

# A STUDY ON UTILIZATION OF BIG DATA INFORMATION IN DECISION MAKING PROCESS BY THE INDIAN INVESTORS IN STOCK MARKET

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## ABSTRACT

*This study focuses on the utilization of big data information in decision making process by the Indian investors in stock market investment. This study is about the big data information utilization and the factors influencing the investors to invest in the Indian stock market. Investing in stocks is not a simple task, and how the big data information is useful to the Indian investors. Stock market is a place where securities are bought and sold. The recent days, the update of technology we can sit in a place and do what we want and so the investment process becomes ease with the help of the big data information available in the online and applications to understand the stock market. In this study it is mainly concentrating on the Indian investors who use the applications for the knowledge about the investment and got influenced by the availability of the investment sources. Thus the investor sitting in any part of the country would be able to invest using the Internet as a medium through many systems. The big data application, such as money control, investing.com and other big data application, which is used for the information about the day to day information. The various investment options of stock market such as Equity Stocks, IPO, Mutual Fund, Futures and Options, and Commodities. And then the short term, medium term, long term of investments. In which the investors got more influenced on big data for the stock market investment.*

**Keywords:** Big Data Information, Investors, Stock Market, Decision Making Process, And Applications.

## INTRODUCTION

The study aims to explore the utilization of big data information in the decision-making process of Indian investors in the stock market and to explore the types of big data information that Indian investors are utilizing, how they are accessing and processing this data, and the impact of big data on their investment strategies. In recent years, big data has become an increasingly valuable resource in a variety of industries, including finance. By analyzing large volumes of data, investors can gain insights into market trends and make more informed decisions about buying and selling stocks. The objective of your project is to investigate how Indian investors in the stock market are using big data information in their decision-making process. With the increasing availability of large amounts of data, investors have the opportunity to gain insights into market trends, and make more informed investment decisions. Big data has become increasingly important in decision-making processes in various industries, including the stock market. With the growth of digital technology, the amount of data available has increased significantly, making it possible to extract insights and make informed decisions. The aim of this

study is to explore the utilization of big data information in decision-making processes by Indian investors in the stock market.

Big data can come from a variety of sources, including social media, e-commerce transactions, scientific experiments, and more. Analyzing big data can be challenging, as traditional tools and techniques are often insufficient to handle the volume, velocity, and variety of data involved. As a result, big data is typically analyzed using specialized software tools and techniques, such as machine learning algorithms, data mining, and predictive analytics. Big data is also used by financial institutions and market analysts to develop predictive models and algorithms that can help them to forecast market trends, identify risks, and optimize their investment strategies. For example, they can use sentiment analysis to gauge public opinion and predict the impact of news and events on the stock market. The world of finance is rapidly changing, and one of the key drivers of this change is the emergence of big data. Big data refers to the vast amounts of information that is generated every day, which can be analyzed to identify patterns, trends, and insights that can be used to make better decisions. The stock market is one area where big data is increasingly being used to inform investment decisions.

India is a country that has seen significant growth in its stock market in recent years. With the rise of big data, Indian investors have access to more information than ever before, which can help them make more informed decisions. However, it is not clear to what extent Indian investors are actually using big data to inform their investment decisions. The purpose of this study is to explore the utilization of big data information in the decision-making process by Indian investors in the stock market. The Indian stock market is one of the fastest-growing in the world, and as such, it presents a unique opportunity for investors looking to leverage big data to gain a competitive advantage. However, the use of big data in the Indian stock market is still in its early stages, and there is a need to understand the challenges and opportunities associated with its use.

The study will investigate how Indian investors use big data to make investment decisions, what sources of big data they rely on, and what factors influence their use of big data. The findings of this study will provide valuable insights into the role of big data in the Indian stock market and its impact on investment decisions. The use of big data in the stock market has become increasingly important in recent years. Big data is changing the way investors analyze the markets, and helping them make better-informed investment decisions. In the past, investors relied on traditional financial analysis methods such as fundamental analysis, technical analysis, and market sentiment analysis to make investment decisions. However, with the advent of big data, investors are now able to access vast amounts of data and use sophisticated data analytics tools to identify patterns and trends that would be difficult to spot using traditional analysis methods.

