A PROJECT REPORT ON

"ANALYSIS OF STOCK MARKET TRADING"

A Project Submitted to

University of Mumbai for Partial Completion of the Degree

of Bachelor in Commerce (Accounting and finance)

Under the Faculty of Commerce

By

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JNAN VIKAS MANDAL'S

Mohanlal Raichand Mehta College of Commerce

Diwali Maa College of Science

Amritlal Raichand Mehta College of Arts

Dr. R.T. Doshi College of Computer Science

NAAC Re-Accredited Grade 'A+' (CGPA: 3.31) (3rd Cycle)

Sector-19, Airoli, Navi Mumbai, Maharashtra 400708

FEBRUARY, 2024.

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CERTIFICATE

This is to certify that **MR. SHREYAS KHANDERAO SONAR** has worked and duly completed his Project work for the degree of Bachelor in Commerce (Accounting and Finance) under the Faculty of Commerce in the subject of **Management Control** and his project is entitled, **"ANALYSIS OF STOCK MARKET TRADING"** under my supervision.

I further certify that the entire work has been done by the learner under my guidance and that no part of it has been submitted previously for any Degree or Diploma of any University.

It is his work and facts reported by his findings and investigations.

Guiding Teacher,

ASST. PROF. DR. KISHOR CHAUHAN.

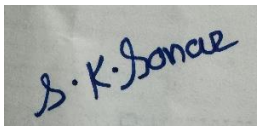
Date of submission:

DECLARATION

I undersigned **MR. SHREYAS KHANDERAO SONAR** hereby, declares that the work embodied in this project work titled **"ANALYSIS OF STOCK MARKET TRADING"**, forms my own contribution to the research work carried out by me under the guidance of **ASST. PROF. DR. KISHOR CHAUHAN** is a result of my own research work and has not been previously submitted to any other University for any other Degree/ Diploma.

Wherever reference has been made to previous works of others, it has been clearly indicated as such and included in the bibliography.

I, hereby further declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct.



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CHAPTER 1

INTRODUCTION

1.1 MEANING OF TECHNICAL ANALYSIS OF STOCKS

There are plenty of ways to analyze whether an investment is good or not, or when you should buy or sell it. The overall market, economic data, financial statements, and fundamentals can all be beneficial factors to examine when looking at a new investment- whether a stock or another kind of security.

However, one of the major ways analysts and investors determine good investments is by using technical analysis.

Unlike its counterpart fundamental analysis, technical analysis examines things like trends and price movement to analyze the viability of a potential investment.

(A) WHAT IS MEANT BY TECHNICAL ANALYSIS?

We can define technical analysis as a **trading discipline that is used for the evaluation of investments and identification of trading opportunities**. It is done by analyzing the trends in statistics that are collected from trading activities such as the movement of price and volume.

(B) WHAT IS TRADING ANALYSIS?

The technical analysis definition describes it as a trading discipline that helps in evaluating investments. Technical analysis emphasizes studying price and volume movements whereas fundamental analysis attempts to assess the value of a security based on the results of business such as sales.

(C) MEANING OF INVESTMENT, STOCKS AND MUTUAL FUNDS

An investment is **an asset or item acquired to generate income or appreciation**. Appreciation refers to an increase in the value of an asset over time. When an individual purchases a good as an investment, the intent is not to consume the good but rather to use it in the future to create wealth.

A stock, also known as equity, is **a security that represents the ownership of a fraction of the issuing corporation**. Units of stock are called "shares" which entitles the owner to a proportion of the corporation's assets and profits equal to how much stock they own.

A mutual fund is **a pool of money managed by a professional Fund Manager**. It is a trust that collects money from several investors who share a common investment objective and invests the same in equities, bonds, money market instruments, and/or other securities.

(D) TECHNICAL ANALYSIS: FOUR BASIC PRINCIPLES

- Markets alternate between range expansion and range contraction.
- Trend continuation is more likely than reversal.
- Trends end in one of two ways: climax or rollover.
- Momentum precedes price.

(E) UNDERSTANDING TECHNICAL ANALYSIS

Technical analysis tools are used to scrutinize the ways supply and demand for security will affect changes in price, volume, and implied volatility. It operates from the assumption that past trading activity and price changes of security can be valuable indicators of the security's future price movements when paired with appropriate investing or trading rules.

It is often used to generate short-term trading signals from various charting tools but can also help improve the evaluation of a security's strength or weakness relative to the broader market or one of its sectors. This information helps analysts improve their overall valuation estimate.

(F) TECHNICAL ANALYSIS OF STOCKS

Technical Analysis is at the other end of the stock analysis spectrum. It uses charts instead of annual reports and charts and patterns instead of arriving at an intrinsic value. Stock market technical analysis does use the market price of the stock to predict future patterns and analyze historical ones but does not concern itself with analyzing factors affecting the market price. It studies trends in price, volumes, and moving averages over a period.

Trends in the volume show how long such a trend in price will prevail. So, if there is a downtrend in volume, this means that trends might not exist for a long time. Like price and volume, there are more indicators, charts of which are analyzed by technical analysts.

Technical analysts, after finding out if there is an uptrend or a downtrend in the metric, find out how long the trend has been there and if there is a visible pattern historically to see if such a pattern may arise in the future. This analysis focuses on quick buying and selling and hence aids stock traders more.

Therefore, three main strongholds of share market technical analysis are:

- Price
- Volume
- Moving Averages

Given that technical analysis focuses on price, movement, volume, and trends, there are several basic aspects and charts that technical analysts look at rather than things like financial statements, which fundamental analysts look at.

1.2 HISTORY OF THE INDIAN AND GLOBAL STOCK MARKET

A. INDIAN STOCK MARKET

Mark Twain once divided the world into two kinds of people: those who have seen the famous Indian monument, the Taj Mahal, and those who haven't. The same could be said about investors.

There are two kinds of investors: those who know about the investment opportunities in India and those who don't. Although India's exchanges equate to less than 3% of the total global market capitalization as of 2020, upon closer inspection, you will find the same things you would expect from any promising market.

THE BSE AND NSE

Most of the trading in the Indian stock market takes place on its two stock exchanges: the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE). The BSE has been in existence since 1875.

The NSE, on the other hand, was founded in 1992 and started trading in 1994. However, both exchanges follow the same trading mechanism, trading hours, and settlement process.

As of November 2021, the BSE had 5,565 listed firms, whereas the rival NSE had 1,920 as of Mar. 31, 2021.

Almost all the significant firms of India are listed on both exchanges. The BSE is the older stock market, but the NSE is the largest stock market, in terms of volume. Both exchanges compete for the order flow that leads to reduced costs, market efficiency, and innovation. The presence of arbitrageurs keeps the prices on the two stock exchanges within a very tight range.

POST-INDEPENDENCE SCENARIO

Post-independence, BSE dominated the volume of trading. However, the low level of transparency and undependable clearing and settlement systems increased the need for a financial market regulator.

The Sensex or Sensitive Index was launched in 1986, followed by the BSE National Index in 1989.

In 1988, the Securities and Exchange Board of India (SEBI) was born as a non-statutory body, which was further given statutory status by passing the SEBI Act on 30 January 1992.

The National Stock Exchange (NSE) came into being in 1994. to cater to the need for another stock exchange large enough to compete with BSE and the need for transparency in the stock market.
NSE began operations in the Wholesale Debt Market (WDM) segment in 1994, the equities segment in 1994, and the derivatives segment in 2000.

In 1995, the BSE switched to an electronic trading system from the open-floor system. In 2015, SEBI was merged with the Forward Markets Commission (FMC) to strengthen commodities market regulation, facilitate domestic and foreign institutional participation, and launch new products.
After the country gained independence, 23 stock exchanges were added apart from the BSE, but at present, there are only five recognized stock exchanges, apart from BSE and NSE:
- Calcutta Stock Exchange Ltd.
- Magadh Stock Exchange Ltd
- Metropolitan Stock Exchange of India Ltd
- India International Exchange (India INX)
- NSE IFSC Ltd

B. GLOBAL STOCK MARKET

1. US STOCK MARKET

In 1817, the Buttonwood traders observed and visited the Philadelphia Merchants Exchange to mimic their exchange model, creating the New York Stock and Exchange Board. The members had a dress code and had to gain a seat in the exchange. They also had to pay a fee, which increased from $25 to $100 by 1837.
The earliest securities traded were mostly governmental securities such as War Bonds from the Revolutionary War and **First Bank of the United States stock**, although Bank of New York stock was a non-governmental security traded in the early days.

