs offer nearly 2500 schemes across a wide variety of investment objectives and asset classes to suit the investment needs, risk appetite and tenor of investment (paisabazaar.com, 2019). Looking at the wide array of schemes in the offering, rather than being delighted, the investors tend to feel intimated and under confident about their choices. This is widely called as the choice overload bias. Mutual fund investments are not always based on rational choices as advocated by the traditional theories. In an interview hosted by Economic Times, the CEO of Edelweiss securities, Ms. Radhika Gupta cites various behavioral biases that influence the investment behavior of individuals (Gupta, 2020). Other than the choice overload bias cited above, the following biases are also of concern – anchoring, Loss aversion, Recency and Herd mentality.

1.3 Behavioral bias: Herding refers to a phenomenon by which individuals imitate group behavior rather than making decisions independently; owing to lack of confidence about one's own choices and the perception that others are better informed. This mentality has been proven through multiple research studies to be highly prevalent in the mutual fund markets in India (Bikchandani & Sharma, 2001) (Patro & Kanagaraj, 2012) Anchoring bias acts as a precursor to a number of other behavioral biases and skews the decision making process. It refers to an idea or a number which acts as a reference point that filters out information and distorts the perception of the decision maker. In the context of investment, purchase price, past performance or expected return could act as anchor values to determine the investment behavior. "The pain of losing is psychologically twice as powerful as the joy of gaining" is the basis for the Loss aversion bias which is rampant in the mutual fund investment context. The tendency of investors to overemphasize on recent experiences / latest information is termed as Recency bias. Hasty decisions made on the basis of recent dividend announcements / short term performance indicators are classic

examples of this bias which is highly correlated with the investment decision making process. The supply side of the mutual fund industry thoroughly acknowledges the biases in the investment decision making and are taking conscious efforts to eliminate the bias. Investment education programs that promote a rational and systematic approach to investing are being facilitated. The Investment advisors are helping the prospective investors to design their portfolios based on their investment needs, which is of very high significance in eliminating biased strategies.

1.4 Distribution challenges: A mutual fund, being a high credence financial product requires a push strategy to be able to materialize sales in the market. The distribution network is also skewed towards Tier I and II cities which explains the underlying reason behind the lack of penetration in the B30 markets. The implementation of "No-load" regulation has resulted in lack of adequate compensation for the financial advisors to sell mutual funds. Due to reduced incentivisation the industry is dominated by large, integrated financial advisors and banking institutions. (Summit, 2011)The consumers look up to the distributor community for their expertise and network, in helping them analyse the risk and benefits associated with different schemes to finalise their decision. It is evident that the distributor's role needs to be more advisory rather than being transactional in nature to nurture long term relationship with the clients.

1.5 Service delivery: Customers are intimidated by the amount of paperwork that needs to be completed at the time of onboarding the customers into a scheme due to extensive KYC guidelines. Further it is an arduous task to track investments across fund houses when there is no integrated platform to support the same. Extensive set of service complaints have been received by AMFI with reference to non updation of customer demographics like PAN, bank account details, mandatory nomination etc. and faulty services like non receipt of dividends, non-receipt of portfolio statements etc. During the month of March 2023 alone, nearly 1751 complaints have been received across fund houses (Gagwani, 2023) Customers expect transparency in transactions and products and a robust technology supported integrated platform to handle their post sales queries.

TECHNOLOGY AS AN ENABLER

Technology is a creative disruptor that can reshape business models and rewrite the rules of the game. In the asset management space, technological advancements have revolutionized many of its core practices and in the process enhanced efficiency, transparency leading to an increased customer engagement. This section highlights the technology innovations that have already transformed the mutual fund industry to driving investor participation and streamlining operations. Additionally, the emerging applications of AI and ML could help deliver superior fund performance, patronize service and lead to an increase in financial inclusion.

1.1 Onboarding process: The customer onboarding process is one of the most complex client facing activities in the financial sector, involving extensive documentation and adherence to regulatory requirements in the form of KYC (Know your customer), AML (Anti Money Laundering) and other mandatory legal formalities necessitating cross validations, approvals and signatures.
Beyond the mandatory KYC exercise, the unit holders are also responsible for account maintenance like providing nomination details, updating the bank account details etc. An eKYC program that facilitates completion of the KYC process digitally with OTP based Aadhaar number authentication has been rolled out to streamline the customer onboarding process. Agencies like CAMS play a pivotal role in the transformation by providing a one stop shop KYC registration process that ensures uniformity across intermediaries registered under SEBI and eliminates the need to do multiple KYCs for different fund houses. Additionally, Account maintenance activities and other KYC updates can also be conveniently executed through the eKYC platform through an efficient and single touch point experience (camsonline, 2022).

