A Study on the Financial Performance of ESG Mutual Funds in India

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DECLARATION BY STUDENT

I hereby declare that the data presented in this Dissertation report entitled, **“A STUDY ON THE FINANCIAL PERFORMANCE OF ESG MUTUAL FUNDS IN INDIA ”** is based on the results of investigations carried out by me in the Financial Services Discipline at the Goa Business School, Goa University under the Supervision/Mentorship of Dr Pournima Dhume and the same has not been submitted elsewhere for the award of a degree or diploma by me. Further, I understand that Goa University or its authorities will be not be responsible for the correctness of observations / experimental or other findings given the dissertation.

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COMPLETION CERTIFICATE

This is to certify that the dissertation / internship report **"A STIDY ON THE FINANCIAL PERFORMANCE OF ESG MUTUAL FUNDS IN INDIA "** is a bonafide work carried out by **Ms Swara Navesh Shirodkar** under my supervision/mentorship in partial fulfilment of the requirements for the award of the degree of **Masters of Business Administration (Financial Services)** in the Financial Services Discipline at the Goa Business School, Goa University.

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CHAPTER 1: INTRODUCTION

Abstract:

The study aims at studying **"The financial performance of the Environmental, Social, and Economic (ESG) Mutual Funds in India"**, how much they have evolved in these past two years and what are its future aspects. This study will be relevant for the Investors and the Brokers to understand about the new emerging concept ESG and help them in taking informed decisions.

1.1 Overview of the concept ESG and ESG Funds.

India is slow by slow moving towards the socially responsible investment, which is giving more popularity to the ESG investment and ESG Funds. My study is focused on term ESG fund /ESG Investing. The concept of ESG fund came in the picture in the late 1960's, back then it was called socially responsible investing. In India, ESG Fund has started emerging its existence and popularity in the past 2 to 3 years. It is a concept which is popping up in the market lately and is gaining importance in the market.

ESG stands for Environmental (E), Social(S), and Governance (G) of a company called ESG Complaint, if it satisfies all the conditions of ESG benchmarks. It also helps the investors to take good informed and proper decisions. It's like a framework to help measure, quantify the degree to which an organization is operating in a sustainable manner. ESG funds work to encourage ethical corporate practices and support organizations that benefit society.

Businesses that uphold ethical standards are thought to eventually make more money through increased brand recognition and consumer loyalty. The Tata Group is an illustration of a responsible business in India. It recently set an example by launching a programme to house medical staff and other front-line workers at the Taj Hotel during the early stages of the Covid-19 pandemic. Long-term, such corporate behaviour can result in higher brand loyalty and better earnings. Long-term ESG compliance can help a business become a sustainable organization. ESG investing is also known as sustainable investing for this main reason.

The Environmental (**E**) factors make it important for a business to adopt greener or environmentally friendly practices while operating for the sustainance of environment and resources for the future generation, an organizations impact on the climate like its greenhouse gas emissions, and its management team's impact over the natural resources like its fresh water. Understanding the environmental risk and impact is a big part of the ESG framework. The concept of sustainability in this context extends well beyond just the environment.

The Social **(S)** pillar, examines an organization's social impact, it seeks to understand how well leadership manages relationships with stakeholders including fair wages for workers generating positive outcomes in the communities where they operate and taking accountability for the actions and inactions of supply chain partners in other parts of the world and how a company looks after its well-being of its force and also manages workplace policies, apart from this socially responsible companies also take part in socio-economic causes through the CSR initiatives through the CSR initiative.

We know Governance **(G)** or the corporate governance is the foundation on which any company is judged, it means that the company is transparent in its actions and it treats it stakeholders fairly and respectfully. How the firm is led and managed. Stakeholders are increasingly taking note that a healthy corporate governance function can make or break the progress in the 'E' and 'S' bounds, but can even create existential threats for the business operations more broadly.

ESG as we know it has evolved from a number of older sustainability themed acts and frameworks including Environmental, Health and Safety (EHS) and Corporate Social Responsibility (CSR). But these older frameworks took more of a taught like management team should do good because it's the right thing to do.

What's something unique about ESG is that, it looks at these issues through the lens of business risk and opportunity which tends to resonate more clearly with the investment community. These rapidly changing market and non-market conditions have created the ESG landscape as we see it today. This includes the emergence of ESG Rating agencies, ESG Scores, mandatory public reporting often called ESG disclosure and countless sustainability themed funds and investment strategies.

Traditional mutual funds and ESG mutual funds differ from one another in a few significant ways. Traditional mutual funds focus on gaining profit. Whereas ESG focuses on investments beneficial to the society. The mutual fund industry in India is already waking up to this new reality and responding extremely favourably to ESG-based investing. The truth of tomorrow is this tendency.

1.2 Literature Review

This includes the past literature which was studied by researchers on the financial performance of the ESG Mutual Funds. In order to do this study undertaken total of 28 research papers were selected and reviewed, which talked about the ESG mutual fund performances. Key words like ESG, Sustainable investment, performance, etc. is used.