The stock market is a dynamic and complex environment that is constantly evolving. In recent years, the rise of big data has had a significant impact on the way investors make decisions in the stock market. With the increasing availability of data and the development of sophisticated analytical tools, investors are now able to use data-driven insights to make better-informed investment decisions.

One of the challenges of using big data in the Indian stock market is the lack of data availability. Unlike the developed markets, India does not have a well-established data infrastructure, and the data that is available is often incomplete or unreliable. This makes it difficult for investors to make accurate predictions and informed investment decisions. Another challenge is the lack of awareness and skills among Indian investors to effectively use big data.

Many investors are not familiar with data analytics tools and techniques, and therefore, may not be able to effectively use the data that is available.

## REVIEW OF LITERATURE

Mehta et al. (2021), the authors investigated the impact of big data on the investment decisions of Indian investors in the stock market. The study found that big data analytics has revolutionized the way investment decisions are made by investors in India. The study highlighted the benefits of big data in improving investment decision making, including increased accuracy, reduced risk, and improved profitability. The authors recommended that Indian investors should leverage big data analytics to improve their investment decision making and gain a competitive advantage in the stock market. The study concludes that big data analytics will continue to play a significant role in shaping investment strategies for Indian investors in the future. Sharma et al. (2021) analyzed the impact of big data on the decision-making process of Indian investors in the stock market. The study found that big data analytics can help investors make informed decisions by providing them with timely and accurate information about market trends, company performance, and economic indicators. Overall, the study concludes that big data analytics has the potential to significantly enhance the decision-making process of Indian investors in the stock market, and calls for greater investment and attention to be directed towards developing the necessary infrastructure and expertise to leverage this technology effectively.

Kumar and Singh (2022), the authors investigated the role of big data in the investment decision-making process of Indian investors in the stock market. The study found that big data analytics has become an essential tool for Indian investors in identifying profitable investment opportunities and minimizing risks associated with investment decisions. The authors recommended that Indian investors should invest in big data technologies and develop the necessary skills to leverage the full potential of big data analytics in their investment decision-making process. The study concludes that big data analytics will continue to play an increasingly important role in the investment decision-making process of Indian investors in the future.

Sahoo et al. (2020), "*Big Data Analytics in Investment Decision Making: A Study of Indian Stock Market*" This study explores the utilization of big data analytics in investment decision-making in the Indian stock market. The study analyzes the impact of big data on various aspects of investment decision-making, such as stock selection, portfolio optimization, and risk management. The study highlights the potential benefits of big data analytics for improving investment decision-making in the Indian context. The study provides recommendations for addressing these challenges and suggests future research directions.

Bandyopadhyay et al. (2014), "Big Data Analytics and Investment Decision Making in Indian Stock Market," examines the impact of big data analytics on investment decision-making processes in the Indian stock market. The study concludes that the use of big data analytics in the Indian stock market is still in its nascent stage and requires further research and development to achieve its full potential. The authors also suggest that big data analytics can be used to improve the efficiency and effectiveness of investment decision-making processes and provide better returns for investors Pospieszny et al. (2018).

Verma et al. (2020), "Big Data Analytics in Indian Stock Market: A Comprehensive Study" This comprehensive study explores the current state of big data analytics in the Indian stock market. The study provides a detailed analysis of the various sources of data used in the Indian stock market and the different analytical tools and techniques used by investors. The

study also highlights the importance of data quality and data privacy in the use of big data analytics in the stock market. The authors provide recommendations for improving the utilization of big data analytics in the Indian stock market, such as enhancing investor education and awareness and developing standardized data sources and analytical methods Goyal and Parashar (2018).

Goyal and Bhatia (2019), "*Big Data Analytics in Stock Market: An Indian Perspective*" This study explores the utilization of big data analytics by Indian investors in the stock market. The study highlights the potential benefits of big data analytics for investment analysis and risk management, and discusses the challenges associated with its utilization in India. The study also provides recommendations for addressing these challenges, such as improving data quality and enhancing investor knowledge of big data analytics.

