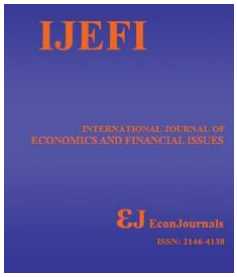

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Determinants of Mutual Fund Investment Returns: Evidence from Indian Retail Investors'

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ABSTRACT

This study explores the relationships between socio-economic factors, other variables and the returns earned by retail investors from mutual fund investments. The analysis revealed significant determinants which captured different dimensions, such as socio-economic profile, investment affordability, information sources on financial topics, investment decisiveness, investment literacy, time horizon, risk level and investment goal, which are statistically tested and interpreted. The results of 822 responses collected from retail investors by adopting purposive sampling method highlighted the importance of enhancing investor awareness through financial literacy programs which can enable retail investors to make informed investment decisions and optimize their mutual fund returns. The findings of the study revealed that the key components like mutual fund literacy, exchange traded fund literacy, annual income, monthly investment percentage, holding period, investment experience and level of risk were the determinants of retail investors' mutual fund investment returns.

Keywords: Finance Theories, Statistical Analysis, Retail Investors, Investment Literacy, Mutual Funds
JEL Classifications: G11, G23, D14, D03, D91

1. INTRODUCTION

Over time numerous finance theories had been introduced and won The Nobel Prize in Economic Sciences, each offering distinct perspectives on investment strategies. The review of finance theories examined various frameworks developed to assist investors in optimizing returns. Modern Portfolio Theory (MPT), the Capital Asset Pricing Model (CAPM) and the Efficient Market Hypothesis (EMH) are among the most influential theories. With the evolution of these theories investment strategies had been made to improve methods for addressing the complexities of financial markets. The contributions of these theories have expanded the understanding of portfolio allocation, risk management and investment returns.

Introduced by Harry Markowitz in the 1952, MPT emphasized that by investing in different asset classes the risk of the overall portfolio could be reduced while enhancing returns. In the context of personal finance, MPT plays a vital role in guiding investors toward a balanced and stable investment strategy. A framework for building a diversified portfolio was provided by MPT which enabled investors to plan effectively for managing risk. MPT had faced criticism for assuming that all investors behaved rationally and that markets operated efficiently. This assumption was challenged by behavioral finance which argued that real-world investor decisions were often influenced by psychological biases and emotions.

Capital Asset Pricing Model (CAPM), introduced by William Sharpe in 1964, extended the concepts of Modern Portfolio Theory (MPT) by defining the relationship between an asset's expected return and its systematic risk. According to CAPM, the expected return on an asset was determined by the risk-free rate, the asset's exposure to market risk (beta) and the expected return of the market. The model suggested that only systematic risk affected an asset's return, as unsystematic risk could be diversified away. CAPM was criticized for oversimplifying risk. It was

noted that CAPM ignored factors like liquidity risk, transaction costs and investor sentiment which could significantly affect returns. CAPM's reliance on market efficiency was questioned, as mispricing and irrational behavior were observed in real markets.

The Efficient Market Hypothesis (EMH), introduced by Eugene Fama in 1970, stated that asset prices reflected all available information at any given time. It was suggested by EMH that new information was incorporated into stock prices before investors could identify any overvaluation or undervaluation of securities based on public information. The theory state that investors could not consistently achieve returns that exceeded the overall market regardless of whether the information was disclosed or undisclosed. A strategy for passive investment was provided by EMH, despite the potential for higher returns through active trading, the inherent risks do not guarantee a consistently superior performance. This theory directed investors toward more stable and consistent returns over time. EMH was criticized for failing to account for market inefficiencies, such as bubbles and crashes, with investor behavior driven by emotions and herd mentality, leading to mispricing.

While Modern Portfolio Theory (MPT), the Capital Asset Pricing Model (CAPM), and the Efficient Market Hypothesis (EMH) have made significant contributions to investment strategies, particularly in portfolio diversification and risk management, these theories, despite their limitations, continue to shape both academic research and practical investment strategies.