2. UK STOCK MARKET

The Royal Exchange had been founded by English financier **Thomas Gresham and Sir Richard Clough** on the model of the Antwerp Bourse. It was opened by Elizabeth

I of England in 1571. During the 17th century, stockbrokers were not allowed in the Royal Exchange due to their rude manners.

The exchange was formally established in 1773 by a group of stockbrokers who had been trading in the area's coffee houses. This set-up was in place for more than a century because stockbrokers were deemed too uncouth to be allowed into the Royal Exchange which was established as the City's centre of commerce in 1571.

The LSE is the most international of all stock exchanges with thousands of companies from more than 60 countries, and it is the premier source of equity-market liquidity, benchmark prices, and market data in Europe.

1.3. CHARACTERISTICS OF STOCK MARKET

1. PRICE DISCOVERY

One of the most important functions of stock exchanges is bringing buyers and sellers together in a single place and facilitating price discovery. The role of stock exchanges is tremendous in creating a place where the impact of all factors that can affect businesses is incorporated into stock prices.

2. PROMOTES INVESTMENT OF SAVINGS

For an economy to grow, the citizens' savings must be deployed in avenues productive to the economy. A part of this is taken care of by the banking system that provides loans using deposits. A smooth and trustworthy stock market would encourage citizens to invest in businesses that can use this capital to produce more, produce better, and employ more.

Thus, stock markets can play a key role in the economic development of an economy.

3. PROMOTES BETTER ALLOCATION OF CAPITAL

Information on companies in the stock market is easier to obtain as news outlets are likely to cover any events that might affect their market value. The companies themselves are required to disclose key information. Investors also get access to information on bulk deals, insider trades, and holdings of institutional investors and promoters.

Thus, investors are empowered to make better decisions and allocate capital to good businesses.

4. BECOMING A MEDIUM FOR FOREIGN INVESTMENTS

In developing countries like India, foreign investments play a crucial role in promoting new industries and enhancing existing ones.

A stock market that functions smoothly, is regulated against malpractices, and is transparent can give foreign investors the confidence to invest in the companies of a particular country.

India's economic growth can benefit from foreign investments.

5. DRIVING ECONOMIC GROWTH AND BEING ECONOMIC BAROMETER

As mentioned earlier, a well-functioning stock market can help draw investments from domestic sources. These investments can be employed to improve production capacities and can help increase job opportunities. Thus, stock markets can help drive the economic growth of a country.

Furthermore, a stock market can act as an economic barometer as the effects of changes in economic growth expectations and significant events are reflected in stock prices.

6. LIQUIDITY

Liquidation of assets, i.e. converting them into cash, can be a tedious task. Finding a buyer is difficult, and getting a reasonable bid is even more difficult. But, if the asset in question is a security that can be traded in the stock market, the situation changes dramatically. Stock markets help connect buyers and sellers across geographical and socioeconomic boundaries.

This makes it a lot simpler to buy or sell assets.

7. SAFE TRANSACTIONS

Companies listed on stock exchanges are regulated and required to meet certain standards. Also, investors can expect a basic level of information to be available on all companies in the stock market.

Additionally, regulators and stock exchanges work towards protecting the interests of investors and limiting malpractices like price manipulation, ensuring the safety of transactions.

8. PROVIDES SCOPE FOR SPECULATION

Stock markets provide scope for speculation in a fair and regulated manner. Healthy speculation can help smoothen changes in asset prices. As situations develop, speculative activity affects asset prices. The change in asset prices happens in phases instead of skyrocketing or free-falling prices. Also, speculative trades ensure assets remain liquid (easy to trade).

1.3.2 BASICS OF TECHNICAL ANALYSIS AND HOW ARE THEY USED TO ANALYZE STOCKS?

PRICE

One of the biggest factors technical analysts examine is the price of the security. In fact, price action is the primary measure considered when conducting technical analysis. Technical analysts start by examining charts that show a security's price and trading volume to note its historical performance and help predict future movements. The basic function of using charts to examine stocks or other securities is to identify trends in the investment's price or trading volume and how those trends change over time.

CHART PATTERNS AND ANALYSIS

As the bread and butter of technical analysis, chart patterns are one of the main ways analysts examine and predict where a stock or security will trade down the road. One of the most important parts of charts for technical analysis is a so-called "trend line," which shows a security's overall price trend. Additionally, things like "peak/trough analysis" and "moving averages" can help investors or analysts get a better prediction of what stocks are going to do.

There are several types of charts that technical analysts examine, including candlestick charts, line charts, bar charts and more:

Table 1:

VOLUME

Another major factor used in technical analysis is volume. Volume is simply the number of shares or contracts that trade for a certain security over a certain period, which is generally one day.

For technical analysis, looking at the volume of a stock or security can help analysts determine the strength of a price movement or trend by showing the number of shares being traded in that direction (up or down). Volume is expressed as a bar chart at the bottom of a financial chart below the price line (the red and green bars in the charts above). The higher the bar, the higher the trading volume.

TREND

For a technical analyst, a trend is perhaps one of the most important indicators of a stock or security's future performance. Technical analysis prizes examining historical trends to forecast what a stock's price might do in the future. For this reason, human behavior and emotions play a surprisingly key role in technical analysis, as patterns of trading and price movements from the past often indicate how the stock or security might behave in the future.

There are many different trends, some with strange names like "triangles" and "head and shoulders." (Some other patterns include "rectangles," "cup and handle," "flags and pennants," "candlesticks" and more.)

MOMENTUM

Momentum measures the speed of the price changes or movements of a particular stock or security. Often coupled with the so-called "relative strength index" (RSI), momentum tracks and measures the rate of price increases or decreases over a set period. For example, you could examine the momentum of the price changes for a stock like Disney (**DIS**) for a 10-day period to see the rate of the rise and fall. The RSI assigns stocks a value of between 0 and 100 and tracks whether the market is overbought or oversold for a stock. It's generally examined daily.

MOVING AVERAGES

When looking at a daily stock chart, the jagged lines going up and down can sometimes look messy or confusing. That's why examining so-called "moving averages" -- the average of a stock's past price movements -- can help show trends more clearly. These focus on a security's average price movements instead of its day-to-day changes.

INDICATORS AND OSCILLATORS

Apart from just resistance or support levels, technical analysts also examine some key indicators like "money flow," "volatility," "momentum" and more to get a mathematical view of the stock or other security.

Indicators are calculations based on statistics like price and volume that help confirm chart patterns and other trends. They're designed to create buy or sell "signals" that help traders or analysts determine where to best enter or exit a trade (and therefore make the most money).

Some of these indicators are also "oscillators," or tools that functions by showing short term overbought or oversold conditions of stocks. Oscillators are typically bound in a certain range (or between set levels or lines).

1.3.3 TYPES OF TECHNICAL ANALYSIS AND 3 MAIN ANALYSIS

TOP-DOWN APPROACH

When analysts are looking at stocks through a top-down approach, they generally analyze securities from a broader to more-specific viewpoint -- often going from looking at a major index like the S&P 500 to sector charts to specific weekly or hourly charts for certain stocks. Technical analysts continue to examine more and more specific charts to determine which stock looks like a good investment.

When using the top-down approach, technical analysts examine a stock or security's moving averages in a more general-to-specific time frame, such as starting by looking at daily averages and then moving to examining hourly averages for a given stock's price movements.

For example, a trader might start by looking at how a security is doing on a daily chart. If it's performing bullishly on a daily basis, the trader might then look at its hourly chart to find an optimum point of entry for the stock.

'BOTTOM-UP' APPROACH

By contrast, a bottom-up approach to technical analysis includes looking for potentially undervalued stocks and examining them on a more fundamental basis to find a point of entry where the stock looks like it's bottomed out.

Technical analysts use the bottom-up approach to look at stocks that are disregarding the overall market's trend, then look for entry or exit points that would put them in the best position to make money on a given name.

THREE MAIN ANALYSIS

1) TECHNICAL ANALYSIS

We can define technical analysis as **a trading discipline that is used for the evaluation of investments and identification of trading opportunities**. It is done by analyzing the trends in statistics that are collected from trading activities such as movement of price and volume.

2) FUNDAMENTAL ANALYSIS

Fundamental analysis (FA) measures a security's intrinsic value by examining related economic and financial factors. Intrinsic value is the value of an investment based on the issuing company's financial situation and current market and economic conditions.

Fundamental analyst study anything that can affect the security's value, from macroeconomic factors such as the state of the economy and industry conditions to microeconomic factors like the effectiveness of the company's management.

The end goal is to determine a number that an investor can compare with a security's current price to see whether the security is undervalued or overvalued by other investors.

