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RESEARCH ARTICLE

Potential of Robo-Advisors for ETF Investments in India

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ABSTRACT

Robo-advisors have revolutionised global financial systems, including India, by delivering automated, technology-based investment services. This paper explores the scope of robo-advisors in facilitating Exchange-Traded Fund (ETF) investments in India, emphasising their contribution to improving accessibility and effectiveness. The study highlights the growing acceptance of ETFs as an affordable investment option and examines how robo-advisors leverage technological innovations to expand financial inclusion. Using a conceptual framework, a SWOT analysis is conducted to assess the advantages, limitations, opportunities, and risks associated with robo-advisors in India's ETF landscape. The results indicate notable benefits, including cost-efficiency and scalability, while addressing concerns, including low public awareness and ambiguous regulatory frameworks. The evaluation identifies opportunities to expand financial access through standardisation, but also notes risks from established financial players and competition threats. The study concludes that robo-advisors have the potential to fill critical gaps in India's investment ecosystem, provided efforts are made to enhance regulatory oversight and promote investor education. The findings offer actionable recommendations for fintech companies, regulators, and individual investors as they adapt to this dynamic environment.

Keywords: Robo-advisor; Exchange Traded Fund; Indian Financial Market; Machine Learning

FULL PAPER

Introduction

Robo-advisors are digital platforms that use AI and machine learning to provide automated financial planning and investment services. By analysing customer needs and risk tolerance, they create and rebalance personalised portfolios, offering a cost-effective alternative to traditional asset management, which has been largely limited to high-net-worth individuals (Brännvall & Masry, 2022). Their integration with ETFs, known for low costs and flexibility, presents a promising opportunity in India, where financial literacy and investment accessibility remain challenges (Lam, 2016). Despite their global success, robo-advisors in India face regulatory uncertainties, limited awareness, and a lack of tailored solutions for diverse investor needs (Rao, 2024). This study examines their role in enhancing ETF adoption in India through a SWOT analysis, identifying strengths, limitations, and potential for financial inclusion. By addressing investment barriers and expanding market access, robo-advisors could transform India's financial landscape. The findings offer insights for fintech companies, policymakers, and investors, fostering informed decision-making. This research contributes to the discourse on financial innovation in India, highlighting the potential of AI-driven advisory systems in the ETF sector and laying the groundwork for future empirical studies.

Literature Review

Robo-advisors are digital platforms that use AI and machine learning to provide automated financial planning and investment services. By analysing customer needs and risk tolerance, they create and rebalance personalised portfolios, offering a cost-effective alternative to traditional asset management, which has been largely limited to high-net-worth individuals (Brännvall & Masry, 2022). Their integration with ETFs, known for low costs and flexibility, presents a promising opportunity in India, where financial literacy and investment accessibility remain challenges (Lam, 2016). Despite their global success, robo-advisors in India face regulatory uncertainties, limited awareness, and a lack of tailored solutions for diverse investor needs (Rao, 2024). This study examines their role in enhancing ETF adoption in India through a SWOT analysis, identifying strengths, limitations, and potential for financial inclusion. By addressing investment barriers and expanding market access, robo-advisors could transform India's financial landscape.

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advisory systems in the ETF sector and laying the groundwork for future empirical studies.

Research Gap

Although global studies have analysed the effectiveness of robo-advisory services, research specific to their role in India's ETF sector remains scarce. This study aims to bridge this gap by analysing the opportunities and challenges of integrating robo-advisors in India's ETF investment landscape.

Objectives of the Study

1. To describe the emergence and functioning of Robo-advisors in the Indian financial market
2. To formulate a SWOT analysis regarding the role of Robo-advisors in the Indian ETF market.

Methodology

This conceptual and descriptive study relies on secondary data from academic literature, market reports, and regulatory documents. A SWOT framework is employed to evaluate the internal and external factors influencing robo-advisory services for ETF investments in India.

Analysis and Discussion: Robo-Advisors in India

Robo-advisory services emerged in 2014, and India has witnessed rapid growth since 2020. Technology-driven startups in finance, health, and other sectors are leveraging AI and machine learning for precise advisory solutions (Eswaran et al., 2024). In finance, robo-advisors offer investment, financial, retirement, and tax planning by analysing investor profiles, risk appetite, and goals. Young investors increasingly prefer robo-advisors over traditional advisors. Major Indian robo-advisory platforms include Angel Broking ARQ, Scripbox, FundsIndia, Sharekhan NEO, ET Money, Oro Wealth, Goalwise, Robonam, and Invezta (Rao, 2024).