Indian investors have access to a broader range of investment avenues which allows for enhanced opportunities in portfolio diversification. When making investment decisions, investors assess various characteristics of asset classes including liquidity, risk, return potential, time horizon and capital appreciation. Considering inflation and increased life expectancy it is essential for investments to be directed toward asset classes that offer capital appreciation. Gold, money market instruments and capital market securities are included in these asset classes due to their potential for long-term growth. The process of investing in the capital appreciating asset classes with wider portfolio diversification has been simplified by the increased accessibility of mutual funds. (SEBI. Securities and Exchange Board of India. Available from: https://www.sebi.gov.in) https://investor.sebi.gov.in/pdf/downloadable-documents/Financial%20Education%20Booklet%20-%20English.pdf

Mutual funds are a pooled investment product that combines investment from different investors to create a diverse range of investment opportunities. Exposure to various market sectors and benefits from favourable market trends are provided to investors through this asset class. Diversification across multiple asset classes or securities with a relatively low initial investment is facilitated by mutual funds, making them an attractive option for investors. Risks are mitigated through diversification and mutual funds are recognized as an effective investment avenue due to their accessibility. These features allow well-diversified portfolios to be accessed more efficiently by investors. (AMFI India. Association of Mutual Funds in India. Available from: https://www.amfiindia.com)

An Asset Management Company (AMC) plays an important role in the management of investment portfolios on behalf of various investors, including individuals, pension funds and institutions. The primary objective of an AMC is to grow investors' wealth through strategic investments, while effectively managing the associated risks. The key product offered by an AMC is mutual funds, which are managed by professional fund managers who make investment decisions in line with the fund's objectives to optimize returns. In India, mutual funds are structured as trusts under the Indian Trust Act, 1882, and are regulated by SEBI (Securities and Exchange Board of India).

An investor's investment in a mutual fund scheme is converted into 'Units', with the value of each unit known as the Net Asset Value (NAV). The NAV represents the scheme's net worth and fluctuates according to the performance of its underlying assets. It also represents the net realizable value per unit if the scheme is liquidated indicating the potential cash an investor could obtain by selling the scheme's holdings. NAV is calculated at the end of each trading day, after applicable costs and expenses are deducted. The fees associated with managing the fund are regulated by SEBI to ensure fairness and transparency. (AMFI India. Association of Mutual Funds in India. Available from: https://www.amfiindia.com)

The mutual fund sector's Asset Under Management (AUM) grew steadily since May 2014, crossing the ₹10 lakh crore mark for the first time on March 31, 2015. By March 2018, AUM surpassed ₹20 lakh crore and by March 2021, it had reached ₹30 lakh crore. As of March 31, 2024, the AUM stands at ₹53.40 lakh crore, reflecting a more than five-fold increase from ₹10.83 lakh crore in March 2015. Over the past 5 years, from March 2019 to March 2024, the AUM has more than doubled, increasing from ₹23.80 lakh crore to ₹53.40 lakh crore. (AMFI India. Association of Mutual Funds in India. Available from: https://www.amfiindia.com)

The number of investor folios has experienced significant growth, rising from 4.17 crore in March 2015 to 17.79 crore by March 2024. This increase reflects a notable rise in retail investor participation in the mutual fund market. According to SEBI, investors making investment inflows of up to Rs. 2 lakhs per transaction are classified as retail investors. The number of retail investor folios has increased from 3.99 crore in March 2015 to 16.26 crore by March 2024. The growth of the mutual fund industry in India has underscored the importance of studying mutual fund investments. The growth in the mutual fund industry and significant participation of retail investors has formed the base to analyse the mutual fund investments from the perspective of retail investors. (AMFI India. Association of Mutual Funds in India. Available from: https://www.amfiindia.com)

The study's key objective is to identify and evaluate the socio-economic and other factors that significantly influence retail investors' mutual fund returns. To examine the relationship between socio-economic factors, risk tolerance, investment goals and the mutual fund returns earned by retail investors. To assess the significance of information source, investment decisions, time horizon and literacy in mutual funds and exchange traded funds on retail investors' mutual fund returns thereby facilitating informed

decision-making for wealth creation and long-term financial security for retail investors.