1. **Samriddhi Dhasmana et al (2023)** the study looked into how the investors' perceptions are impacted by the ESG Index and how they relate to one another. According to the research, while the market is booming, the ESG index's performance declines and automatically elevates investor sentiment. Yet, because of the company's ESG initiatives, the performance of the ESG Index is unaffected by investor sentiment. The study also shows that the Indian market's lack of understanding of the ESG concept is having an impact on investor sentiment. This study employs the NIFTY 1000 ESG Index (ESG_NSE) to measure the ESG performance of Indian companies. The relationship between the ESG Index and the Investor sentiments are interconnected to capture the investor behaviour prevalent in the financial market".
2. **Iraj J. Fooladi and Gregory Hebb (2022)** "In this section, they look at whether the ESG Fund outperforms its benchmark. By comparing the performance of the Jantzi Social Index (JSI) to its underlying benchmark, the TSX 60, and seeking to understand the potential causes that may be responsible for their differential performance, the study is intended to add to this body of research. Although it has a limited track record, corporate social responsibility has gained prominence over the past few years, and this study examines its financial records. This study discovered a strong correlation between financial performance and social performance. According to this study, profitable social performance can benefit businesses.
3. **Yahan Jiang et al (2022)** the association between business sites visits by institutional investors and environmental, social, and governance (ESG) performance was examined in the article. This research examines and explores the effect that institutional investors' site visits have in the governance factor between the environmental, social, and governance elements using specific data from the locations that Chinese institutional investors visited. The impacts of the indirect governance channels created by institutional investors' holdings were the main topic of this study.

The study deepens our understanding of the avenues by which institutional investors might impact the long-term sustainability of businesses.

4. **Piotr Dmuchowski et al (2023)** The COVID 19 pandemic and climate change have been explored in the study, which has resulted in the introduction of the new ESG (Environmental, Social, and Governance) model. After examining the results, the researchers discovered that Poland lacked sufficient ESG ratings, had little access to proper data, and lacked knowledge of responsible investing. The investigation also revealed a long-term, positive relationship between ESG variables and corporate financial performance. This relationship has an impact on financial stock markets. They also found that the key obstacles to the growth of sustainable investment in Poland are communication and education gaps between asset managers and clients. According to researchers, Poland has a fundamental need to grow its sustainable finance industry and increase ESG investment.

5. **Zhongfei Chen and Guanxia Xie (2022)** the influence of ESG disclosure on the corporate financial performance of Chinese listed firms was examined in the paper. The relationship between the ESG disclosure and the financial performance of the corporation finances was examined over a longer period of time, once the media and high-cost agencies were participating to ESG-focused initiatives. The financial performance of the corporates is positively impacted by the ESG disclosure, according to the findings. The study has greatly aided the government, business owners, and investors in understanding "the impact of ESG data to be transparent to the business and societal growth.

6. **Ning Zhang et al (2023)** have investigated the connection between "downside risk at fund level in the Chinese equities mutual fund market and ESG Performance." Due to varying market conditions, they discovered a positive correlation between ESG performance and negative risk between 2018 and 2021. Market conditions are influenced by three channels: risk reduction, diversification, and flow, and the strength of each channel vary depending on the market. During the Covid 19 epidemic, this connection had deteriorated. According to research, the Chinese market is under-informed on the ESG and poorly aware of this idea.

7. **Ivelina Pavlova and Maria E. de Boyrie (2022)** The risk-adjusted returns of ESG ETFs are examined, together with the funds' long-term investment record both before

and after the stock market crisis. The COVID 19 had a significant impact on the market by upsetting social and economic elements, which caused a sharp decline in the stock market before it recovered and caused investors to consider investing in ESG-supported funds. Sustainable investment, too. According to the research, low-rated sustainable ETFs outperformed high-rated ESG ETFs. Also, they noticed that the sustainable ETFs with the higher ratings neither outperformed the market nor protected the ETFs from the danger of loss during the market's decline.

8. **Alin Marius Andrieș and Nicu Sprincean (2023)** examined to see if the banks' funding costs will benefit from ESG standards. Looking at this, they conclude that banks will profit by incorporating ESG standards into their financial decision-making, reducing the costs associated with raising capital and luring customers. ESG components, or environmental, social, and economic issues, are to blame for the structure of the banks' funding costs. It has been determined that bank depositors place a higher value on the business and social aspects of the ESG than the environmental one. Studies have also discovered that the ESG characteristics mainly help banks in developed countries, which lowers the cost of funding for banks.

9. **Rajdeep Kumar Raut (2020)** recent research tries to examine the factors that influence each investor's decision to make a socially responsible investment (SRI) in the Indian stock market. It also looks at the applicability of the Theory of Reasoned Action (TRA) Model to forecast the idea in the Indian context. With the use of this results analysis, the study identified influences on investor intention at the SRI from attitude, subjective norms, moral standards, financial literacy, and financial performance. Also, they discovered no connection between the investor's SRI aim and their environmental concern. Investors are more focused on their returns than their involvement in SRI. The government should step up efforts to encourage financial literacy, according to a study, and there should be financial literacy among the populace.

10. **Xufeng Liu a and Die Wan (2023)** the researchers found that the Chinese stock market is immature and lacks knowledge of ESG investments and green regulations in this article. A study demonstrates a negative correlation between the ESG rating and the volume of retail trading. According to research, managing the pricing element involves buying the ESG at a high price and selling it at a cheap one. The favourable

effect of ESG on future stock returns can be lessened by increased retail trading activity for specific stocks. According to the study's conclusions, retail investors undervalue ESG information. So, it has a favourable effect on the stock market when individual investors choose to invest in ESG funds despite ignoring ESG-related information, the information gradually declines or turns bad when the investors carefully investigate it. According to a general survey, investors that purchase ESG-related funds receive lower returns to offset downside and climate risk.