1.2* Portfolio selection and management*: Portfolio selection involves the assessment of securities from the available alternatives to identify the ones that best suit the investor's financial objectives and risk appetite. The steps involved in a portfolio selection process includes assimilating the vast amount of available information within the risk-return framework of the incumbent and identifying and evaluating individual securities in the context of returns, volatility and correlation with other financial assets in the portfolio. The process also transcends through initiating trading activities in the context of prevailing economic and market conditions and rebalancing the portfolio within the given constraints in order to maintain optimal asset allocation.

***1.2.1 Fundamental Analysis*:** A powerful valuation tool that evaluates the financial performance of a company and the influence of the external factors like economic conditions, market trends and sector-specific dynamics in which the company operates in. This involves analyzing vast amount of information and determining whether a company is over-valued or undervalued.

A plethora of AI tools find its application in processing the large data and extracting economically meaningful insights within the range of parameters established. Natural language processing (NLP) is a subset of AI which is attuned to understand human language in the context of its usage is extensively deployed to extract information from corporate financial reports (Schumaker & Hsinchun, 2006), twitter posts and news articles published in business magazines (Sprenger, 2014). Beyond extracting textual information and the frequency of text usage, NLP

also uses sentiment score approach in its information processing. This enhances the operational effectiveness of the financial professionals since such tools help in processing massive amounts of structured as well as unstructured data elements.

LASSO (Least Absolute Shrinkage and Selection Operator) regression is a popular regression technique that helps to filter out less relevant parameters, focusing only on the significant factors that impact financial performance in order to regularize the model. In the context of portfolio selection, the LASSO technique helps in selecting the parameters that hold the highest influencing power on the future return from a large set of predictive signals. By leveraging firm level and macroeconomic variables, models designed through this technique will help predict stocks that are over performing / underperforming thereby enhancing portfolio decision making (Rapach, 2019)

1.2.2 Trading activities and AI driven innovations: The deals on mutual funds were traditionally handled through banks, registered advisors and third party distributors and through direct channels. Investments facilitated through these conventional channels required a higher contact basis with clients, due to which the penetration of mutual funds was highly restricted. With the advent of the internet, integrated platforms have emerged that helps investors transact across fund families without much hassle. NSE's NMF II and BSE's StAR uses state of art technology facilitating electronic transactions with seamless connections between NSE, NSE Clearing, AMC, RTA and distributors.

AI supported algorithmic trading is a novel concept in the financial world that capitalizes on the speed and computational capacity of machines to execute trades based on pre-programmed instructions, accounting for such parameters as time, price and volume.

The trading activity is split into three phases as Pre trading analysis, actual execution of the trade and post trade analysis.

Pre trading analysis: Fund managers perform technical analysis of stocks based on past price and trading volumes as part of pre trading activity. AI tools are available to generate technical analysis summary using market scanners over momentum signals and oscillators to identify potential trading opportunities.

Trade execution: AI approaches facilitate trade models through actively learning from real market data, study its sensitivity and provide optimal trading strategies as an output. The trades based on data elements like liquidity and market price movement, have the flexibility to adapt to dynamic market conditions.

Post trade analysis: This activity involves detecting errors like trade mismatches and identifying anomalies to expected behavior etc. AI tools have been highly beneficial in performing root cause analysis in case of erroneous transactions and simulating various market scenarios to predict potential fluctuations to mitigate risk, A (Deloitte, 2021) study cites a use case in which variation was observed in the NAV figures during daily reconciliation at market close which was consuming a lot of resource time. The issue was resolved using machine learning and predictive analytics reducing exceptions by 77% against thousands of unique positions.

Artificial Neural Network (ANN) is a computational work inspired by the working of the human brain. It studies patterns in the data and generalizes this knowledge to identify patterns in future. This methodology has been put to good use in the mutual fund industry to determine stock prices. Historical stock prices like opening price, closing price, the highest –lowest price at which deals were executed on a given business day is used as a training data to help generate patterns and these patterns were subsequently used to test the real time data. Once trained, these models can be used to accurately predict stock movement enabling investors to make informed data driven trading decisions thereby optimizing the profits.

1.2.3 Portfolio optimisation: The process of selecting assets that maximises the return while minimizing risk, given an investor's available capital and risk appetite. The optimization considers the investment objective, risk appetite and investment horizon of the individual and the extent of diversification to create a resilient portfolio. Cluster analysis is an approach used to create diversified portfolios. Mutual funds are classified into several groups on the basis of certain indices like rate of return, sharpe index, investment similarity etc. The selection process considers funds that exhibit minimal correlation with each other to ensure well diversified assets that carry minimal risk (Takumasa Sakakibara, 2015). Genetic Algorithm is another popular technique based on the natural selection and evolution theory proposed by Darwin. GA generates potential solutions to optimization problems by iteratively refining a set of candidate portfolios. The process involves selecting well-performing funds, introducing recombination and mutation operators to generate new candidate portfolios, and iterating until the optimal portfolio is identified. By leveraging this technique, investors can systematically identify high-performing funds and construct optimized portfolios (M. M. Solin, 2019).