Quantitative and qualitative fundamental analysis

The problem with defining the word fundamentals is that it can cover anything related to the economic well-being of a company. They include numbers like revenue and profit, but they can also include anything from a company's market share to the quality of its management.

The various fundamental factors can be grouped into two categories: quantitative and qualitative. The financial meaning of these terms isn't much different from well-known definitions:

- Quantitative: information that can be shown using numbers, figures, ratios, or formulas
- Qualitative: rather than a quantity of something, it is its quality, standard, or nature

In this context, quantitative fundamentals are hard numbers. They are the measurable characteristics of a business. That's why the biggest source of quantitative data is financial statements. Revenue, profit, assets, and more can be accurately measured.
The qualitative fundamentals are less tangible. They might include the quality of a company's key executives, brand-name recognition, patents, and proprietary technology.

Neither qualitative nor quantitative analysis is inherently better. Many analysts consider them together.

3) SENTIMENT ANALYSIS

Sentiment analysis, also referred to as opinion mining, is an approach to natural language processing (NLP) that identifies the emotional tone behind a body of text. This is a popular way for organizations to determine and categorize opinions about a product, service, or idea.

Applications of sentiment analysis

Sentiment analysis tools can be used by organizations for a variety of applications, including:

- Identifying brand awareness, reputation, and popularity at a specific moment or over time.
- Tracking consumer reception of new products or features.
- Evaluating the success of a marketing campaign.
- Pinpointing the target audience or demographics.
- Collecting customer feedback from social media, websites, or online forms.
- Conducting market research.
- Categorizing customer service requests.

1.3.4 ADVANTAGES AND DISADVANTAGES OF SHARE MARKET INVESTMENT

ADVANTAGES

- **Probability of high returns over the short-term**

  The biggest advantage of share market investment is that it has the potential to generate inflation-beating returns within a short period of time as compared to other investment avenues like bank FDs, saving accounts etc.

- **Ownership stake in the company.**

  When you buy shares of a public listed company, no matter how small your share size is, it gives you proportionate control over the company. This ownership of shares will in turn grant you the voting rights and you will receive dividends, bonus, etc.

- **High liquidity**

  Unlike other investment avenues, shares do not have any lock-in period. Investors can buy and sell shares through the stock exchanges within seconds.

- **Your rights are well protected by SEBI**

  The stock market is regulated by the Securities and Exchange Board of India (SEBI). SEBI strictly monitors market participants like brokers, sub-brokers, advisors and stock exchanges to safeguard the interest of the shareholders.

- **Tax benefits**

  Long-term capital gains i.e. investments held for more than 12 months are taxed at 10% over Rs 1 Lakh only.

  Short-term capital gains i.e. investments held for less than 12 months are taxed at 15% + 3% cess.

  Any capital loss can be offset or carried forward for up to eight financial years

  .

• **DISADVANTAGES**

• **Volatility**

Investments in the share market are considered risky since the markets are volatile and shares can fluctuate and even hit lower circuits.

• **Risk**

Risk is the possibility of an investor experiencing losses due to factors that affect the overall performance of the financial markets. Risks are of two types:

• **Systematic risk**

Systematic risk tends to influence the overall market and it cannot be eliminated through diversification.

Example: Natural calamities, political turmoil, terrorist attacks, etc.

• **Unsystematic risk**

Unsystematic risk is unique to a specific industry, or a company and it can be diversified.

• **Stockholders are paid last.**

When a company is winded up, shareholders are the last one to get paid whereas bondholders and creditors of the company get paid first.

• **Emotional Roller Coaster**

The stock prices rise and fall frequently due to volatility. Many investors tend to buy a share at a high price out of greed and sell at a low price out of fear. Hence, coffee- can investing is the best strategy to avoid roller coaster investing.

1.3.5 LIMITATIONS OF TECHNICAL ANALYSIS AND

UNDERLYING ASSUMPTIONS

LIMITATIONS

1. Some analysts and academic researchers expect that the EMH demonstrates why they shouldn't expect any actionable information to be contained in historical price and volume data; however, by the same reasoning, neither should business fundamentals provide any actionable information. These points of view are known as the weak form and semi-strong form of the EMH.

2. Another criticism of technical analysis is that history does not repeat itself exactly, so price pattern study is of dubious importance and can be ignored. Prices seem to be better modelled by assuming a random walk.

3. A third criticism of technical analysis is that it works in some cases but only because it constitutes a self-fulfilling prophecy. If many traders have done so and the stock reaches this price, there will be many sell orders, which will push the stock down, confirming the movement traders anticipated.

4. Then, other traders will see the price decrease and sell their positions, reinforcing the strength of the trend. This short-term selling pressure can be considered self-fulfilling, but it will have little bearing on where the asset's price will be weeks or months from now.

5. In sum, if enough people use the same signals, they could cause the movement foretold by the signal, but over the long run, this sole group of traders cannot drive the price.

UNDERLYING ASSUMPTIONS

There are two primary methods used to analyze securities and make investment decisions: fundamental analysis and technical analysis. Fundamental analysis involves

analyzing a company's financial statements to determine the fair value of the business, while technical analysis assumes that a security's price already reflects all publicly available information and instead focuses on the statistical analysis of price movements.

Charles Dow released a series of editorials discussing technical analysis theory. His writings included two basic assumptions that have continued to form the framework for technical analysis trading.

1. Markets are efficient with values representing factors that influence a security's price, but
2. Even random market price movements appear to move in identifiable patterns and trends that tend to repeat over time.

Today the field of technical analysis builds on Dow's work. Professional analysts typically accept three general assumptions for the discipline:

1. The market discounts everything: Technical analysts believe that everything from a company's fundamentals to broad market factors to market psychology is already priced into the stock. This point of view is congruent with the Efficient Markets Hypothesis (EMH) which assumes a similar conclusion about prices. The only thing remaining is the analysis of price movements, which technical analysts view as the product of supply and demand for a particular stock in the market.
2. Price moves in trends: Technical analysts expect that prices, even in random market movements, will exhibit trends regardless of the time frame being observed. In other words, a stock price is more likely to continue a past trend than move erratically. Most technical trading strategies are based on this assumption.
3. History tends to repeat itself: Technical analysts believe that history tends to repeat itself. The repetitive nature of price movements is often attributed to market psychology, which tends to be very predictable based on emotions like fear or excitement. Technical analysis uses chart patterns to analyze these emotions and subsequent market movements to understand trends. While many forms of technical analysis have been used for more than 100 years, they are still believed to be relevant because they illustrate patterns in price movements that often repeat themselves.

1.4 RELEVANCE OF TECHNICAL ANALYSIS WITH ACCOUNTS AND FINANCE

- One of the major benefits of investing in stock market is that investors get the chance to earn more money. Stock market investments have proven to be one of the best ways to grow long-term wealth.
- Traders can use Technical Analysis to pick good stocks to trade and to predict and forecast future stock prices.
- Fundamental Analysis is also important, but it focuses on the ratios like P/E Ratio, EPS whereas Technical Analysis focuses on the Charts, Patterns showing past trading activities.
- Also, in Security Analysis and Portfolio Management (SAPM), we have a chapter on Technical Analysis which focuses on studying and understanding this topic.

CHAPTER 2
LITERATURE REVIEW

2.1 MEANING AND TYPES OF LITERATURE REVIEW

• **MEANING**

The literature review is a written overview of major writings and other sources on a selected topic. Sources covered in the review may include scholarly journal articles, books, government reports, Web sites, etc. The literature review provides a description, summary, and evaluation of each source.

A literature review can be a type of review article. In this sense, a literature review is a scholarly paper that presents the current knowledge including substantive findings as well as theoretical and methodological contributions to a particular topic. Literature reviews are secondary sources and do not report new or original experimental work. Most often associated with academic-oriented literature, such reviews are found in academic journals and are not to be confused with book reviews, which may also appear in the same publication. Literature reviews are a basis for research in nearly every academic field.

To become an expert in any field of endeavour, you must know your field comprehensively. Critical reviews of state-of-the-art literature permit the professional to make informed decisions, to act in an expert manner, and to set policy in his or her field of expertise. Researchers conduct reviews of the literature to justify proposed studies, to uncover patterns of findings in the field, to enter scientific debate, and to discover gaps in knowledge that lead to future research questions. Research reviews are often the first step toward making discoveries and social interventions in our society.

Since an important responsibility in research is to compare your findings with those of others, it is here that the literature review plays an extremely important role. During the write-up of your report, it helps you to integrate your findings with existing knowledge - that is, to either support or contradict earlier research. The higher the academic level of your research, the more important a thorough integration of your findings with existing literature becomes.