11. **Martina K. Linnenluecke (2022)** "The research has attempted to examine the ESG performance with regard to multinational business research; it also looks at the issues and problems by taking into account the ESG Ratings for international studies for assessing the performance of Multinational Enterprises (MNE) and Emerging Market Multinationals (EMNE's); it also tracks the development and looks at the ESG rating from an international perspective. Finding and raising awareness of ESG concerns around the world where the ESG scores are not voiced out is important. The developed countries, which are their native country, are often the centre of ESG framework. The paper raises awareness of the issue of how biased ESG assessments can be, deceiving portfolio performance. Managers need to be aware that ESG scores frequently fail to account for difficulties with local communities and supply chains.
12. **Kirti Sood, Kumar Arijit et al (2022)** the purpose of this paper is to empirically compare the performance of the high-ESG and low-ESG portfolios on the Indian stock market before and after the Covid19 pandemic. "Compared to the pre-Covid19 period, all three indices—CARBONEX, GREENEX, and BSE 500—had greater returns during the Covid19 period." The risk factor was considerable during the COVID 19 pandemic, but it provided reasonable returns, according to the study. Overall, it was observed that the stock portfolios of high- and low-performing ESG companies did not change for the pre- and post-covid.
13. **Johannes Kabderian Dreyer et al (2022)** this study looks at the period from 2002 to 2020 to see whether environmental, social, and governance (ESG) policies have an impact on stock returns in the US stock market. Researchers using the US ESG database discovered that even after a portfolio's long-term decline, its systematic risk, or beta, is larger than that of an ESG portfolio. The decline may be brought on by variables like inflation, rising ESG portfolio demand, and market volatility. This study

examined whether the underperformance of sustainable investments over the last years has improved over time or remained constant when compared to investments in regular mutual funds.

14. **N. C. Ashwin Kumar et al (2016)** The researchers have discovered that organizations investing in ESG elements had lower volatility than their competitors in the same industry, which results in higher profits. Before, less risk meant lower returns. The models applied reveal a significant relationship between stock performance and ESG Factors. Reduced volatility hence equals low risk and favourable risk-adjusted returns. Effects of ESG variables on stock market returns and stock price changes.

15. **Shernaz Bodhanwala and Ruzbeh Bodhanwala (2023)** studied "The relationship between corporate environmental, social, and governance (ESG) performance prior to and following the COVID 19 crisis. This essay has also looked into whether adopting a sustainable investment framework will result in a strong performance in a market that is now experiencing a recovery. Additionally, it examines whether there are any differences in the stock market performance of companies with high and low ESG compliance levels over time. Studying the impact that there is none as well.

16. **Javier Lopez ´ Prowl and Kalong Kim (2022)** The NYSE stock portfolios were utilised in the earlier research, which aimed to "examine the performance of the equity portfolios based on the ESG scores blended." Yet research indicates that excessive market volatility, which results in low returns and a low Sharpe ratio, is included in high performing ESG portfolios. The low performing ESG portfolios, on the other hand, offer reasonable returns that are homogeneous or similar across all three of the ESG components (environmental, social, and governance features).

17. **Muhammad Arif Khan (2022)** the researchers looked at how the ESG and sustainable investment markets were changing. To project a positive image in the market and generate profitable returns, corporations are now attempting to concentrate on the ESG components and be more active in the ESG. In the market, the idea of a connection between the ESG and a company's financial performance is still unclear. The researchers investigated the relationship between the ESG Performance

and its impact on performance using bibilometric and meta-analysis. Three research areas are covered in this study: corporate governance, financial materiality of ESG disclosure, and firm characteristics and ESG performance.

18. **Yizhi Wang et al (2023)** The impact of institutional investors on the environmental, social, and governance (ESG) performance of Chinese-listed companies is examined in this study. The impact of institutional ownership heterogeneity has been investigated in relation to the relationship between the ESG performance of the companies and the investment time period. They found a strong correlation between institutional ownership and ESG performance, which was primarily driven by institutional investors with short-term pressure sensitivity and long-term pressure sensitivity. In areas with a high level of economic development and marketization, this kind of link is obvious.

19. **Elettra Agliardi et al (2023)** the study aims to investigate whether environmental corporate social responsibility has an impact on stock portfolios' financial performance and, if so, how potential investors may take advantage of this. The environmental ESG pillars were taken into consideration by the researchers in place of the corporate social responsibilities. They have made an effort to use several methodologies to assess the performance of the environmentally friendly clustered portfolios. The state of the environment and dynamic environmental performance affect financial behaviour. Corporates with low environmental ratings fare well financially. While the risk is lower and the returns are higher for the environmentally conscious businesses. But research has shown that environmentally friendly profiles perform better on average in terms of risk and returns.

20. **Xiong Bai et al (2022)** "They must determine whether the Environmental, Social, and Governance (ESG) performance of the China-listed businesses affects their ability to meet financial obligations. A good ESG performance by listed firms can enhance tolerance level for the bad operating performance, according to studies. If corporations focus on the ESG performance, it can lessen financial limitations and encourage investors to expand shareholdings of institutional investors. The desire of institutional investors for ESG investments has been investigated by researchers. Non-state-owned listed enterprises and listed companies in secondary and tertiary industries are more significant in this regard.

21. S**asan Mansouri and Paul P. Momtaz** the researchers used a machine learning approach to investigate "the significance of ESG components for the valuation and post financing performance in token sale. Choose the ESG aims initially when the investors experience reasonable post losses because the sustainable investment has a good effect on the start-up initial valuation and a negative effect on post-funding financial performance. Additionally, it covers the possibility of fundamentally different organizational designs and how the ESG influences finances. The findings are consistent across a sizable sample of Initial Coin Offerings (ICOs), or token offerings, which are crowd funding campaigns based on block chain technology. A machine-learning method to evaluate start-ups' Environment, Society, and Governance (ESG) qualities using textual data is a significant addition.