The study focuses on the responses received from retail investors residing in top 30 cities (T30) and other than top 30 cities (B30) classification from the state of Tamil Nadu, India based on Asset Under Management (AUM) contribution as per Association of Mutual Funds in India (AMFI) reports. The study focused on mutual funds as an investment avenue, it examined the influence of socio-economic factors, time horizons, investment knowledge, risk tolerance and other factors on the mutual fund returns of retail investors. The study assessed the impact of literacy regarding mutual funds and exchange traded funds (ETFs) on retail investors' mutual fund returns. This included measuring their understanding of the features of mutual funds and ETFs. As there are numerous studies about behaviroal finance, this study did not cover behavioral finance aspects which can significantly influence investment decisions and returns.

2. LITERATURE REVIEW

Investment decision making was widely examined, emphasizing the influence of behavioral biases, financial literacy, risk management strategies, technological innovations and sociological influences. Behavioral biases, such as overconfidence, anchoring, regret aversion, and herding, were consistently identified as significant factors affecting investment decisions, particularly in emerging and developing markets (Rehman et al., 2024; Gurung et al., 2024; Nguyen et al., 2024; Mamidala et al., 2024; Singh et al., 2024; Bihari et al., 2023; Adil et al., 2022; Jain et al., 2023b; Parveen et al., 2020). Emotional and cognitive biases disrupted rational decision making and market stability, with regional diversity influencing the degree of these effects (Rahadian et al., 2024; Yasmin and Ferdaous, 2023; ALHarbi and Hamid, 2024; Aren and Nayman Hamamci, 2020). Behavioral interventions and investor education were frequently recommended to mitigate biases and improve decision quality (Sachdeva and Lehal, 2023; Kumar et al., 2023; PH and Rishad, 2020; Fateye et al., 2024).

The role of financial literacy was widely recognized as pivotal in shaping investment behaviors. Studies demonstrated that financial literacy moderated biases, enhanced rational decision making and contributed to financial stability (Ullah et al., 2024; Maheshwari et al., 2024; Raut, 2020; Johri et al., 2023). Its interplay with psychological factors, including overconfidence and social self-efficacy, further empowered investors to make informed decisions (Kar and Patro, 2024; Jain et al., 2023a; Adil et al., 2022). Educational programs aimed at improving financial literacy were recommended to support sustainable and informed investment practices (Pranajaya et al., 2024; Raut and Das, 2015). The previous study revealed that financial literacy were positively influenced socially responsible investment intentions, particularly when paired with supportive attitudes (Kar and Patro, 2024).

Risk management strategies and the evaluation of risk profiles were extensively addressed, with a focus on managing interest rate and foreign exchange volatility in emerging markets (Rahadian et al., 2024; Lathief et al., 2024). Factors such as risk capacity, tolerance and propensity were identified as key determinants influencing investment priorities and strategies (Lathief et al., 2024; Islam et al., 2024). Personality traits, including conscientiousness, moderated the relationship between risk factors and investment decisions, highlighting the need for tailored risk assessments (Nguyen et al., 2024; Kamath et al., 2023). These findings underscored the value of targeted approaches to optimize outcomes and enhance market stability (Mohta and Shunmugasundaram, 2024; Karki et al., 2024). Strategies to hedge against inflation were also emphasized for preserving investment value in volatile environments (Lathief et al., 2024).

Technological advancements like the use of artificial intelligence and fintech innovations had a profound impact on investment decision making. AI tools, such as ChatGPT, were found to enhance data analysis, market forecasting and portfolio optimization (Ullah et al., 2024; Shiva et al., 2023). Fintech innovations played a crucial role in fostering financial inclusion and improving access to financial services, although concerns about data security and perceived threats remained significant barriers (Pranajaya et al., 2024; Shiva et al., 2023). The adoption of technology-enabled CRM systems improved relationship quality and investor confidence, demonstrating the importance of trust-building measures in tech-driven investment solutions (Deb et al., 2023). Robo-advisors, despite showing promise for predictive accuracy and judgment, faced challenges related to security concerns and behavioral resistance (Shiva et al., 2023).

Personality traits and emotional factors were also significant in shaping investment decisions. Traits such as neuroticism, openness, and conscientiousness influenced decision making and interacted with biases like overconfidence and regret aversion (Nguyen et al., 2024; Kamath et al., 2023; Maheshwari et al., 2024). Emotional trading during periods of market volatility underscored the need to address psychological influences to improve decision making quality (Fateye et al., 2024; Yasmin and Ferdaous, 2023). Investor sentiment was frequently mediated by emotions, influencing both short term and long-term strategies (Kamath et al., 2023).