In summary, a literature review has the following functions:

- It provides a theoretical background to your study.
- It helps you establish the links between what you are proposing to examine and what has already been studied.
- It enables you to show how your findings have contributed to the existing body of knowledge in your profession. It helps you to integrate your research findings into the existing body of knowledge.

In relation to your own study, the literature review can help in four ways. It can:

1. Bring clarity and focus to your research problem.
2. Improve your research methodology.
3. Broaden your knowledge base in your research area; and 4 contextualise your findings.

• **TYPES**

There are many types of literature review. The choice of a specific type depends on your research approach and design. The following types of literature review are the most popular in business studies:

1) **Narrative literature review**

Also referred to as traditional literature review, critiques literature and summarizes the body of a literature. Narrative review also draws conclusions about the topic and identifies gaps or inconsistencies in a body of knowledge. You need to have a sufficiently focused research question to conduct a narrative literature review.

2) **Systematic literature review**

Requires more rigorous and well-defined approach compared to most other types of literature review. Systematic literature review is comprehensive and details the timeframe within which the literature was selected. Systematic literature review can be divided into two categories: meta-analysis and meta-synthesis.

3) **Scoping literature review**

As implied by its name is used to identify the scope or coverage of a body of literature on a given topic. It has been noted that "scoping reviews are useful for examining

emerging evidence when it is still unclear what other, more specific questions can be posed and valuably addressed by a more precise systematic review." The main difference between systematic and scoping types of literature review is that systematic literature review is conducted to find answer to more specific research questions, whereas scoping literature review is conducted to explore more general research question.

4) **Argumentative literature review**

As the name implies, examines literature selectively to support or refute an argument, deeply imbedded assumption, or philosophical problem already established in the literature. It should be noted that a potential for bias is a major shortcoming associated with argumentative literature review.

5) **Integrative literature review**

Reviews, critiques, and synthesizes secondary data about research topic in an integrated way such that new frameworks and perspectives on the topic are generated. If your research does not involve primary data collection and data analysis, then using integrative literature review will be your only option.

6) **Theoretical literature review**

Focuses on a pool of theory that has accumulated in regard to an issue, concept, theory, phenomena. Theoretical literature reviews play an instrumental role in establishing what theories already exist, the relationships between them, to what degree existing theories have been investigated, and to develop new hypotheses to be tested.

2.2 REVIEWS AND LITERATURE

ARTICLE 1:

THE ECONOMIC TIMES | MUMBAI | MONDAY | 7 SEPTEMBER 2015

12 Markets: Beating Volatility

MONDAY*Musings*

NIRMAL JAIN
FOUNDER & CHAIRMAN, IIFL GROUP

'Tough to Predict Bottom but Nifty to See Support at 7,200'

COMPANY PHOTO

FED EXPECTATIONS
Fed rate hike is more or less discounted in prices. The only debate is whether it will happen in Sept or Dec. I think the hike is likely later than sooner

Nirmal Jain, founder and chairman at IIFL Group said it's very difficult to predict the bottom when FIIs are selling heavily in emerging markets (EMs). However, there is a strong support for Nifty at 7,200 levels, which provides great opportunity for investors to enter the market. Edited excerpts from an interview to **ET**'s **Biswajit Baruah**:

How large is the redemption pressure in EMs and what has been the change in FII outlook on India?
The global investors are pulling out of emerging markets because of fears about China slowdown. Due to a slowdown in China, commodity prices have been adversely affected and most of the emerging economies' fortunes are linked to commodity prices. Given the global weakness in commodity prices and the outlook that they will remain weak, investors are pulling out of EMs. We believe when the recovery happens, India will be one of the fastest markets that see the upside. However, right now there is general risk aversion towards EMs and India being in that pack is also getting affected. But, if you look closely India has stood pretty strong during this entire meltdown. It appears portfolio managers are selling India or whichever market is liquid to meet redemption pressures in their funds.

Analysts are forecasting that Nifty can touch 7,200 levels if FIIs continue to sell. Do you agree?
Markets have clearly turned volatile and now there is a downward bias. At this point, we believe the selling is less to do with fundamentals and more to do with flows. As I mentioned earlier, most of the global funds are going underweight on EMs and hence, we are seeing continuous outflows. In the month of August and so far in September, foreigners have been net sellers on a daily basis. This net selling has been absorbed to some extent by domestic buying, but it appears the current selling is done by a price-insensitive seller and in such a situation it is very difficult to predict the bottom. My feeling is that we will see strong support at 7,200 levels for Nifty and it will be a great opportunity to start buying at those levels.

Bank Nifty has entered into bear territory. Do you think Nifty is also heading towards that direction?
I think in every bull market there have been corrections, and it is extremely difficult to conclude that currently we are in a bear market. If you see the previous bull markets that India has witnessed, there has been great volatility and many a times markets have fallen significantly in between. My opinion is that market trend is upward, although at this stage due to fund outflows we are seeing a downturn. If you see the positive side, government spending has increased, defence and road contracts are being given and we believe further interest rate cuts will happen and overall mood in the economy will become positive in the next two quarters.

Which sectors should investors focus on to realign their portfolio after this correction?
One should focus on all domestic consumption and economic revival sectors. With the new pay commission report coming anytime soon, the domestic consumption will see an upside. As the interest rates are reduced further, the rate sensitive sectors will also do well. FMCG will likely be a major beneficiary sector from the consumption story. Pharma and technology sectors are likely to benefit because of weak rupee. Banking sector, which has taken a big beating in the recent past may become the biggest positive surprise as the economy recovers in the next two quarters.

Global markets have turned volatile on worries over the Fed hiking rates, what's your outlook?
The US Federal Reserve rate hike is more or less discounted in prices. Everybody is talking about a Fed rate hike of 25 basis points; the only debate is whether it will happen in September or December. I think the hike is likely later than sooner.

How serious are the economic slowdown concerns in China?
It is very difficult to talk about the seriousness of China slowdown sitting here. Simply, because the size of Chinese economy is gigantic and it is still an economy where the government has a significant role to play. As of now, all the leading indicators, including commodity price slump, indicate a slowdown in China and there will be some more slow down before it emerges out of it.

Have valuations for Indian stock markets turned lucrative?
Valuations are looking attractive and we would recommend investors to start buying into the market with a long-term perspective.

Is there any big threat to Indian rupee amid EM currency meltdown?
The rupee is likely to remain at these levels for some time. Though we have seen some weakness, the Indian currency is unlikely to crash against the US dollar, because India is a beneficiary of the falling crude and other commodity prices, which in turn will further narrow the current account deficit and keep it at acceptable levels providing comfort to the rupee.

INTERPRETATION

The global investors are pulling out of emerging markets because of fears about China slowdown. Due to a slowdown in China, commodity prices have been adversely affected and most of the emerging economies fortunes are linked to commodity prices. Given the global weakness in commodity prices and the outlook that they will remain weak, investors are pulling out of EMs. We believe when the recovery happens, India will be one of the fastest markets that see the upside. However, right now there is general risk aversion towards EMs and India being in that pack is also getting affected. But if you look closely India has stood pretty strong during this entire meltdown. It appears portfolio managers are selling India or whichever market is liquid to meet redemption pressures in their funds.

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ARTICLE 2:

Stocks the best hedge against inflation

MARKET-SPEAK

PARAG PARIKH

Our brain always takes short cuts while processing information, which results in flawed thinking and faulty decisions. We make our decisions based on the most readily available information or recent events. Here newspapers and other media play a big role in the way we think.

At present, the stock markets are rising, along with a host of good news coming in. No doubt liquidity is playing a major role, leading to inflation. We have a rise in all asset classes, thus an erosion in the value of money. As soon as there is news of inflation rising, the markets react with fear, causing a dip. Should these news cheer us up if we are stock investors? In such a situation, what is the best form of investment?

If you have fixed-income investments, you are a sore loser. Inflation will not only eat into your purchasing power, but also erode your capital. Fear makes you look for returns of your capital rather than returns on it.

Gold and silver are in the limelight. But one cannot have steady returns on them, except for capital appreciation. Real estate is good, but is not divisible and out of reach for many people.

Stocks are the best form of investment in a rising inflationary situation. But why stocks? Stocks represent ownership interest in a company. The company is in the business of selling a product or a service at a profit. Out of the said profit some is distributed to the shareholders by way of dividend and the rest is ploughed back to grow the business. The company owns land, machinery, buildings, brands, patents, goodwill and employs knowledge workers. When inflation is rising, the company has the power to raise prices. Moreover, the value of its assets goes on increasing. The replacement cost theory is at work. This makes it expensive for new entrants in the business and be price competitive. In a rising inflationary situation, stocks are the best.