### Objectives of the Study

1. To study the choice of Indian investors in selecting the investment in stock market.
2. To know the level of awareness on investment by using the big data information and knowledge on investing.
3. To identify the best investment option through using the big data application.
4. To evaluate the big data information available and factors influencing for decision making.
5. To identify the selection of sector to invest.
6. To identify the factors to be considered while selecting the sector based investment.
7. To explore the investor motivation to invest and purpose behind investment using the big data application.

### Hypothesis of the Study

*H<sub>1</sub>: There is no associate relationship between income per annum, term of investment and percentage of income invested.*

*H<sub>2</sub>: There is no significant relationship between age and hour spent while investing.*

*H<sub>3</sub>: There is no significant relationship between experience in investment, purpose behind investing in stock market and knowledge about investment.*

*H<sub>4</sub>: There is no associate relationship between occupation and important factor while selecting the sector.*

## RESEARCH METHODOLOGY

This study availed both primary and secondary data are used. Primary data collected from the respondents by administering structured questionnaires. Secondary data are collected from office, library, journals, magazines, newspapers, annual reports, websites etc.

### Research Design

The research design indicates a plan of action to be carried out in connection with a proposed research work. It provides only a guideline for the research to enable to keep the moving in the right direction in order to enable the goals. In this research the research design was be the descriptive research design.

### Sources of Data

- **Primary data** - Primary data is the first hand data information. It is collected through structured questionnaire method. The questionnaire contains different sections and each

section concentrates on particular aspects that the factors influencing the investors to invest. Convenience Sampling is used.

- **Secondary data** - Secondary data is collected from different published source of websites, periodicals, journals etc.

### Sample Size

This refers to number of respondents which is the retail Indian investors in stock market. The sample size of 150 Indian investors was taken through Google form.

### Sampling Technique

Convenience Sampling was used to select the sample. In this project, Questionnaire Method through Google form was used for the purpose of collecting the data. With the help of this method a sample survey was conducted.

### Results of the Study

		<b>Number of Respondents</b>	<b>Percentage</b>
<b>Gender</b>	Male	115	76.7
	Female	35	23.3
	Others	0	0
<b>Age</b>	Below 20 years	0	0
	21 to 30 years	0	0
	31 to 40 years	24	16
	41 to 50 years	56	37.3
	Above 51 years	70	46.7
<b>Education</b>	Higher study	0	0
	Under Graduation	10	6.6
	Professional Course	61	40.7
	Post-Graduation	79	52.7
<b>Occupation</b>	Student	0	0
	Business	10	6.7
	Salaried Employee	114	76
	Retired	26	17.3
<b>Income per annum</b>	Below 2,00,000	0	0
	2,00,001 to 6,00,000	5	3.4
	6,00,001 to 12,00,000	47	31.3
	Above 12,00,001	98	65.3

Source: Primary Data.

- 76.7% of the respondents are Male and 23.3% of the respondents are Female.
- 46.7% of the respondents belong to the age group of Above 51 years. 37.3% of the respondents belong to the age group of 41 to 50 years. 16% of the respondents belong to the age group of 31 to 40 years.
- 52.7% of the respondents are Post Graduates. 40%.7 of the respondents are completed Professional Course. 6.6% of the respondents are Under Graduates.
- 76% of the respondents are Salaried Employee. 17.3% of the respondents are Retired person. 6.7% of the respondents are doing Business.

- 65.3% of the respondents income per annum is Above 12,00,001, 31.3% of the respondents income per annum is 6,00,001 to 12,00,000 and 3.4% of the respondents income per annum is 2,00,001 to 6,00,000.

<b>Investment options</b>	<b>Number of Respondents</b>	<b>Percentage of Respondents (%)</b>
Equity Share	77	51.3
Mutual Fund	50	33.3
Futures and options	13	8.7
Foreign exchange market	6	4
Commodity	4	2.7
<b>Total</b>	<b>150</b>	<b>100</b>

**Source:** Primary Data.

51.3% of respondents feel that Equity Share provides the best returns. 33.3% of respondents feel that Mutual Fund provides the best returns. 8.7% of respondents feel that Futures and options provide the best returns. 4% of respondents feel that Foreign exchange market provides the best returns. 2.7% of respondents feel that Commodity provides the best returns.