Macroeconomic conditions, financial indices and company specific metrics were identified as critical influences on investment decisions. Metrics such as the Price Earning to Growth (PEG) ratio, Debt Equity Ratio, and Dividend Yield were emphasized as essential decision-making tools (Jana et al., 2024). Factors like financial health, EPS, ROE and IPO characteristics were similarly prioritized by investors, with macroeconomic conditions shaping overall investment behavior (Nguyen et al., 2024; Karki et al., 2024). Transparency and structured frameworks in financial reporting were recommended to enhance investor confidence and decision quality (Sachdeva and Lehal, 2024). Market anomalies, such as herding and overreaction, were observed to disrupt efficient decision making, necessitating robust regulatory measures (Abideen et al., 2023; Parveen et al., 2020).

Demographic and social factors also influenced investment behaviors. Gender differences were evident, with females found to be more susceptible to biases such as herding compared to males

(ALHarbi and Hamid, 2024; Adil et al., 2022). Demographic variables like age, income and employment status interacted with psychological and financial literacy factors to shape investment decisions (Rahman and Gan, 2020; Kamath et al., 2023). Sociological influences, such as broker recommendations, advocate opinions and cultural norms, were noted to have varying degrees of impact on investment behaviors, often secondary to financial and psychological determinants (Sood et al., 2024; Sachdeva et al., 2023).

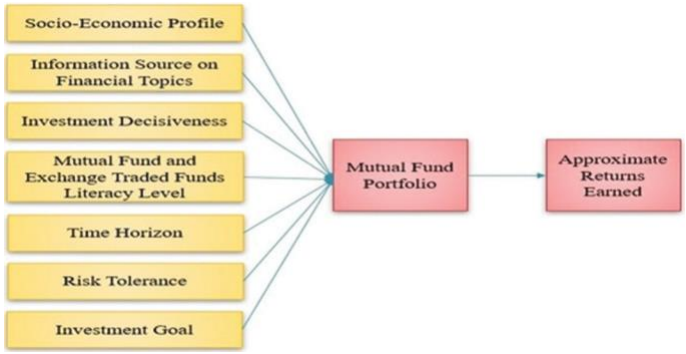
Ethical and sustainable investment practices were extensively discussed with financial literacy positively influencing socially responsible investment intentions (Kar and Patro, 2024). Green bond investments were driven by factors such as coupon rates, tax considerations and volatility, while conventional bonds emphasized liquidity and financial returns (Birzhanova et al., 2024). Stakeholder satisfaction and bank performance were identified as mediators in the relationship between financial innovation and investment decisions in certain sectors (Pea-Assounga et al., 2024). Regulatory approaches to promote inclusivity and sustainability were deemed necessary for fostering responsible investment behavior (Pranajaya et al., 2024).

3. RESEARCH METHODS

A descriptive research design was employed for the study. The sample size for the primary data was determined by retrieving information on the number of retail investors from the AMFI website which provided the finite population size for the study. However, due to the unavailability of a complete population frame of retail investors in the AMFI data, a purposive sampling method was adopted under non-probability sampling technique (Andrade, 2021), and the sample size for primary data collection was subsequently calculated to be 784 (Cochran, 1977). A survey questionnaire was distributed through online and offline mode and received 822 responses which were considered for data analysis.

Figure 1 depicts the theoretical framework of the current study compiled by author. Based on the major financial theories, past studies, dependent and independent variables are identified and significant decisions related to mutual fund investment returns were studied.

Figure 1: Theoretical framework



Source: Author

4. DATA ANALYSIS AND INTERPRETATION

4.1. Profile of the Respondents and Descriptive Statistics

The study's findings based on descriptive statistics, provided an overview of the investment patterns that emerged from the retail investors responses. The internal consistency of the primary data collected from the respondents was assessed using Cronbach's Alpha to ensure reliability. A value of 0.859 indicated that the responses from retail investors were consistent and reliable for conducting further analysis in the study. This ensures that the findings could be meaningfully applied to understand the factors affecting mutual fund returns earned by retail investors.