22. **Ariadna Dumitrescu et al (2023)** this study compares the performance of passive SRI ETFs against S&P500 ETFs, which serve as their non-SRI benchmarks. They demonstrate that positive screening (or inclusion) rather than negative screening (or exclusion) can outperform the benchmark portfolio for SRI investment strategies. Environmental inclusion screening in particular offers noticeably greater anomalous results. discover that reducing market concentration and rising industry competitiveness can both be used to explain the success of SRI ETFs. We investigate the potential advantages of SRI ETFs for investors using a relatively new investment vehicle that incorporates SRI concepts in ETFs. Investors can "do good while doing well" by choosing SRI ETFs that use positive environmental filters.

23. **Guochao Wan (2023)** In order to develop a research agenda for hotspots and trends, this study analysed paper-level metrics in the literature on environmental, social, and governance (ESG)-related themes. The ESG system's guiding principles, influencing variables, financial results, relationship with corporate social responsibility (CSR), and ESG investing are all highlighted as study areas. With a goal to outline the evolution of ESG and talk about related studies. The research on ESG was analysed bibliometrically in this study. Your analysis made clear how crucial it is to research ESG. A market mechanism, standardizing the conduct of listed firms and the sound development of financial markets are all made possible by adhering to the ESG investment philosophy.

24. **Mahmut Aydogmus (2022)** the analysis of the effects of ESG performance on business value and profitability is the main goal of the article. The impact of Environment, Social, and Governance (ESG) performance on business value and profitability is examined in this study. The results imply that the overall ESG combined score is considerably and favourably correlated with company value. Individual Social and Governance scores and firm value show a favourable and significant association, but not a meaningful relationship for Environment ratings. The environment, social, and governance (ESG) composite score, on the other hand, has a favourable and significant link with company profitability. These results imply that a firm will benefit financially from investing in strong ESG performance in terms of value and profitability.

25. **Martin G. Becker et al (2022)** this study examines how European Union (EU) mutual funds and individual investors would be affected by the Sustainable Finance Disclosure Regulation (SFDR). Investigated whether impacted funds become more sustainable in comparison to a control group. Investigated to see if the regulation encourages private investors to put more money in sustainable funds. The impact of the regulation on ESG fund scores and fund net inflows was examined. Results demonstrate that after the policy adjustment, the affected funds' sustainability rating increased. Larger fund net inflows are correlated with stronger ESG labels. Growing evidence for sustainable investment may encourage even more money to be invested in expensive companies. The effectiveness of the recently enacted law on disclosures related to sustainability in the financial services sector and indicates that the SFDR is effective in attracting money for sustainable ventures.

26. **Graeme Newell (2023)** In particular, it identified future areas where ESG benchmarks need to be enhanced. This research looked at the strategic difficulties surrounding benchmarking ESG in real estate investing. Granularity, climate resilience, and climate risk issues are included. evaluated the present ESG thinking in the real estate investment sector as well as the applicability of the current global ESG benchmarks for real estate investment This study has significant practical approach for advancing the real estate industry's ability to deliver this crucial area of ESG benchmarks, which is becoming more and more crucial.

27. **Elizaveta Steblianskaia (2023)** this study's main goal is to improve understanding of the ESG knowledge base and development trends among academics and researchers. The investigation of the ESG concept development bibliography is the focus of the paper. The empirical literature on the ESG concept, ESG standards, and ESG practice implementation is sorted out in this paper. The authors hypothesise that investors are becoming more environmentally aware while making investment decisions due to the growing linkages between the "ESG- value- environmental- significant- influences". ESG investing is probably going to be crucial in fostering new environmentally conscious ideals.

28. **P. Raghavendra Rau and Ting Yu (2022)** through the eyes of investors, institutions, and businesses, they examined ESG/CSR. Addressed the meanings of ESG and CSR as well as how they relate to one another. As investors and organizations become more aware of ESG issues, interest in the topics of environmental, social, and corporate governance (ESG) and corporate social responsibility (CSR) has increased. After that, we focus on investors, looking at the different sorts of investors and the function that institutional investors play in ESG. We talk about the purpose of ESG from the firm's standpoint. The effect of ESG on businesses, including how it affects finance, transparency and reporting operations, as well as business performance. We also discuss additional effects of ESG and CSR attention on businesses and investors.

1.3 **Objectives**

- To investigate the level of performance of Indian AMC's ESG funds.
- To provide insights into the potential of ESG investing in India's mutual fund industry.

1.4 Research Methodology

Scope of the Study:

This study which I am doing is on the Financial Performance of the ESG Funds in India**.** Understanding the performance of the ESG Funds. This empirical analysis is based on secondary data. And the duration of the data is from 1 April 2021 to 10 April 2023, in which I have focused my study on the country India. After reviewing around the literature which I did, I choose to take Nifty 100 ESG benchmark as the Dependent Variable. And I choose to take nine ESG Schemes which are offered in India as the Independent variables. I was able to match the dates of all the data successfully. All the data was being collected from websites like NSE ,RBI, AMFI, yahoo finance official websites etc. Referred to journals also .Later in order the understand the performance of the returns, what the ESG Fund gives, I decided to use two ratios they are **Sharpe Ratio, Traners Ratio and Jensen's Ratio**

- The study collected the daily data of the ESG Mutual funds scheme.