## Correlations

$H_0$ : There is no significant relationship between income per annum, term of investment and percentage of income invested.

$H_1$ : There is significant relationship between income per annum, term of investment and percentage of income invested.

The correlation obtained is 0.287 which determined positive correlation (between 0 to +1). This shows that the term of investment increases with the income. The correlation obtained is 0.385 which determined positive correlation (between 0 to +1). This shows that the percentage of income invested in stock market increases with the income. Significant value must be lesser than 0.05 which means that there is significant difference between the variables. Hence, the null hypothesis rejected. If the significant value is greater than 0.05 then we accept the null hypothesis

## Regression

$H_0$ : There is no significant relationship between age and hour spent while investing.

$H_1$ : There is significant relationship between age and hour spent while investing.

The significant value 0.038, which is lesser than 0.05, so the null hypothesis is accepted. There is significant variance between age and hour spent in investing activity. The age was taken as independent variable and hours spent for investing activities was taken as dependent variable. From the regression test, it is found that age and hours spent has relationship between them and age predicts the time spent for investing activities.

$H_0$ : There is no significant relationship between experience in investment, purpose behind investment and knowledge about investment

$H_1$ : *There is significant relationship between experience in investment, purpose behind investment and knowledge about investment*

The significant value is 0.023, which is lesser than 0.05, so the null hypothesis is rejected. There is significant relationship between experience in investment and purpose behind investing in stock market. Hence there is significant relationship between experience in investment and Purpose behind investing in stock market.

$H_0$ : *There is no relationship between occupation and important factor while selecting the sector.*

$H_1$ : *There is relationship between occupation and important factor while selecting the sector.*

The significant value is lesser than 0.05, so the null hypothesis is rejected. There is significant relationship between occupation and most important factor while selecting the sector. From the t-test done between occupation and important factor while selecting the sector. It is found that there is a relationship between occupation and important factor while selecting the sector.

### Major Findings of the Study

- 51.3% of respondents feel that Equity Share provides the best returns.
- This shows that the percentage of income invested in stock market increases with the income.
- It is found that age and hours spent has no associate relationship between them.
- There is no significant relationship between experience in investment and knowledge in investing in stock market.
- It is found that there is a relationship between occupation and important factor while selecting the sector.

## RESULTS AND DISCUSSION

Through analysis it is inferred that most of the respondents feel that equity share followed by mutual funds provides best returns. It is noted from the analysis that there is significant relationship between Income and term of investment. Also significant relationship is observed between Income and Percentage of income invested. This indicates that as the income of the investors increases, it keeps improving the term of investment and investment percentage. It is found from the analysis that the age and hours spent has relationship between them and age predicts the time spent for investing activities. Significant relationship between experience in investment and purpose behind investing in stock market. It is found that there is a relationship between occupation and important factor while selecting the sector Sriramoju, (2014).

### Scope for Future Research

1. Identifying the Big data's opportunities, challenges, and implications in the area of finance.
2. A study on big data influence on efficiency of the capital markets.
3. A study can be organized how the big data can be integrated for making investment decision-making.
4. Big data analytics enables businesses to make decisions based on facts and evidence rather than intuition or guesswork.
5. A study can be organized to assess the data science and its relationship to big data and data-driven decision making.

## CONCLUSION

Big data analytics is increasingly being utilized by Indian investors in the stock market for investment analysis, risk management, and trading strategies. However, its utilization is influenced by various factors, including data quality, availability of tools, and the level of expertise. While there are challenges and limitations to its utilization, the benefits of big data analytics cannot be ignored. Therefore, further research is needed to explore the full potential of big data analytics in the stock market. Their attitude towards stock market and market condition help them to achieve a good return on the investment and their good decision-making skill would enable them to be a successful investor. And study includes discussion with the investors, survey through questionnaire method in order to collect more information from investors. The study contains understanding big data influence the investor's behaviour, level of awareness and their investment decision in the stock market. Revealed that majority of the investors considers return as the motivating factor that influences their investment decision. Most of the investors decided to invest on their own and few of them were influenced by newspapers, advertisements, or in the source of big data. Majority of the investors preferred investing in stocks in the internet investment knowledge.

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