Globally, ETF investments have fueled robo-advisory growth, but in India, passive funds account for only 6.5% of total AUM (AMFI), limiting expansion. However, the sector is growing with Gen Z, millennials, and tech-savvy investors. India has about 85 robo-advisory firms, with Mumbai (27) and Bengaluru (23) leading in numbers (Sabharwal & Anjum, 2018).

Categories of Robo-Advisors in the Indian Financial Market

The Indian financial market consists mainly of three types of Robo-advisors. They are the Equity-Based Robo Advisor, Fund-Based Robo Advisor, and

Comprehensive Wealth Advisor (Eswaran et al., 2024). Equity-based robo-advisors primarily focus on automated advisory services for investing in equity shares of various companies and help formulate an optimal portfolio. Investors with moderate-to-aggressive risk preferences and in-depth knowledge of the equity market prefer this type of Robo-advisor. Fund-Based Robo-advisors provide goal-based advice based on the investor's preference for risk. The investment advice primarily concerns a single asset class, such as managed funds or ETFs. A Comprehensive Wealth Advisor primarily focuses on providing financial advice to increase the investor's net worth. It helps in developing a personalised financial plan for investors by considering their risk appetite, current financial standing, and future financial goals.

Functioning of Robo-Advisors

The main aim of a Robo-advisor is to guide users in their financial planning and investment, thereby helping them develop a sound financial strategy. Users should enter information about their risk tolerance level and financial objectives through online questionnaires. Then the software in it will analyse the information, generate a specific score for each user, and provide a portfolio that matches that score. (Lam, 2016). Robo-advisors use investment algorithms based on machine learning and artificial intelligence. When developing codes and parameters to select the correct investments, many factors, such as each investment option's performance, valuation, and regulatory aspects, must be considered. Finally, the Robo-advisors implement automatic, continuous rebalancing measures for the selected portfolios. (Seiler & Fanenbruck, 2021).

SWOT Analysis of Robo-Advisors for the ETF Investments in India

Exchange Traded Funds (ETFs) are passively managed investments combining features of equity and mutual funds. Traded on stock exchanges, they track indexes, commodities, or asset baskets like bonds. In developed markets such as the US and the UK, robo-advisors prefer ETFs for their cost efficiency, low tracking error, and liquidity (Brännvall & Masry, 2022). ETFs facilitate automated portfolio rebalancing, mitigating risks associated with actively managed funds (Groww, 2023). Robo-advisors use ETFs across asset classes to manage volatility and employ direct indexing. Portfolio weights are determined using modern portfolio theory and optimised based on historical returns, volatilities, and capital market assumptions (Helms et al., 2022). Algorithmic rebalancing ensures portfolio stability, maintaining risk at a predetermined level (Day & Lin, 2019). Rebalancing methods vary, with some robo-advisors adjusting portfolios on fixed schedules, while others react to

market thresholds (Gu et al., 2019). A SWOT analysis critically evaluates the strengths, weaknesses, opportunities, and threats of robo-advisors in India's ETF market.

Strengths

The main strengths of Robo-advisors for ETF investments in India are lower fees and minimum investment requirements, the construction of ETF portfolios, automated rebalancing, a digitalised investment experience, and rational decision-making. Investing through robo-advisors incurs lower fees than traditional advisory services. ETFs, with lower expense ratios than actively managed funds, offer a cost-effective option for passive investors. Robo-advisors require minimal investment amounts, making ETFs more accessible. Traditional financial advisors charge 1% to 3% of portfolio value. In contrast, robo-advisors offer lower fees, attracting young and high-net-worth investors and thereby fostering the growth of both ETFs and robo-advisors (Jung & Dorner, 2020). Robo-advisors provide unbiased, high-quality services through intuitive digital interfaces, simplifying ETF investments. Widespread smartphone and internet access further enhances their accessibility. Their graphical presentation ensures transparency, and investor perceptions are analysed via questionnaires to inform the recommendation of optimal ETF portfolios (Helms et al., 2022).

Portfolio optimization relies on modern portfolio theory and its variations. Robo-advisors automate portfolio rebalancing, a task previously managed by active fund managers. By using trading algorithms, they make rational, data-driven decisions, reducing biases and mitigating losses caused by irrational retail investor behaviour. This ensures consistent risk management and long-term portfolio stability (Day & Lin, 2019).