Sr. no.	ESG Funds	Plan	Period of study
1	Axis ESG Equity Fund	Regular Growth	1/04/2021 – 10/04/2023
2	ABSL ESG Fund	Regular Growth	1/04/2021 – 10/04/2023
3	SBI Magnum Equity ESG Fund	Regular Growth	1/04/2021 – 10/04/2023
4	Kotak ESG Opportunities	Regular Growth	1/04/2021 – 10/04/2023
5	Mirae Asset ESG Sector Leaders ETF	Regular Growth	1/04/2021 – 10/04/2023
6	ICICI Prudential ESG Fund	Regular Growth	1/04/2021 – 10/04/2023
7	Quantum India ESG Equity	Regular Growth	1/04/2021 – 10/04/2023
8	Invesco India ESG Equity Fund	Regular Growth	1/04/2021 – 10/04/2023
9	quant ESG Equity Fund	Regular Growth	1/04/2021 – 10/04/2023
10	NIFTY100 ESG	Regular Growth	1/04/2021 – 10/04/2023

1.5 Limitations

- The concept ESG is a newly emerging concept in Indian markets, due to which there is no proper awareness regarding it. The study is restricted to on the period of 1 April 2021 to 10 April 2023. And data is limited to only one plans i.e. Regular Growth. Now, due to lack of awareness, the investors are lacking inefficiency in making right choice and right decision.

1.6 Chapterisation

This study is divided into 3 chapters:

Chapter 1 : Introduction

This chapter contains an introduction to the study, an overview about the concept Environmental, Social and Governance (ESG) Elements and the ESG Funds. This chapter provides an overall image of the concept. It also includes the mainly 28 literature review papers, scope of the study, the objectives and limitations of the study and the research methodology.

Chapter 2: Data Analysis

This chapter talks about the data analysis and its interpretation. In which it includes the three methods used for the analysis, they are Sharpe Ratio, Treynor's Ratio and Jensen's Ratio.

Chapter 3: Findings & Conclusion

This chapter will include an overall output of the study which was undertaken, that is an introduction, findings of the study, conclusion and the references for the project work.

CHAPTER 2: ANALYSIS AND DISCUSSION

2.1 Introduction

This chapter contains all the elements of the data analysis that are the three ratios which I used to analysis **Sharpe Ratio, Traners Ratio and Jensen's Ratio,** and also gives an overview of the details of interpretation of the Ratios used and a small conclusion.

- **Analyzing the performance of the ESG Mutual fund**

The secondary data was used to know the financial performance of the ESG Mutual funds in India. For the Study I choose to take 9 ESG Mutual Funds offered by the AMC’s. And took the benchmark as the stock market price (NIFTY 100 ESG). The data collection was done by using different official websites. The period of study was from 1 April 2021 to 10 April 2023. In order to get the results the Sharpe, Treynor ratio and Jensen’s Ratios were applied.

- **NIFTY 100 ESG:** A well-known stock index that the National Stock Exchange of India introduced in 1992 and implemented by the year 1994. India's ESG index has shown some of the highest relative growth over this time. It is owned and operated by India Index Service & Products Limited (IISL), a business that specialises in indices such index funds, index options, and index futures. This index includes the top performing companies in India. The index just measures the present and past performance of the stock market.

- **Axis E.S.G. Equity Fund:** This scheme is offered by the Axis Mutual Fund and it started on 12 February 2020.Through investing in a diverse portfolio of businesses that exhibit sustainable practises across Environmental, Social, and Governance (ESG) dimensions, to produce long-term financial appreciation. The achievement of the Scheme's investment goal, however, cannot be guaranteed. A diversified equity fund that prioritises ESG and invests in businesses of all market capitalizations. And provide investors with reasonable returns.

- **SBI Magnum Equity E.S.G. Fund:** SBI Mutual Fund offers the scheme. 1 April 2014 this fund was started. This fund aims in the long term capital, by investing in a diversified basket of companies. Through active management of investments in a diverse basket of companies that meet Environmental, Social, and Governance

(ESG) requirements, the scheme aims to offer investors options for long-term capital growth.

- **Adity Birla Sun Life ESG Fund:** This is offered by Aditya Birla Sun Life Mutual Fund, which was started on 24 December 2020. The investment strategy uses a diverse basket of businesses with an Environmental, Social, and Governance (ESG) focus to achieve long-term capital appreciation.

- **ICICI Prudential E.S.G Fund**: ICICI Prudential Mutual Fund offers this scheme; inception date is on 9 October 2020. It's an open ended equity fund that invests in businesses focusing on environmental, social, and governance (ESG). This scheme is good for investors which want high, low and moderate risk.

- **Kotak E.S.G. Opportunities Fund**: This scheme is offered by Kotak Mutual Funds the scheme started its operations in 7 December 2020. By making investments in a diverse portfolio of businesses that adhere to environmental, social, and governance standards, the programme hopes to create wealth appreciation.

- **Mirae Asset Nifty 100 ESG Sector Leaders Fund of Fund**: This scheme belongs to Mirae asset mutual fund and its inception was from 18 November 2020 was the date of inception of the scheme. The scheme's investment goal is to generate long-term capital growth from a portfolio that primarily consists of units of Mirae Asset ESG Sector Leaders ETF. The achievement of the Scheme's investment goal cannot be guaranteed.

- **Quantum India E.S.G Equity Fund:** The scheme is offered by the Quantum Mutual Fund. The commencement of the scheme was on 12 July 2019. The Quantum India ESG Equity Fund makes investments in businesses that are committed to protecting the environment, having a beneficial influence on the communities where they do business, and operating ethically. These ethical companies are not only good for the environment and society, but they also make excellent investments if you want to accumulate wealth in the long run.