The residence city classification was divided into Top 30 (T30) and Other than Top 30 (B30) cities, based on the AMFI city classification. The respondents from T30 cities had a higher representation, with Chennai accounting for 27.01% and Coimbatore for 23.72%. The B30 cities had a relatively more balanced representation, with Trichy at 19.59%, Madurai at 17.27% and Salem at 12.41%. This indicates that T30 cities (Chennai and Coimbatore) together constitute 50.73% of the sample with better access to financial services and infrastructure, suggesting that top tier cities may have a greater proportion of retail investors.

The gender distribution of respondents showed that 51.82% were male and 48.18% were female. This indicates a relatively balanced representation of both genders among mutual fund investors, suggesting that both males and females are equally involved in mutual fund investments.

The age distribution indicated that the largest proportion of respondents, 46.96%, were in the 21 to 40 years age group, followed by 35.03% in the 41 to 60 years group. The 20 years and below age group constituted 6.33% and the 61 years and above group made up 11.68%. The data suggests that mutual fund investors are predominantly in their working years, particularly between 21 and 60 years, with younger and older investors forming a smaller segment.

A majority of respondents were married (63.02%), while 36.98% were unmarried. This shows that married individuals, who often have more financial responsibilities, make up a larger portion of the mutual fund investor base, potentially reflecting a greater interest in long-term financial planning and investment.

The largest proportion of respondents had 4 dependents (36.01%), followed by those with 3 dependents (27.62%). Respondents with 5 or more dependents represented 25.91% and those with 2 or fewer dependents were 10.46%. This reflects the traditional Indian family structure, where individuals often have larger families and extended responsibilities, influencing their investment decisions to ensure long-term financial stability and security for their dependents.

In terms of education qualification, 38.56% of respondents held a Master's degree, followed by 32.12% with a Bachelor's degree.

14.11% had professional qualifications, and 15.21% had other types of qualifications, such as technical education, diplomas or no formal education. The relatively high level of education among the respondents indicates a knowledgeable investor base, suggesting that these individuals are likely to have a better understanding of mutual fund investments and financial planning.

The occupational distribution showed that most respondents were private employees (47.20%), followed by government employees (20.32%). Self-employed individuals accounted for 15.08%, while retired respondents and those in other occupations (part-time employees, trainees and apprentices) represented 10.10% and 7.30%, respectively. This suggests that individuals with stable, salaried jobs form the largest group of mutual fund investors, while self-employed individuals also represent a significant portion of the investor base.

The annual income distribution revealed that 26.89% of respondents earned between Rs. 3.01 Lakhs and Rs. 6 Lakhs, while 18.00% earned between Rs. 9.01 Lakhs and Rs. 12 Lakhs. The remaining respondents were spread across other income brackets, with 18.61% earning Rs. 3 Lakhs and below and 12.41% earning Rs. 15 Lakhs and above. This suggests that a large portion of retail investors fall within the lower to middle-income ranges, making modest contributions towards mutual fund investments.

Regarding the percentage of monthly income allocated to mutual fund investments, 21.04% of respondents invested 6% to 10% of their monthly income, while 19.71% invested 11% to 15%. A smaller group of 18.49% invested 5% or less and 18.13% followed irregular investment patterns. Only 12.41% of respondents invested 21% or more of their monthly income. Many respondents indicated that due to low household income and frequent unexpected expenses, they were unable to invest regularly. This suggests that the majority of respondents prefer moderate and consistent investments.

The analysis of the sources of awareness about investment avenues revealed a diverse range of channels through which individuals became informed. The most common source was financial institutions or intermediaries, which accounted for 25.06% of the respondents, while 22.14% were informed about the mutual funds through exemptions under the Income Tax Act, 1961. 18.74% of respondents gained knowledge through education or awareness programs, while 18.61% were informed via social media. A smaller proportion, 15.45%, received information from friends, relatives or the workplace. This suggests that financial institutions, intermediaries and income tax return forms play a crucial role in raising awareness about investment opportunities, with social media and personal networks also contributing significantly to investor awareness.

The analysis of decision makers in mutual fund investments revealed that 47.20% of respondents relied on financial experts to make their investment decisions, followed by 30.66% who depended on family members for guidance. A smaller proportion, 22.14%, made their own decisions. This suggests that financial experts play the most prominent role in decision-making, while family members also have a significant influence. A smaller group of respondents prefer to make independent choices when it comes to mutual fund investments.