The choice of stocks is very important. First and foremost is understanding that buying stocks is equivalent to buying businesses. These businesses need to have certain important characteristics: the least amount of capital required, no or negligible debt, a good and a strong moat around it like a strong brand, a good distribution network, patents, monopoly, a sustainable cash flow stream and a good business model. Above all, such businesses need to be run by a credible management which respects the minority shareholders. Management plays an important role in how safe the investor's money will be. Once the choice of business is completed, it is the price we pay that is important. Are we paying the right price? Are we buying a 'value'? Values are available in bear markets or when bad things happen to good companies or when companies and sectors lose investor fancy.

Markets offer such opportunities from time to time if you have the patience and the courage to go against the current fancies and popular trends.

The writer is chairman, Parag Parikh Financial Services. Views expressed are his own

INETRPRETATION

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2.3 RESEARCH PAPER RELATED TO TECHNICAL ANALYSIS OF STOCKS

NAME: Mohamed Masry

YEAR OF PUBLICATION: February 15, 2017

TITLE OF STUDY: The Impact of Technical Analysis on Stock Returns in an Emerging Capital Markets (ECM 's) Country: Theoretical and Empirical Study.

OBJECTIVE OF RESEARCHER:

The main aim of the study is examining the profitability of Moving Average ability in securities market, because moving average rules is the simplest rule of technical analysis, which is easy to be learned and applied by individual investor. Moreover, to detect abnormal returns of the following technical analysis trading strategies, this study as well analyse the success of a buy-and-hold strategy in the same period. These strategies are assessed merely on their ability to deliver optimum exit and entry points and to expect future stock prices. The presence of stock markets data will offer an opportunity to indicate remaining profitability and abnormal return from market that is not considered developed or efficient. This market may not be considered as liquid or deep as other international markets. Characteristics of the stock market that this study is primarily interested in examining are the volatility and high risks, the relatively low volume, and the regulatory constraints, which all contribute to probable profitable situations for technical trading strategies.

RESEARCH METHODOLOGY USED:

There are diverse layers that tie the elementary assumptions prepared to the methodological techniques engaged. These layers range from the ontological and epistemological layers to the methodological techniques employed to inspect the research theoretical perspectives. This study is depending wholly on the quantitative approach, which is commonly located in the positivist social sciences paradigm, which principally reflects the scientific method of social sciences. The positivist paradigm

adopts a deductive approach to the research process. It hence starts with theories and hypotheses on a specific phenomenon, gathers data from the real-world site and consequently analyses the data statistically to support or reject the initial hypotheses. The aim is to investigate or validate a proposed theory, instead of constructing one. Therefore, this study proposes a theoretical framework for the whole study, also serving as an organizing model for the research hypotheses and for the whole data collection process. Concerning the previous studies methodologies the researcher noticed that there are extensive criticisms can be found in the quantitative studies applied in assessing technical analysis and stocks return. Firstly, the extent to which these results can be generalized across the developing countries is not clear, given that most of the studies focusing on developing countries were mixed with data from developed countries. Secondly, Most of the past studies tended to be at the high level of international comparison, and hence suffered from possible data heterogeneity problems. Furthermore, most of these studies were reliant on creating a data set from a mixture of sources, with consequent potential data inconsistencies due to different accounting practices used by different countries.

ANALYSIS:

The research analysis is a systematic approach to investigations during which numerical data is collected and/or the researcher transforms what is collected or observed into numerical data. It often describes a situation or event; answering the what and how many‘ questions you may have about something. The quantitative approach employed by this study is often concerned with finding evidence to either support or contradict the research hypothesis proposed by the study. The rest of this section is organized based on the research hypothesis proposed by the study.

Testing the First Hypothesis

This sub-section is composed of two main steps to define Significant Differences between return of technical analysis strategies and return of hold and buy strategies:

First Step: using T test to examine significant differences between short term moving average and long term moving average, since both of them determine decision of buying and selling rules of technical analysis. However, if short term average more

than long term average, then buying signal is generated, If short term moving average smaller than long term moving average then selling signal is generated, results of T Test are included in Table 2. As per table number (2), the following is concluded:

There is a significant relationship between average of one day and average of 50 days < 5%, which indicates possibility of using two technical analysis rules (1, 50, 0), (1, 50, 1), through the comparison between the one-day average and the 50 days average. In addition to that, there is a significant difference between average of one day and average of 150 days, significant level < 1%, which indicates the possibility of using the two technical analysis rules (1, 150, 0), (1, 150, 1), through comparing average of one day and 150 days. Finally, a significant differences relationship found between average of five days and average of 150 days, significant level < 1%, which indicates possibility of using two technical analysis rules (5, 150, 0), (5, 150, 1), throughout comparing average of five days and 150 days.

Table 2.3.1 Results of T test to estimate significant differences between short-term moving average and long-term moving average.

Short-term moving average	Long term moving average	T test	P value	Decision
One day	50 days	2.42	*0.014	Significant
One day	150 days	-3.698	**0.001	Significant
5 days	150 days	-4.062	*0.000	Significant

Second Step: Test of Significant differences between return of Buy and Hold strategy and returns of technical analysis rules:

T test is applied to examine significant differences between foresaid technical rules and hold and buy strategy, which is defined by average of daily return of 46 shares during period of the study, and can be described by following statistics:

Based on Tables 3 and 4 one can conclude that:

However, it should be mentioned that the annual return is calculated through the following equation: = [(Daily return + 1) – 1]. Given that annual trading day per days equal to 238 (CFA program curriculum, 2015).

There is a significant relationship between the first rule and Hold and Buy strategy at less significant level, less than 1%, this difference gives an advantage to the technical analysis rule as daily return for this rule is 0.0059 (305% annually), however, the Daily return of hold and buy strategy is 0.00094 (25% annually). Moreover, there are significant differences between second strategy and hold and buy strategy at low significant level less than 1%, these differences support the technical analysis rule since daily return of this rule 0.0059 (305% annually), although daily income for buy and hold strategy is 0.00094 (25% annually).

There are significant strategies between third rule and hold and buy strategy at significant level less than 1%, these differences once again alongside with the technical analysis rule, whereas daily income for this rule is 0.00336 (122% annually), whereas daily return for buy and hold strategy is 0.00094 (25% annually). Besides, there are significant differences between forth strategy and hold and buy strategy at level less than 1%, these results once more in conjunction with technical analysis rule as daily income of this rule is 0.00136 (38% annually), while daily income of hold and buy strategy is 0.00094 (25% annually).

Table 2.3.2 Descriptive statistics for the study sample (Hold and Buy strategy)

Volume of the sample	Arithmetic Mean	Standard Deviation
76506	0.00094	0.0574

Table 2.3.3 Results of T test of significant differences between return of Buy and Hold strategy and Technical analysis rules return:

Technical Analysis Rules			T test	P value	Decision
Rules	Moving Averages	Standard deviation			
(1, 50, 0)	0.0059	0.0382	- 19.058	**0.001	Significant
(1, 50, 0)	0.0059	0.0179	- 20.866	**0.005	Significant
(1,150, 0)	0.00336	0.0387	- 7.188	**0.000	Significant
(1,150, 0)	0.00136	0.0182	-9.335	**0.003	Significant
(5,150, 0)	0.000636	0.0388	-0.387	0.751	Not Significant
(5,150, 1)	0.000427	0.0182	-0.350	0.901	Not Significant

However, there are not significant differences between the fifth strategy and hold and buy strategy, because this rule does not make high return, as its daily return was 0.000636 (16.34% annually). Besides, there is not a significant relationship between sixth strategy and hold and buy strategy, since this rule does not create great return, hence its daily return was 0.000427 (10.7% annually). In short, 67% of technical analysis rules , which are used with short term moving average for one day (1,50,0), (1,50,1), (0,150,1), (1,150,1), could achieve abnormal returns more than return of Hold and Buy strategy ranged between 38% to 213% annually, against 25% only achieved by the Hold and Buy strategy which proved its ability to cover transaction cost and to outperform the traditional Hold and buy strategy.