- **Invesco India E.S.G Equity Fund:** Invesco Mutual Fund offers this scheme and the fund’s inception date is 18 March 2021. It is an open ended equity fund that invests in businesses with an Environmental, Social, and Governance (ESG) focus. To achieve capital appreciation via a diverse portfolio of equity and equity-related instruments of companies chosen in accordance with our unique investing framework's environmental, social, and governance (ESG) standards.
- **Quant E.S.G Equity Fund:** Quant Mutual Fund offers the scheme. And on 6 November 2020 the scheme was started. It’s an open ended scheme which focuses on the ESG elements. Through investing in a diverse portfolio of businesses that exhibit sustainable practises across Environmental, Social, and Governance (ESG) dimensions, to produce long-term financial appreciation. The achievement of the Scheme's investment goal, however, cannot be guaranteed.

2.2 Data Analysis

Tools- Sharpe ratio, treynor’s ratio and Jensen's Ratio:

Analysis has been done by using following statistical tools:

There are three sets of performance measurement tools to assist with the portfolio evaluations. All the three ratios combine the risk and return performance into a single value. These ratios measure the performance if the existing portfolio is doing good or no, what returns the stocks are giving

- **Portfolio (Rx) and Index (Rm) Average Returns**

  To arrive at the average returns of the Portfolio (ESG Mutual Fund Scheme) and the

  Benchmark Index (NIFTY 100 ESG), we take the average of the daily Net Asset Values (NAV) Returns and the average of the daily Benchmark Index Returns. We further use this data to compute the Sharpe Ratio, Treynor Ratio and Jensen’s Ratio.

- **Beta Coefficient**

The Beta Coefficient measures the volatility or systematic risk of a security

With comparison to the market as a whole.

The Beta Coefficient is calculated as: -

$$\boldsymbol{\beta = \frac{Rx,\ Rm}{Rm}}$$

Where;

β = Beta Coefficient

Rx, Rm = Covariance

Rm = Variance

1) <u>Sharp Ratio</u>:

This measurement shows the correlation between the total risk of the portfolio as assessed by the standard deviation and the excess return of the portfolio above the risk-free return. This is known as reward to volatility measure.

Sharpe ratio: It indicates the risk-return performance of portfolio.

$$Sharpeindex = \frac{Portfolioaveragereturns(Rp) - RiskfreeRateofreturn(Rf)}{StandardDeviationofthePortfolioReturns\ (\sigma)}$$

Where;

S_a = Sharpe Ratio

R_p = Portfolio Average Returns

R = Risk Free Rate of Return f

σ = Standard Deviation

2) **Treynor's Ratio:**

This model analyses the relationship between market risk, as determined by beta, and the fund's additional return over the risk-free return. This is known as reward to volatility measure.

Treynor's measure: It measure the returns earned in excess of that which could have been earned on investment that has no diversifiable risk.

The Treynor Ratio is calculated as: -

$$\mathbf{T = \frac{R_p - R_f}{\beta}}$$

Where;

T = Treynor Ratio

R_p = Portfolio Average Returns

R_f = Risk Free Rate of Return

β = Beta Coefficient

3) **Jensen's Ratio:**

Portfolio managers frequently apply the Jensen's Alpha, a well-known risk-adjusted performance metric, to calculate the excess returns their portfolio generates over and above market returns.

The Jensen's Alpha can be calculated using the following formula:

$$\boldsymbol{\alpha = RP - (Rf + \beta(RM - Rf))}$$

Where:

R_p = Returns of the Portfolio

R_f = Risk-free rate

β = Stock's beta

R_m = Market return

2.3 **Conclusion**

To conclude this chapter, we can say that it is very essential to keep a regular tack of the portfolios, to know if it's giving a negative or a positive remark. The objectives of the three ratios are to maximize the returns and minimize the loss. And that's why these three ratios are used to evaluate the performance of the mutual funds. As it calculates the risk based on the returns. Taken into consideration the ESG Funds and the Nifty 100 ESG the ratios will be used to understand the performance of each scheme, for the duration of 2 years. The ratios try to give a risk adjusted returns.

CHAPTER 3: SUMMARY, FINDINGS AND CONCLUSION

3.1 Summary

This chapter contains the findings and the outcome which we got from the secondary data of the Net Asset Value (NAV) of the 9 ESG Mutual Funds and the Nifty 100 ESG Benchmark on a daily basis, collected from the secondary sources, for the period from 1 April 2021 to 10 April 2023. Three ratios used were the Sharpe Ratio, Treynor ratio and Jensen's Ratio which was solved by using formula in the Excel Software. The outcome in table forms is shown below and interpreted in this chapter and the study end with a conclusion.

3.2 Findings

The following are the tables of the outcome which I got by solving the three **Sharpe Ratio, Treynor's Ratio and Jensen's Ratio.** The tables below describe the average returns of the ESG Fund, its variance, standard deviation, Beta, alpha and expected returns etc. The results were derived by taking the NAV of the funds on daily basis. The below shows the results derived by calculating the ratios of the 9 ESG Mutual Funds. The Sharp ratio measures the schemes with adjusted risk; Treynor Ratio evaluates the performance of the ESG mutual Fund schemes by adjusting the systematic risk and Jensen's ratio measures if portfolio is earning proper return on level of risk. A positive number states that it's giving high returns and the portfolio has over performed and if it shows a negative number it says that the portfolio has underperformed. Higher the ratio better are the returns the portfolio generates by adjusting the risk. These ratios help the investors to know the excess returns which they get by adjusting the fund risk and the market risk.