1.3 Service Efficiencies in Investment Management

AI-powered platforms are transforming investment management by simplifying fund selection, continuously monitoring portfolios, and triggering red flags based on performance metrics. These platforms can also execute

portfolio rebalancing as instructed, offering a seamless, user-friendly experience tailored to individual investment preferences.

Robo-advisory is a disruptive innovation in the investment advisory space, offering convenience, simplicity, and rapid client response to market changes. It eliminates behavioral biases and cognitive limitations that traditional advisors may pass on to clients. Robo-advisory platforms integrate investor risk-return preferences and financial goals with big data from multiple financial and non-financial sources. AI/ML tools process these inputs to generate data-driven investment recommendations (Francesco D'Acunto, 2019).

Additionally, **digital payments** such as UPI have revolutionized the mutual fund industry. An AMFI-CRISIL study found that digital payments via debit cards, IMPS, and mobile banking increased from 0.5% to nearly 10% as of June 2018 (Rege, 2018). Post-pandemic, UPI transactions have surged, reducing reliance on traditional card-based payments and contributing to increased SIP and lump-sum mutual fund investments.

LIMITATIONS OF TECHNOLOGY

Despite its numerous advantages, AI-driven technology in financial markets comes with certain limitations. AI models rely heavily on historical data and pattern recognition algorithms, which may not account for unprecedented "black swan" events. Such unexpected market disruptions can lead to systematic crashes, as AI-driven trading strategies may fail to adapt in real-time.

Another challenge is the potential for AI models, particularly ANN-based systems, to allocate weightage to specific parameters such as returns, leading to recommendations that favour illiquid stocks. Such investments may not align with an investor's risk appetite or liquidity needs, potentially resulting in significant financial losses. Furthermore, the opacity of AI models makes it difficult to decipher the reasoning behind certain investment recommendations, which can erode investor trust and trigger concerns over accountability.

AI's reliance on data quality is another critical issue. Inaccurate, inconsistent, or biased data can lead to flawed AI predictions, undermining investment decisions. The effectiveness of AI models is only as good as the data they are trained on, making data integrity a key concern for financial professionals.

Additionally, AI technology in the financial sector is still evolving, and regulatory frameworks are not yet fully developed in many regions. In India, for example, SEBI has noted that certain brokers have been misleading investors by promoting algorithmic trading with false claims of superior returns. SEBI has issued warnings to investors, advising them to be cautious when dealing with such unregulated platforms and to refrain from sharing personal or sensitive financial information (PTI, 2022). Without a well-defined regulatory structure, the risks associated with AI-driven financial services remain a concern for both investors and regulators

CONCLUSION:

Through this paper, the challenges that plague the Mutual fund industry leading to limited penetration have been highlighted. Over the years, a positive shift in trends has been observed with increased participation from the retail investors. As of June 2023, the number of retail folios reached 119.06 million, up from 117.63 million in May 2023 (Money, 2023)

The addition of 3 million new demat accounts is a direct outcome of increased awareness about long term investments and rising disposable income among the working population. Technology has always been a facilitator to expedite the rate of growth in any sector. In the words of Mr. Narayanamurthy (Times, 2018) – "Technology is a great leveller". By leveraging digital tools and AI-driven methodologies, financial literacy levels can be enhanced, market participation can be expanded, and transactions can be made more seamless and accessible. Addressing the obstacles and limitations discussed in this paper will allow the mutual fund industry to harness technology effectively, scale new heights, and foster greater confidence among investors in capital markets.

REFERENCES

[1] AMFI. (2023). *https://www.amfiindia.com/indian-mutual* Retrieved from amfiindia.com: http://www.amfiindia.com

[2] Bikchandani, S., & Sharma, S. (2001). Herd Behavior in Financial Markets. *IMF staff papers*, 279-310.

[3] camsonline. (2022). *https://www.camsonline.com/Investors/Transactions/KYC/About-KYC*. Retrieved 08 5, 2023, from camsonline: https://www.camsonline.com/Investors/Transactions/KYC/About-KYC

[4] Chakrabarti, R., Malik, S., Khairnar, S., & Verma, A. (2014, May 1). *https://www.sebi.gov.in/sebi_data/DRG_Study*. Retrieved july 31, 2023, from sebi. gov.in.

[5] Deloitte. (2021). *Artificial Intelligence in post trade processing*. Deloitte consulting.

[6] Francesco D'Acunto, N. P. (2019). The Promises and Pitfalls of Robo-Advising. *The Review of Financial Studies*, 1983-2020.