CONCLUSION BY RESEARCHER:

ECM show distinctive features that support investors perform diversification within their portfolio. Standard statistical tests may not entirely reveal the possibility for abnormal return to be attained in developing markets because of some distinctive characteristics. Theoretically, the lack of the comprehensive and appropriate institutional setups that support financial markets in most emerging markets recommends that prices will be more predictable. The choice of emerging markets generally, and the stock exchange specifically, is motivated by first the fact that this block of economies is under-researched, but second the institutional environment in which these markets are operating attracts inefficiencies. To further develop technical analysis research in emerging markets, there is a need to further explore dynamic trading rules. This study implemented data from one emerging market stock market, to produce a more comprehensive data set of ECM country and to distinguish from previous studies. Generally, indicators of sale are more than indications of buy during period of the study; especially the second period (after revolution) is a descending market. Besides, 67% of technical analysis rules achieved abnormal returns, more than buy and hold strategy during the research period, indicating its ability to cover transaction cost. Technical analysis rules and differences occurred in the second period, as returns increased in the second period, which indicates abnormal profitability of technical analysis, more than buy and hold strategy during inefficiency periods (After Revolution). Thus, the technical analysis rules are effective and have a high ability to predict the stock value. This is because of the lack of financial efficiency in the Egyptian

stock market, especially in the second period after the revolution, making the application of the simple technical trading rules feasible and profitable.

However, the study recommendations could be summarized in the following points:

• Using Technical analysis rules which depend on Moving Average improved by filter as they reduce indications of buy and sale and transaction costs.

•Using Technical analysis rules, especially in periods of inefficiency markets, where abnormal revenues could be gained.

• Using Moving averages rules which depend on average of one day as short-term average, because they achieved the highest returns.

• Training individual investor on technical analysis rules that increase investment consciousness and importance of taking investment decision based on proficient data and information analysis.

For future studies, this study concludes that research in technical analysis methods is still ongoing, although it has been approved only based on past data. On the other hand, the latest studies using complex models (e.g. neural network analysis, genetic algorithm and genetic programming) have made technical analysis more effective in developed and emerging markets. As a result, markets that are no longer effective represent an obstacle to the success of the technical analysis. Accordingly, the researcher recommends one of the advanced methods and their application in developed and emerging markets to discover whether a specific theoretical framework model of the study can be generalized or not, as well as, to compare the degree of their success.

In conclusion, this study proposes a view that a new orientation does not revoke the significance of the theory of efficiency proposed by Fama (1970, 1991, and 1995); instead, it draws researcher's attention to complementary studies that are more advanced than those of other traditional technical analysis models. The researcher is calling for a combination of studies on financial and operational research models to obtain more accurate results. While all sciences are closely interrelated and must not be separated, therefore, this study could be considered as a new departure for further studies in this area.

2.4 RESEARCH GAP

Following are the research gaps of the study done by the researcher:

- Large proportions of the investors in the Egyptian stock market are individuals rather than professional financial institutions.
- The individual transaction accounts for 56% of the total volume of Egyptian stock trading.
- These investors suffer from the lack of qualification and experience in designing their investment strategies and effective market timing.
- Such deficiency makes the decision-making process based on speculative performance rather than a scientific investment base.
- This is because the individual investor cannot handle the same types and tools of technical and fundamental analysis, performed by professional financial institutions that are characterized by appropriate methods of specialized analysis and evaluation

CHAPTER 3
RESEARCH METHODOLOGY

3.1 OBJECTIVE OF THE STUDY

1. This study helps in looking at the price movements on the basis of the specific asset's history on the chart. This helps in knowing the various investment opportunities and in selection of best stocks.
2. The main objectives of Technical Analysis are to be able to make profit from trading by observing market patterns and statistics, to know when to enter and exit a market, especially when it starts to shift, and to not let emotions influence trading decisions.
3. Technical Analysis helps to organize the overall market picture while it lays the path to rule based trading.
4. This study helps in short term price prediction i.e. Technical Analysis try to predict short term market price which is useful for speculators who want to make quick money.
5. Tracking shift in demand and supply is also a benefit of this study. Shifts in demand and supply are gradual, and not instant. Technical analysis helps in detecting these shifts rather early and hence provides clues to future price movements.

3.2 MEANING, TYPES AND SOURCES OF HYPOTHESIS

• **MEANING**

Writing a hypothesis is one of the essential elements of a scientific research paper. It needs to be to the point, clearly communicating what your research is trying to accomplish. A blurry, drawn-out, or complexly structured hypothesis can confuse your readers. Or worse, the editor and peer reviewers.

A captivating hypothesis is not too intricate. This blog will take you through the process so that, by the end of it, you have a better idea of how to convey your research paper's intent in just one sentence.

WHAT IS A HYPOTHESIS?

The first step in your scientific endeavour, a hypothesis, is a strong, concise statement that forms the basis of your research. It is not the same as a thesis statement, which is a brief summary of your research paper.

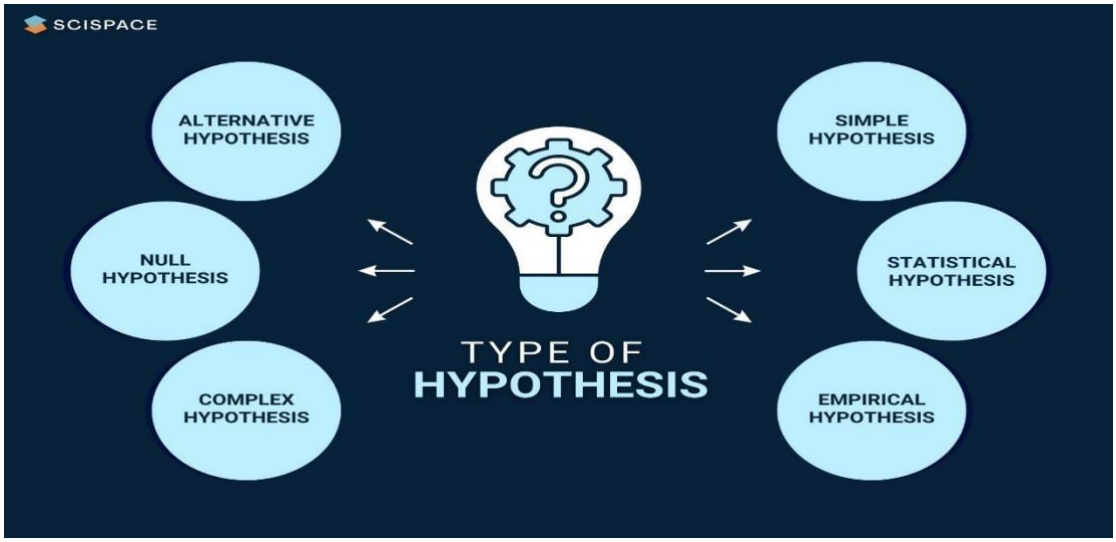
The sole purpose of a hypothesis is to predict your paper's findings, data, and conclusion. It comes from a place of curiosity and intuition. When you write a hypothesis, you're essentially making an educated guess based on scientific prejudices and evidence, which is further proven or disproven through the scientific method.

The reason for undertaking research is to observe a specific phenomenon. A hypothesis, therefore, lays out what the said phenomenon is. And it does so through two variables, an independent and dependent variable.

The independent variable is the cause behind the observation, while the dependent variable is the effect of the cause. A good example of this is “mixing red and blue forms purple.” In this hypothesis, mixing red and blue is the independent variable as you're combining the two colors at your own will. The formation of purple is the dependent variable as, in this case, it is conditional to the independent variable.

A hypothesis is an educated guess or even a testable prediction validated through research. It aims to analyze the gathered evidence and facts to define a relationship between variables and put forth a logical explanation behind the nature of events.

• **TYPES**



Some would stand by the notion that there are only two types of hypotheses: a Null hypothesis and an Alternative hypothesis. While that may have some truth to it, it would be better to fully distinguish the most common forms as these terms come up so often, which might leave you out of context.

Apart from Null and Alternative, there are Complex, Simple, Directional, Non Directional, Statistical, and Associative and casual hypotheses. They don't necessarily have to be exclusive, as one hypothesis can tick many boxes, but knowing the distinctions between them will make it easier for you to construct your own.

NULL HYPOTHESIS

A null hypothesis proposes no relationship between two variables. Denoted by H_0, it is a negative statement like “Attending physiotherapy sessions does not affect athletes' on-field performance.” Here, the author claims physiotherapy sessions have no effect on on-field performances. Even if there is, it's only a coincidence.

ALTERNATIVE HYPOTHESIS

Considered to be the opposite of a null hypothesis, an alternative hypothesis is donated as H1 or Ha. It explicitly states that the dependent variable affects the independent variable. A good alternative hypothesis example is “Attending physiotherapy session improves athletes' on-field performance.” or “Water evaporates at 100**°C.**” **SIMPLE**

HYPOTHESIS

A simple hypothesis is a statement made to reflect the relation between exactly two variables. One independent and one dependent. Consider the example, “Smoking is a prominent cause of lung cancer." The dependent variable, lung cancer, is dependent on the independent variable, smoking.