1) **Axis ESG Equity Fund Outcome:**

TABLE: 1

Sharpe Ratio	**-5.2914**
Portfolio Average Returns	-0.0086
Risk Free Rate of Return	4.75
Standard Deviation of the Portfolio Return	0.8998

Treynor's Ratio	**-5.1521**
Portfolio Average Returns	-0.0086
Risk Free Rate of Return	4.75
Covariance	0.7483
Variance	0.8097
Beta Coefficient	0.9242

Jensen's Ratio	**-0.3543**
Portfolio average	-0.0086
NIFTY 100 ESG average	-0.0160
Risk free rate of return	4.75
Beta coefficient	0.9242
E(Rp)	0.34569

The above table 1 shows the results derived by calculating the ratios of Axis ESG Mutual Fund. We can see that all the Sharpe, Treynor's and Jensen's Ratios are calculated which show s negative value they are **-5.2914, -5.1521** and **-0.3543.** So we can say that this fund is giving low returns in the market. And the portfolio has underperformed the market as the values are negative.

2) **Aditya Birla Sun Life ESG Fund**

TABLE: 2

Sharpe Ratio	**-4.6465**
Portfolio Average Returns	-0.0116
Risk Free Rate of Return	4.75
Standard Deviation of the Portfolio Return	1.0254

Treynor's Ratio	**-5.3454**
Portfolio Average Returns	-0.0116
Risk Free Rate of Return	4.75
Covariance	0.9371
Variance	1.0514

Beta Coefficient	0.8913

Jensen's Ratio	**-0.5139**
Portfolio average	-0.0116
NIFTY 100 ESG average	-0.0160
Risk free rate of return	4.75
Beta coefficient	0.8913
E(Rp)	0.50237

The above table 2 shows the results derived by calculating the ratios of **Aditya Birla Sun Life ESG Fund**. We can see that all the Sharpe, Treynor's and Jensen's Ratios are calculated which show's negative value they are **-4.6465, -5.3454**and **-0.5139.** So we can say that this fund is giving low returns in the market. We can see that since the values are negative the portfolios have underperformed in the market.

3) SBI Magnum Equity ESG Fund

TABLE: 3

Sharpe Ratio	**-5.0138**
Portfolio Average Returns	-0.0275
Risk Free Rate of Return	4.75
Standard Deviation of the Portfolio Return	0.9534

Treynor's Ratio	**-4.8648**
Portfolio Average Returns	-0.0275
Risk Free Rate of Return	4.75
Covariance	0.8932
Variance	0.9090
Beta Coefficient	0.9826

Jensen's Ratio	**-0.0943**
Portfolio average	-0.0275
NIFTY 100 ESG average	-0.0160

Risk free rate of return	4.75
Beta coefficient	0.9826
E(Rp)	0.06686

The above table 3 shows the results derived by calculating the ratios of **SBI Magnum Equity ESG Fund**. We can see that all the Sharpe, Treynor's and Jensen's Ratios are calculated which show's negative value they are **-5.0138, -4.8648 and -0.0943**. So we can say that this fund is giving low returns in the market. We can see that since the values are negative the portfolios have underperformed in the market.

4) **Kotak ESG Opportunities**

TABLE: 4

Sharpe Ratio	**-4.9338**
Portfolio Average Returns	-0.0126
Risk Free Rate of Return	4.75
Standard Deviation of the Portfolio Return	0.9659

Treynor's Ratio	-4.9606
Portfolio Average Returns	-0.0126
Risk Free Rate of Return	4.75
Covariance	0.8962
Variance	0.9329
Beta Coefficient	0.9606

Jensen's Ratio	-0.1843
Portfolio average	-0.0126
NIFTY 100 ESG average	-0.0160
Risk free rate of return	4.75
Beta coefficient	0.9606
E(Rp)	0.17172

The above table 4 shows the results derived by calculating the ratios of **Kotak ESG Opportunities.** We can see that all the Sharpe, Treynor’s and Jensen’s Ratios are calculated which show’s negative value they are **-4.9338, -4.9606 and -0.1843.** So we can say that this fund is giving low returns in the market. We can see that since the values are negative the portfolios have underperformed in the market.

5) **Mirae Asset ESG Sector Leaders ETF**

TABLE: 5

Sharpe Ratio	**-5.0375**
Portfolio Average Returns	-0.0203
Risk Free Rate of Return	4.75
Standard Deviation of the Portfolio Return	0.9475

Treynor's Ratio	**-4.8103**
Portfolio Average Returns	-0.0203
Risk Free Rate of Return	4.75
Covariance	0.8908
Variance	0.8978
Beta Coefficient	0.9923

Jensen's Ratio	**-0.0412**
Portfolio average	-0.0203
NIFTY 100 ESG average	-0.0160
Risk free rate of return	4.75
Beta coefficient	0.9923
E(Rp)	0.02096

The above table 5 shows the results derived by calculating the ratios of **Mirae Asset ESG Sector Leaders ETF** . We can see that all the Sharpe, Treynor’s and Jensen’s Ratios are calculated which show’s negative value they are **-5.0375, -4.8103 and -0.0412.** So we can say that this fund is giving low returns in the market. We can see that since the values are negative the portfolios have underperformed in the market.

6) **ICICI Prudential ESG Fund**

TABLE: 6

Sharpe Ratio	**-5.9974**
Portfolio Average Returns	-0.0223
Risk Free Rate of Return	4.75
Standard Deviation of the Portfolio Return	0.7962

Treynor's Ratio	**-4.2567**
Portfolio Average Returns	-0.0223
Risk Free Rate of Return	4.75
Covariance	0.7111
Variance	0.6339
Beta Coefficient	1.1218

Jensen's Ratio	**0.5744**
Portfolio average	-0.0223
NIFTY 100 ESG average	-0.0160
Risk free rate of return	4.75
Beta coefficient	1.1218
E(Rp)	-0.59671

The above table 6 shows the results derived by calculating the ratios of **ICICI Prudential ESG Fund**. We can see that all the Sharpe, Treynor’s and Jensen’s Ratios are calculated which show’s negative value they are **-5.9974 and -4.2567.** So we can say that this fund is giving low returns in the market. In this case the Sharpe and Trynors ratio values are negative and the Jensens’s ratio is positive i.e. **0.5744** Which means this ratio has outperformed .and the other two ratios have underperformed in the market.