Regarding the mutual fund scheme selection, 27.25% of respondents chose their schemes based on recommendations from financial institutions or intermediaries, while 23.11% selected schemes based on the past performance of the funds. A smaller group, 15.21%, relied on the reputation of asset management companies and 14.84% considered the cost of the scheme. Only 10.10% of respondents used social media as a source for selecting mutual fund schemes and 9.49% were influenced by friends, relatives or workplace recommendations. This suggests that financial institutions, past performance and cost are the primary factors in selecting the mutual fund scheme, with social media and personal networks playing a secondary role.

The responses on mutual fund and exchange-traded fund awareness, focusing on the features and characteristics of these investment avenues, were converted into literacy levels by categorizing the data into low, moderate and high levels. (Ramli et al., 2013; Hassan et al., 2011). The analysis of mutual fund literacy revealed that 52.68% of respondents had a high level of understanding with the features of mutual funds, while 47.32% had a moderate level of knowledge. This indicates that a majority of respondents are knowledgeable about mutual funds, which can help improve their decision-making skills when making investment choices.

In terms of Exchange Traded Fund (ETF) literacy, 55.96% of respondents had a high level of familiarity with ETF characteristics, while 44.04% had a moderate level of understanding. This indicates that a majority of respondents are familiar in the basic principles of ETFs, which can enhance their decision-making skills when investing in such financial products.

The analysis of investment experience revealed that 45.50% of respondents had between 4 and 6 years of experience in investing, while 21.41% had 10 years or more of experience. A smaller proportion, 17.88%, had 3 years or less of investment experience and 15.21% had between 7 to 9 years of experience. This indicates that a significant number of respondents have moderate to high levels of investment experience, which could contribute to more informed decision-making when it comes to investments.

In terms of holding period, 44.65% of respondents reported a holding period of 4 to 6 years, while 27.37% had a holding period of 3 years or less. This was followed by 16.79% with a holding period of 7 to 9 years and 11.19% of respondents had a holding period of 10 years or more. This indicates that most respondents tend to prefer a medium-term investment horizon, which could suggest a focus on steady growth and risk management.

The responses on hypothetical scenarios on risk tolerance were converted into risk levels by categorizing them as aggressive, conservative and moderate (Ramli et al., 2013; Hassan et al., 2011). The analysis of risk preference revealed that 38.93% of respondents preferred a moderate level of risk, while 31.02% followed a conservative approach. The remaining 30.05% of respondents identified as aggressive investors. This indicates

that a majority of respondents prefer moderate or conservative risk profiles, which could suggest a preference for balanced or low-risk investment strategies.

The analysis of investment goals shows that the highest percentage of respondents prioritized tax planning (19.95%), followed by those focused on marriage (16.91%) and asset creation (14.84%). Capital appreciation was the goal for 14.72%, while education accounted for 13.38%. Investment for contingencies, leisure and spiritual travels was reported by 13.87% of respondents. Retirement planning was the least prioritized, with only 6.33%. This reflects traditional Indian priorities, where marriage and education are considered fundamental life goals, while tax planning and asset creation are seen as essential for financial security. The inclusion of spiritual travel underscores cultural values, while the growing focus on contingencies and leisure travel highlights a shift towards a more balanced approach to financial planning.

The analysis of mutual fund returns shows varied performance among respondents. 33.70% of respondents reported returns between 8.01% and 16%, followed by 23.36% with returns in the range of 16.01% to 24% and 15.57% experienced returns above 24%. A smaller proportion, 19.46%, reported returns of 8% or below, while 7.91% experienced negative returns. These findings suggest that most respondents achieved moderate to high returns, though some faced lower or negative returns. This highlights the inherent risks associated with mutual fund investments, where returns can differ significantly and higher returns are not guaranteed.

4.2. Analysis of Variance (ANOVA)

The study used ANOVA to assess whether there is a statistically significant difference in the means of the dependent variable across multiple categories of the independent variable. When the ANOVA results indicated significant differences, post-hoc tests were conducted to identify the specific groups that showed significant mean difference (Table 1). The null hypothesis was framed to test the influence of education qualification, occupation, source of awareness, decision authority, mutual fund scheme selection criteria, risk level and investment goal on the mutual fund returns earned by retail investors.