COMPLEX HYPOTHESIS

In contrast to a simple hypothesis, a complex hypothesis implies the relationship between multiple independent and dependent variables. For instance, “Individuals who eat more fruits tend to have higher immunity, lesser cholesterol, and high metabolism.”

The independent variable is eating more fruits, while the dependent variables are higher immunity, lesser cholesterol, and high metabolism.

ASSOCIATIVE AND CASUAL HYPOTHESIS

Associative and casual hypotheses don't exhibit how many variables there will be. They define the relationship between the variables. In an associative hypothesis, changing any one variable, dependent or independent, affects others. In a casual hypothesis, the independent variable directly affects the dependent.

EMPIRICAL HYPOTHESIS

Also referred to as the working hypothesis, an empirical hypothesis claims a theory's validation via experiments and observation. This way, the statement appears justifiable and different from a wild guess.

STATISTICAL HYPOTHESIS

The point of a statistical hypothesis is to test an already existing hypothesis by studying a population sample. Hypothesis like “44% of the Indian population belong in the age group of 22-27.” leverage evidence to prove or disprove a particular statement.

3.3 SCOPE/SIGNIFICANCE OF THE STUDY

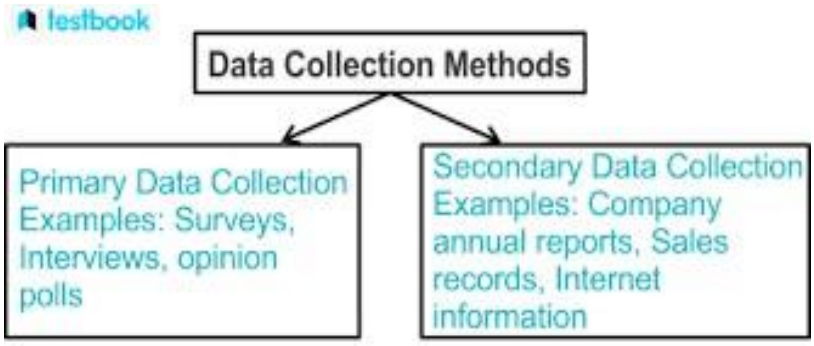
- Investors are encouraged to complete a full-scale technical analysis of stock charts as it allows future price movements of said stocks to be predicted keeping in mind their previous price movements. This technical analysis helps aid buy, hold and sell decisions.
- It helps a trader or investor predict a certain trend of the market. Charts help traders spot uptrends, downtrends and sideways movements. So if the market trend is moving up, you could use the opportunity to buy in. If the market trend is downward, you may use the opportunity to sell.
- Timing your entry or exit plays a key role in any form of trading. This form of analysis helps you predict the appropriate time to enter or exit a trade. This is enabled by candlesticks or moving averages, for example.
- In this study, interpreting charts is important. This practice allows you to identify buy and sell signals in order to improve the timing when you take positions.
- Technical indicators, as well as charts, provide us with a lot of information within a specific time frame. Firstly, with the help of technical analysis trends, momentum, volatility, and trading patterns of a particular stock can be easily found. There are many technical indicators which provide us with information on various aspects of the movement in stock prices.

3.4 LIMITATIONS OF THE STUDY

- This is study based on secondary data, that means all of the data have been taken from websites online from published reports.
- Time issue acts as a limitation in this study and because of it, it was not possible to make a detailed project.
- Another criticism is that technical analysis works only in some cases and the reason it works is that it contains a self-fulfilling prophecy.

- Also, Technical analysis is limited to studying market trends and lacks the ability to deep-dive into an instrument or an industry to understand its workings.
- Technical analysis is at its most relevant and insightful when the market has begun to move a certain way, rather than predicting the movement which needs fundamental background analysis.
- Though technical analysis is based on various mathematical and logical factors, they may give signals which are opposite to the market. While technical analysis may tell you market may move upwards, the markets can go downwards and vice versa.
- Since there are different methods of analyzing data in technical analysis, it is always open to interpretation. Two individuals can look at the same charts and see two different patterns, both of which can have logical support and resistance levels that justify the positions.

3.5 DATA COLLECTON



Types of Data Collection

PRIMARY DATA COLLECTION

• **MEANING**

Primary data is a type of data that is collected by researchers directly from main sources through interviews, surveys, experiments, etc. Primary data are usually collected from the source—where the data originally originates from and are regarded as the best kind of data in research.

The sources of primary data are usually chosen and tailored specifically to meet the demands or requirements of particular research. Also, before choosing a data collection source, things like the aim of the research and target population need to be identified.

For example, when doing a market survey, the goal of the survey and the sample population need to be identified first. This is what will determine what data collection source will be most suitable—an offline survey will be more suitable for a population living in remote areas without an internet connection compared to online surveys.

SECONDARY DATA COLLECTION

• MEANING

Secondary data is the data that has already been collected through primary sources and made readily available for researchers to use for their own research. It is a type of data that has already been collected in the past.

A researcher may have collected the data for a particular project, then made it available to be used by another researcher. The data may also have been collected for general use with no specific research purpose like in the case of the national census.

Data classified as secondary for particular research may be said to be primary for another research. This is the case when data is being reused, making it primary data for the first research and secondary data for the second research it is being used for.

• SOURCES OF SECONDARY DATA

This study includes secondary data which has been collected from published as well as unpublished sources. Published sources include magazines, journals, reports presented by economists, etc. whereas unpublished sources include research works conducted by teachers, professors and records that are maintained by private and business enterprises.

Data has been collected from the below mentioned sources:

1. Google Scholar- For research paper, articles
2. Newspapers like The Economic Times, Times Of India
3. Websites- Wikipedia, Investopedia
4. Other websites- Groww, Daily Forex

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION OF ICICI BANK AND HDFC BANK

• **ICICI BANK**

ICICI was formed in 1955 at the initiative of the World Bank, the Government of India and representatives of Indian industry. The principal objective was to create a development financial institution for providing medium-term and long-term project financing to Indian businesses. Until the late 1980s, ICICI primarily focused its activities on project finance, providing long-term funds to a variety of industrial projects. With the liberalization of the financial sector in India in the 1990s, ICICI transformed its business from a development financial institution offering only project finance to a diversified financial services provider that, along with its subsidiaries and other group companies, offered a wide variety of products and services. As India's economy became more market-oriented and integrated with the world economy, ICICI capitalized on the new opportunities to provide a wider range of financial products and services to a broader spectrum of clients. ICICI Bank was incorporated in 1994 as a part of the ICICI group. In 1999, ICICI became the first Indian company and the first bank or financial institution from non-Japan Asia to be listed on the New York Stock Exchange.

The issue of universal banking, which in the Indian context meant conversion of longterm lending institutions such as ICICI into commercial banks, had been discussed at length in the late 1990s. Conversion into a bank offered ICICI the ability to accept lowcost demand deposits and offer a wider range of products and services, and greater opportunities for earning non-fund based income in the form of banking fees and commissions. After consideration of various corporate structuring alternatives in the context of the emerging competitive scenario in the Indian banking industry, and the

move towards universal banking, the managements of ICICI and ICICI Bank formed the view that the merger of ICICI with ICICI Bank would be the optimal strategic alternative for both entities, and would create the optimal legal structure for ICICI group's universal banking strategy. The merger would enhance value for ICICI shareholders through the merged entity's access to low-cost deposits, greater opportunities for earning fee-based income and the ability to participate in the payments system and provide transaction-banking services. The merger would enhance value for ICICI Bank shareholders through a large capital base and scale of operations, seamless access to ICICI's strong corporate relationships built up over five decades, entry into new business segments, higher market share in various business segments, particularly fee-based services, and access to the vast talent pool of ICICI and its subsidiaries.

In October 2001, the Boards of Directors of ICICI and ICICI Bank approved the merger of ICICI and two of its wholly-owned retail finance subsidiaries, ICICI Personal Financial Services Limited and ICICI Capital Services Limited, with ICICI Bank. The merger was approved by shareholders of ICICI and ICICI Bank in January 2002, by the High Court of Gujarat at Ahmedabad in March 2002, and by the High Court of Judicature at Mumbai and the Reserve Bank of India in April 2002. Consequent to the merger, the ICICI group's financing and banking operations, both wholesale and retail, were integrated in a single entity.

The following are the names of the board members:

Mr.Girish Chaturvedi, Mr.Hari Mundra, Mr.S.Madhavan, Ms.Neelam Dhawan, Mr.Radhakrishnan Nair, Mr.B.Sriram, Mr.Uday Chitale, Ms.Vibha Paul Rishi, Mr.Sandeep Bakhshi, Mr.Anup Bagchi, Mr.Rakesh Jha, Mr.Sandeep Batra.