7) Quantum India ESG Equity

TABLE: 7

Sharpe Ratio	**-5.4364**
Portfolio Average Returns	-0.0203
Risk Free Rate of Return	4.75
Standard Deviation of the Portfolio Return	0.8780

Treynor's Ratio	-4.5003
Portfolio Average Returns	-0.0203
Risk Free Rate of Return	4.75
Covariance	0.8176
Variance	0.7709
Beta Coefficient	1.0606

Jensen's Ratio	0.2847
Portfolio average	-0.0203
NIFTY 100 ESG average	-0.0160
Risk free rate of return	4.75
Beta coefficient	1.0606
E(Rp)	-0.305

The above table 4 shows the results derived by calculating the ratios of **Quantum India ESG Equity.** We can see that all the Sharpe and Treynor's ratio are calculated which show's negative value they are **-5.4364 and -4.5003.** So we can say that this fund is giving low returns in the market. In this case the Sharpe and Trynors ratio values are negative and the Jensens's ratio is positive i.e. **0.2847** Which means this ratio has outperformed .and the other two ratios have underperformed in the market.

8) Invesco India ESG Equity Fund

TABLE: 8

Sharpe Ratio	-5.2661
Portfolio Average Returns	-0.0252
Risk Free Rate of Return	4.75
Standard Deviation of the Portfolio Return	0.9073

Treynor's Ratio	-4.7849
Portfolio Average Returns	-0.0252
Risk Free Rate of Return	4.75
Covariance	0.8220
Variance	0.8232
Beta Coefficient	0.9986

Jensen's Ratio	-0.0161
Portfolio average	-0.0252
NIFTY 100 ESG average	-0.0160
Risk free rate of return	4.75
Beta coefficient	0.9986
E(Rp)	-0.00911

The above table 8 shows the results derived by calculating the ratios of **Invesco India ESG Equity Fund.** We can see that all the Sharpe, Treynor's and Jensen's Ratios are calculated which show's negative value they are **-5.2661, -4.7849** and **-0.0161.** So we can say that this fund is giving low returns in the market. We can see that since the values are negative the portfolios have underperformed in the market.

9) Quant ESG Equity Fund

TABLE: 9

Sharpe Ratio	-3.8367
Portfolio Average Returns	-0.0781
Risk Free Rate of Return	4.75

Standard Deviation of the Portfolio Return	1.2591

Treynor's Ratio	-7.4631
Portfolio Average Returns	-0.0781
Risk Free Rate of Return	4.75
Covariance	1.0262
Variance	1.5854
Beta Coefficient	0.6473

Jensen's Ratio	-1.7440
Portfolio average	-0.0781
NIFTY 100 ESG average	-0.0160
Risk free rate of return	4.75
Beta coefficient	0.6473
E(Rp)	1.66595

The above table 4 shows the results derived by calculating the ratios of **Quant ESG Equity Fund**. We can see that all the Sharpe, Treynor's and Jensen's Ratios are calculated which show's negative value they are **-3.8367, -7.4631 and -1.7440.** So we can say that this fund is giving low returns in the market. We can see that since the values are negative the portfolios have underperformed in the market.

3.3 Conclusion

The study investigates the performance of the ESG Mutual Funds in India. As the country is a developing country, there are new new concepts which enter the market, one being the topic which I choose to study for my project work the ESG Mutual Funds. It has been quite obvious by the results which I got by using the Sharpe Ratio, Treynor’s Ratio and the Jensens Ratio, that the values which we got are all mostly negative which leads to underperformance of the portfolio. The reason being that, the period of the study which I took is post covid 19 period that is from 1 April 2021 to 10 April 2023, which is a recovery phase for the Indian Stock market.

And ESG Being the newest concept in India though introduced years before, the investors and brokers are unaware about this actual concept of the Fund. As already discussed earlier ESG stands for Environmental, Social and Governance, also known as the sustainable investment. And the portfolio of the ESG Mutual fund is such that it invest only in those companies which contributes towards this kind of factors.

Due to lack of literacy among the economy there are less number of investors investing in this fund leading to less returns. The investors lack of knowledge when it comes to the decision making process. The investor’s mentality is that to invest where they get good returns, but they forget about the sustainability. Now it works like, the companies which contribute more towards the ESG (Environmental, Social and Governance) elements and the CSR (Corporate Social Responsibility) tends to get good image in the society, raising the reasonable returns the investors get and the dividend the shareholders enjoy.

Looking at the performance of the funds it’s currently in negatives which lead to their underperformance in the markets, but their future is bright, if investors invest more in this kind of funds, then the market will increase for this fund. Indirectly making the environment and the investors happy.

The mutual fund industry is a growing market and has a bright future. There should be more awareness regarding the ESG Mutual Funds. The negative returns of now is just an outcome of the fluctuating markets. Covid 19 was also a reason which impacted whole economy. Leading the downfall in the markets. The ESG Funds will not only help in improving the economy as a whole but also will help companies expand for the best.

The future of ESG is bright, what is termed as ESG Proof will soon become the care minimum for doing business, big opportunity for the expansion. Over the next upcoming years, maximum investors expect their ESG Portfolios to outperform, as a result outperformance cannot be ruled out. ESG Issues are increasingly taking centre stage as institutional investors use more funds towards investments. The challenge of securing growth in a volatile and uncertain investment environment is major motivator for ESG.

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