- H_{01}: Education qualification does not significantly influence the mutual fund returns.
- H_{02}: Occupation does not significantly influence the mutual fund returns.
- H_{03}: Source of awareness does not significantly influence the mutual fund returns.
- H_{04}: Decision authority does not significantly influence the mutual fund returns.
- H_{05}: Mutual fund scheme selection criteria do not significantly influence the mutual fund returns.
- H_{06}: Risk level does not significantly influence the mutual fund returns.
- H_{07}: Investment goal does not significantly influence the mutual fund returns.

Table 1: Test results of analysis of variance

Description	Groups	Mean square	Significant	Decision on null hypothesis (H_0)
Education qualification	Between groups	155.405	0.000	Reject
	Within groups	0.767		
Occupation	Between groups	48.745	0.000	Reject
	Within groups	1.100		
Source of awareness	Between groups	81.983	0.000	Reject
	Within groups	0.937		
Decision authority	Between groups	77.494	0.000	Reject
	Within groups	1.146		
Mutual fund scheme selection criteria	Between groups	95.741	0.000	Reject
	Within groups	0.754		
Risk level	Between groups	363.684	0.000	Reject
	Within groups	0.447		
Investment goal	Between groups	82.839	0.000	Reject
	Within groups	0.732		

Source: Compiled using primary data – SPSS output

The P-value obtained was 0.000 which was significantly lower than the alpha level of 0.05 and leads to the rejection of null hypothesis. The finding indicated that the education qualification, occupation, source of awareness, decision authority, mutual fund scheme selection criteria, risk level and investment goal had a statistically significant influence on mutual fund returns earned by retail investors.

Table 2: Results of Scheffé *post hoc* test

Variable	Description	Mean
Education qualification	Bachelor degree	2.3788
	Others	2.6400
	Master degree	3.6088
	Professional	4.5000
Occupation	Retired	2.1205
	Others	2.2000
	Self-employed	3.2339
	Private employee	3.3995
	Government employee	3.5689
Source of awareness	Social-media	2.2745
	Financial institutions/intermediaries	2.8398
	Friends/relatives/work place	3.2126
	ITR form	3.4945
	Education/awareness program	4.2013
Decision authority	Individual	2.5330
	Financial experts	3.1469
	Family members	3.7381
Mutual fund scheme selection criteria	Social-media	1.2651
	Financial institution/intermediaries	2.8705
	Past performance	3.4158
	Friends/relatives/work place	3.5128
	AMC	3.5760
	Cost	4.1475
Risk level	Aggressive	2.1417
	Moderate	2.9594
	Conservative	4.5020
Investment goal	Others	1.6842
	Education	2.7545
	Marriage	3.0647
	Asset creation	3.1475
	Retirement plan	3.5769
	Tax	3.6890
	Capital appreciation	4.3636

Source: Compiled using primary data – SPSS output. AMC: Asset management company, ITR form: Income tax return form

A *post-hoc* test was conducted to identify which specific education qualification, occupation, source of awareness, decision authority, mutual fund scheme selection criteria, risk level and investment goal differed among the respondents. The Scheffé post-hoc test was used due to the unequal number of respondents across these variables of retail investors (Table 2). The findings of the test indicated that professional degree holders, Government employee, education/awareness program, consulting with family members, cost, conservative risk and capital appreciation goal had a statistically significant influence on mutual fund returns.

4.3. Correlation Analysis

The Pearson correlation was tested to assess the strength and direction of the linear relationship between the two variables. In this study, the Pearson correlation was tested based on the independent variables such as age, number of dependents, annual income, monthly investment percentage, investment experience, holding period, mutual fund and exchange traded funds literacy statements with dependent variable mutual fund return.

The results of the Pearson correlation showed varying strengths in the relationship between the independent variables and mutual fund return (Table 3). Age exhibits a weak positive correlation of 0.286, this indicates that other than age, factors such as investment strategy, risk tolerance and market conditions will have a greater influence in determining the mutual fund returns. The number of dependents shows a very weak negative correlation of -0.084, suggesting a decrease in mutual fund return as the number of dependents increases.

Annual income (0.778), monthly investment percentage (0.794) and investment experience (0.770) resulted strong positive correlations with mutual fund return. The highest correlation value is observed with the holding period (0.917), indicating a very strong positive relationship. This revealed that longer holding periods are strongly associated with higher mutual fund returns.