Weaknesses

The main weaknesses of Robo-advisors in ETF investments are conflicts of interest, limited personal contact, limited personalisation, and inaccurate assessment of risk preferences. Robo-advisor users need to pay brokerage fees and transaction fees, even though these are low due to ETF investments. Different Robo-advisors collect fees indirectly from their customers. Sometimes they charge low fees initially and increase them as the investor base grows. Some Robo-advisors are affiliated with some clearing firms or brokers and provide advisory services to the users. This can lead to conflicts of interest between affiliated concerns and the selection of recommended ETFs. Investors need to check the objectivity of the advice given by the Robo-advisor. (Belanche et al., 2019).

Sometimes, Robo-advisors do not consider the investor's individual goals and may operate on inaccurate assumptions and incomplete information. There is a chance that Robo-advisors will make similar ETF recommendations due to the lack of questions that account for investors' risk preferences. There are also possibilities for providing wrong advice regarding rebalancing mechanisms. When there is no personal contact with the investors, there is no room for tailored or specific advice, which investors sometimes need most. Most of the high-net-worth individuals depend upon personal advices (Abraham et al., 2019).

Opportunities

External factors driving opportunities for Robo-advisors in ETF investments include integration and standardisation, objective-based investing, complementing traditional human advisory services, and the development of digital services. (Robinson & Fernandes, 2023). There exists constant technological and demographic change in the wealth management and financial industry. Simultaneously, consumer behaviour is also changing. In this era of digitalisation, investors are equipped with devices such as smartphones, laptops, and tablets, which facilitate the development of Robo-advisors and thereby improve passive investments such as ETFs.

Robo-advisors can provide high-quality, complex information on ETFs, tailored to the investor's specific needs. The integration of tax and legal policies by algorithms developed by Robo-advisors can help with investing in foreign ETFs, such as world index ETFs. This attracts investors from all over the world to the Robo-advisory services. (Sabharwal & Anjum, 2018). Robo-advisors should develop individual models that are specific to the investor's risk preference, investment objectives, time horizons, and values, which provides better personalisation to meet the investor's needs. With the development of big data analytics, Rob-advisors have significant growth potential. To forecast the future performance of ETFs, an analysis of historical prices and performance can be conducted. (Jung & Dorner,2020). Since the current market base of Robo-advisors is lower than that of traditional advisors, they can complement or merge with existing traditional advisors to enlarge the customer base. Robo-advisors can also provide cloud services to financial institutions, such as mutual funds, thereby supporting their operations.

Threats

The main threats to Robo-advisors' external environment related to ETF investments are competition, lack of investor acceptance, regulatory threats, and financial market crises. In India, there are 82 Robo-advisors, and this number will

increase in the future. Most of them share the same investment principles. When barriers to entering foreign markets change, international competition will increase. When traditional financial institutions with large investor bases develop Robo-advisors, this will pose a threat to stand-alone Robo-advisors (Day & Lin, 2019).

Currently, the acceptance of Robo-advisors in the financial market is very low when compared to traditional advisors. Some potential investors feel safe in personal contact with the financial advisors. Some mutual fund investors will rely on the selected schemes even though the Robo-advisors recommend ETFs. Mutual funds can outperform if the market is favourable, and ETFs are just tracking the benchmark asset. (Glaser et al., 2019). In the future, there is a chance for regulations on Robo-advisors regarding aspects such as investor profiling, algorithms, automatic rebalancing, etc. SEBI will regulate the dealings of Robo-advisors in the Indian capital market. Regulations on digital investments will affect the profitability and market share of the ETF sector. There is uncertainty among Robo-advisors about how they perform in conditions of a sudden market fall. Most investors will act on their emotions during these downturns. There is always debate about whether to trust Robo-advisors during sudden, large market falls.

Limitations of the Study

As a conceptual and descriptive work, it relies exclusively on secondary data from academic papers, market reports, and regulatory publications, which may not capture real-time developments. The study's reliance on a SWOT analysis, while comprehensive, lacks empirical validation or direct market observations, leaving its conceptual insights without practical reinforcement.

Conclusion

Robo-advisors can enhance ETF investments in India by improving accessibility and affordability. Leveraging AI, they offer personalised solutions while addressing challenges like low awareness, regulatory hurdles, and competition. With digital advancements, growth opportunities are significant. Enhancing investor education, clear regulations, and strong infrastructure are key. Collaboration among regulators, fintech firms, and investors can foster adoption. Future research should explore implementation strategies, long-term impacts, and optimization for diverse investor needs.

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