[7] Gagwani, K. (2023, April 28). *https://cafemutual.com/news/industry/29082-here-are-fund-houses-with-least-investor-complaints-in-march-2023*. Retrieved August 2, 2023, from cafemutual.com.

[8] Gupta, M. R. (2020, October 27). Behavioral Financial Biases In Mutual Fund Investing - Radhika Gupta. (E. Times, Interviewer)

[9] Implementation, M. o. (2021). *Sector-wise GDP of India*. New Delhi: Minsitry of Statistics and Program Implementation.

[10] India, O. (2023, July 10). *https://www.outlookindia.com/business/mutual-fund-folios-continue-to-grow-industry-aum-reaches-rs-44-39-lakh-crore-in-june-amfi-news-301744*. Retrieved July 30, 2023, from Outlook India: https://www.outlookindia.com/business/mutual-fund-folios-continue-to-grow-industry-aum-reaches-rs-44-39-lakh-crore-in-june-amfi-news-301744

[11] Jani, G., & Shah, P. (2023, March 8). *https://images.assettype.com/bloombergquint/2023-03/63066770-7f7f-42d6-94bb-4dedf0537274*. Retrieved July 30, 2023, from https://www.plindia.com/samplereports/sectorxrayamc2023.pdf: https://images.assettype.com/bloombergquint/2023-03/63066770-7f7f-42d6-94bb-4dedf0537274

[12] M. M. Solin, A. A. (2019). "Forecasting Portfolio Optimization using Artificial Neural Network and Genetic Algorithm. *7th International Conference on Information and Communication Technology (ICoICT)*, 1-7.

[13] Money, O. (2023, 08 05). *outlookindia.com*. Retrieved 08 07, 2023, from https://www.outlookindia.com/business/3-million-new-demat-accounts-opened-in-july-2023-highest-in-18-months-news-308355.

[14] Nair, C., & Baid, R. (2023, April 2). MF industry can scale up further. *Hindu Businessline*.

[15] paisabazaar.com. (2019). *https://www.paisabazaar.com/mutual-funds/mutual-funds-in-india/*. Retrieved 08 01, 2023, from paisabazaar.com.

[16] Patnaik, N., & Gour, Z. (2023, April 24). *https://cafemutual.com/news/industry/29046-proportion-of-b-30-assets-to-the-total-mf-assets-grows-by-2-in-4-years*. Retrieved July 30, 2023, from cafemutual.com: https://cafemutual.com/news/industry/29046-proportion-of-b-30-assets-to-the-total-mf-assets-grows-by-2-in-4-years

[17] Patro, A., & Kanagaraj, A. (2012). Exploring the Herding Behaviour in Indian Mutual Fund Industry. *Asian Journal of Finance & Accounting*, 189-204.

[18] PTI. (2022, 09 03). *Hindu Businessline*. Retrieved 08 07, 2023, from https://www.thehindubusinessline.com/markets/sebi-comes-out-with-guidelines-for-stock-brokers-providing-algorithmic-trading-services/article65842716.ece.

[19] Rapach, D. E. (2019). "Industry Return Predictability: A Machine Learning Approach". *Journal of Financial Data science*, 9-28.

[20] Rege, S. (2018, August 28). *cafemutual.com*. Retrieved 08 07, 2023, from https://cafemutual.com/news/industry/14115-digital-payments-the-next-game-changer-in-mutual-fund-industry.

[21] Relli, D. (2022, December 19). Is India still on track to becoming a $5 trillion economy? *The Hindu Business Line*.

[22] Schumaker, R. P., & Hsinchun, C. (2006). "Textual Analysis of Stock Market Prediction Using Financial News Articles.". *AMCIS 2006 Proceedings*, 1431-1440.

[23] Shukla, R. (2008). *How India earns, spends and saves* . New Delhi: NCAER- Max New York Life.

[24] Sprenger, T. O. (2014). "News or Noise? Using Twitter to Identify and Understand Company-Specific News Flow.". *Journal of Business Finance & Accounting*, 791-830.

[25] Subramanian, S. (2022, 12 21). Four challenges that fintechs face in practising responsible innovation & how to fix them. *Economic Times*.

[26] Summit, 7. C. (2011). *Distribution Spectrum and the Changing Business Environment Indian Mutual Fund Industry*. Mumbai: Confederation of Indian Industries.

[27] Takumasa Sakakibara, T. M. (2015). Clustering Mutual Funds Based on Investment Similarity. *Procedia Computer Science*, 881-890.

[28] Times, E. (2018, 10 30). *Economic Times*. Retrieved 08 07, 2023, from https://economictimes.indiatimes.com/tech/ites/technology-is-a-great-leveller-narayana-murthy/articleshow/66432349.cms?from=mdr.