These findings suggest that factors such as holding period, monthly investment percentage and annual income are the most influential in determining retail investors mutual fund investment return, while age and the number of dependents showed weaker associations.

The correlation results between mutual fund literacy statement and mutual fund returns earned by retail investors varied significantly (Table 4). Among these, the strongest correlations were observed with awareness about systematic withdrawable features in mutual funds (SWP), with a correlation coefficient of 0.839 and awareness about systematic transfer plans (STP), with a correlation coefficient of 0.833. The Pearson correlation value of 0.651 reveals that retail investors are aware about the lock-in feature of equity linked savings scheme. The weakest significant correlation was observed with awareness about the scheme type of mutual fund investment, with a correlation coefficient of 0.462. These results highlight the awareness and understandings about mutual fund product and scheme features by retail investors.

Major statements for ETF features are identified, classified and consolidated in respondent friendly option as per the NSE India website information (https://www.nseindia.com/products-services/etfs-advantages). NSE India. National Stock Exchange of India Ltd. Available from: https://www.nseindia.com

Table 3: Results of pearson correlation

Description	Pearson correlation
Age	0.286
Number of dependents	−0.084
Annual income	0.778
Monthly investment percentage	0.794
Investment experience	0.770
Holding period	0.917

Source: Compiled using primary data – SPSS output

Table 4: Correlation results of mutual fund literacy statements

Mutual fund features feature statement	Pearson correlation
Scheme name	0.659
Scheme type	0.462
One time/lumpsum investment	0.599
SIP	0.599
STP	0.833
SWP	0.839
Regular and direct options	0.661
Growth and dividend options	0.659
ELSS (tax saving fund) lock-in	0.651
Dematerialisation form (Demat account)	0.644

Source: Compiled using primary data – SPSS output. SIP: Systematic investment plan, STP: Systematic transfer plan, SWP: Systematic withdrawable Plan

Table 5: Correlation results of exchange traded fund literacy statements

Exchange traded funds feature statement	Pearson correlation
Transparent price	0.599
Easy liquidity	0.599
Diversification	0.599
Low cost	0.599
Easy selection	0.686
Capital appreciation	0.647
Benchmark index	0.651
Demat account	0.592
Like share	0.592
No fund manager bias	0.682

Source: Compiled using primary data – SPSS output

The results showed significant positive correlations between all ETF feature statements and mutual fund returns earned by retail investors (Table 5). Among these, the strongest correlations were observed with awareness about the easy selection feature, with a correlation coefficient of 0.686 and no fund manager bias, with a correlation coefficient of 0.682. The weakest significant correlations were observed with awareness about demat account and like share features, both having a correlation coefficient of 0.592. These results highlight the importance of enhancing investor awareness through financial literacy programs. Improved awareness can enable retail investors to make informed investment decisions and optimize their mutual fund returns.

The overall results emphasized that the major impact of retail investors mutual fund return is mutual fund literacy, exchange

traded fund literacy, annual income, monthly investment percentage, holding period, investment experience and risk level of retail investors. The Overall findings from survey data suggests that focusing on improving investors financial literacy, encouraging consistent investment habits and promoting long-term investment horizons have the most significant impact on improving retail investors mutual fund investment returns.

5. CONCLUSION AND FUTURE STUDIES

The study explores the various factors influencing mutual fund returns for retail investors. The analysis reveals that factors such as socio-economic profile, source of information, investment decisiveness, investment literacy, time horizon, risk tolerance, investment goals play a significant role in determining the returns earned by retail investors. Statistical tests have been applied to examine these variables, providing a comprehensive understanding of their impact on mutual fund performance. Primary data collected through questionnaire has revealed that factors like mutual fund literacy, ETF literacy, annual income, monthly investment percentage, holding period, investment experience and risk tolerance level have the most substantial positive impact on returns.

Future studies could explore the evolving trends in mutual fund investments, with a focus on the role of technological advancements and robo-advisors in shaping investor behavior. The influence of global market conditions, Environmental, Social and Governance (ESG) factors and the increasing interest in sustainable investing could offer valuable insights into how these variables affect the performance of ETFs and other mutual fund schemes. Future research could examine the impact of ETF holdings on the portfolio performance of High-Net-Worth Individuals, Corporates and Foreign Institutional Investors.

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