• **HDFC BANK**

The Housing Development Finance Corporation Limited or HDFC was among the first financial institutions in India to receive an "in principle" approval from the Reserve Bank of India (RBI) to set up a bank in the private sector. This was done as part of RBI's policy for liberalisation of the Indian banking industry in 1994.

HDFC Bank was incorporated in August 1994 in the name of HDFC Bank Limited, with its registered office in Mumbai, India. The bank commenced operations as a Scheduled Commercial Bank in January 1995.

As of June 30, 2022, the Bank had a nationwide distribution network of 6,499 branches and 18,868 ATM's in 3,226 cities/towns.

Vision, Mission and Values: HDFC Bank's mission is to be a world class Indian bank. We have a two-fold objective: first, to be the preferred provider of banking services for target retail and wholesale customer segments. The second objective is to achieve healthy growth in profitability, consistent with the bank's risk appetite. The bank is committed to maintaining the highest level of ethical standards, professional integrity, corporate governance and regulatory compliance. HDFC Bank's business philosophy is based on five core values: Operational Excellence, Customer Focus, Product Leadership, People and Sustainability.

Promoter: HDFC is India's premier housing finance company and enjoys an impeccable track record in India as well as in international markets. Since its inception

in 1977, the Corporation has maintained a consistent and healthy growth in its operations to remain the market leader in mortgages. Its outstanding loan portfolio covers well over a million dwelling units. HDFC has developed significant expertise in retail mortgage loans to different market segments and also has a large corporate client base for its housing related credit facilities. With its experience in the financial markets, strong market reputation, large shareholder base and unique consumer franchise, HDFC was ideally positioned to promote a bank in the Indian environment.

Business Focus: As on September 30, 2016 the authorised share capital of the Bank is Rs. 650 crores. The paid-up share capital of the Bank is Rs. 509,12,67,434. The HDFC Group holds 21.34 % of the bank's equity and about 18.58 % of the equity is held by the ADS / GDR Depositories. Also, 32.04 % of the equity is held by Foreign Institutional Investors (FIIs) and the bank has 4,74,443 shareholders.

HDFC Bank shares are listed on the BSE Limited and The National Stock Exchange of India Limited (NSE). The bank's American Depository Shares (ADS) are listed on the New York Stock Exchange (NYSE) under the symbol 'HDB' and Global Depository Receipts (GDRs) are listed on Luxembourg Stock Exchange under ISIN No US40415F2002.

Distribution Network: HDFC Bank is headquartered in Mumbai. The Bank's expansion plans take into account the need to have a presence in all major industrial and commercial centres, where its corporate customers are located, as well as the need to build a strong retail customer base for both deposits and loan products. Being a clearing / settlement bank to various leading stock exchanges, the Bank has branches in centres where the NSE / BSE have a strong and active member base. The Bank also has a network of 18,620 ATMs across India. HDFC Bank's ATM network can be accessed by all domestic and international Visa / MasterCard, Visa Electron / Maestro, Plus / Cirrus and American Express Credit / Charge cardholders.

Technology: HDFC Bank operates in a highly automated environment powered by information technology and communication systems. All branches have online connectivity which enables speedy funds transfer for customers. Multi-branch access is

also provided to retail customers through the branch network and Automated Teller Machines (ATMs).

4.2 DATA PROCESSING

1) EDITING OF THE DATA COLLECTED FOR RESEARCH • MEANING

When the researcher collects the data it is in raw form and it needs to be edited, organized and analyzed. The raw data needs to be transformed into a comprehensible form of data. The first steps in this process are to edit the data. The edited data is then coded and inferences are drawn. The editing of the data is not a complex task but it requires an experienced, talented and knowledgeable person to do so.

• PURPOSE OF DATA EDITING

CLARIFY RESPONSES: With editing the data the researcher makes sure that all responses are now very clear to understand. Bringing clarity is important otherwise the researcher can draw wrong inferences from the data. Sometimes the respondents make some spelling and grammatical mistakes the editor needs to correct them. The respondents might not be able to express their opinion in proper wording. The editor can rephrase the response, but he needs to be very careful in doing so. Any bias can be introduced by taking the wrong meanings of the respondent's point of view.

MAKE OMISSIONS: The editor may also need to make some omissions in the responses. By chance or by some mistake some responses are left incomplete, the editor has to see what has been an oversight by the respondent.

AVOID BIASED EDITING: The editor has a great responsibility to edit the surveyed data or other form of responses. The editor needs to be very objective and should not try to hide or remove any information. He should not add anything in the responses without any sound reason. He should have to be confident in making any changes or corrections in the data. In short, he should make least changes and only logical changes. He should not add anything that shows his opinion on the issue.

MAKE ADJUSTMENTS: Sometimes the respondents leave something incomplete, to complete the sentence or a phrase the editor has to make a judgement. He should have to have good judgement to do so. He should do it so well that his personal bias do not involve in the responses.

CHECK HANDWRITING: Handwriting issues needs also be resolved by the editor. Some people write very fast and in this way they write so that comprehension of the text becomes difficult. In electronically sent questionnaires this problem never arises.

LOGICAL ADJUSTMENTS: Logical adjustments must be made or otherwise the data will become faulty. There might be need for some logical corrections, for example, a respondent gives these three answers to the three questions that have been asked form him.

2) CODING OF THE DATA

Coding of data refers to **the process of transforming collected information or observations to a set of meaningful, cohesive categories**. It is a process of summarizing and re-presenting data in order to provide a systematic account of the recorded or observed phenomenon.

When a researcher has completed collecting information or data, this information is ready to be processed and analyzed. Quantitative data is information that is measurable and focuses on numerical values, unlike qualitative data which is more descriptive. During the data processing step, the collected data is transformed into a form that is appropriate to manipulate and analyze.

The process in which raw data is transformed into a standardized form suitable for machine processing and analysis is called coding. In other words, coding is the act of assigning numerical values to a set of data in order to make the analysis simpler. Coding

can be used to quantify both manifest content i.e. the tangible or concrete surface content (data), and latent content i.e. the underlying meaning behind this information. The difference between manifest content and latent content is very important when it comes to survey research.

It is advisable to do a pilot or a pretest of the instrument of data collection as it would help uncover the potential problems with the study and accordingly help make changes in the tool. It will also give the researcher an idea of how the data will look. On the basis of this, the researcher can work out the layout of the codebook keeping in mind the responses collected for each variable, guiding him to provide enough variables to capture all the richness, complexity, and variety of data that has been collected. Depending on what shape the data comes in, the researcher will have to decide how to code this information, with the help of one, two, or multiple variables.

3) CLASSIFICATION OF THE DATA

Data classification is the process of organizing data into categories that make it easy to retrieve, sort and store for future use. A well-planned data classification system makes essential data easy to find and retrieve. This can be of particular importance for risk management, legal discovery and regulatory compliance.

Written procedures and guidelines for data classification policies should define what categories and criteria the organization will use to classify data. They also specify the roles and responsibilities of employees within the organization regarding data stewardship.

Once a data classification scheme is created, security standards should be identified that specify appropriate handling practices for each category. Storage standards that define the data's lifecycle requirements must be addressed, as well.

IMPORTANCE:

Data classification is an important part of data lifecycle management that specifies which standard category or grouping a data object belongs in. Once sorted, data classification can help ensure an organization adheres to its own data handling guidelines and to local, state and federal compliance regulations, such as the Health Insurance Portability and Accountability Act, or HIPAA. Companies in highly regulated industries often implement data classification processes or workflows to aid in compliance audit and data discovery processes.

Data classification is used to categorize structured data, but it is especially important for getting the most out of unstructured data. Data categorization also helps identify duplicate copies of data. Eliminating redundant data contributes to efficient use of storage and maximizes data security measures.

4) TABULATION OF THE DATA

Tabulation is the process of arranging data in a systematic manner into rows and columns. Rows are horizontal arrangement and columns are vertical arrangement. It is the final step in the collection and compilation of data. It is made to simplify the presentation of data. It facilitates comparison between related information and facts.

Generally the collected data is in fragmented form. The mass of data is presented in a concise and simple manner by means of statistical tables. Thus, tabulation helps in presenting the data in an orderly manner.

ADVANTAGES OF TABULATION:

1. **Helps to make data easily understandable:** Tabulation ignores the unnecessary data and presents the data in a systematic and precise way. Thus, the table presents the complex data in a simple way so that everyone can easily understand the data.

2. **Facilitates Comparison:** Different types of data can be presented in a single table. So every data set can be compared with another set and some facts can be disclosed.

3. **Saves Time and Energy:** Similar types of data are kept under one head or subheads. So, the tabulation of data saves time and energy for the researcher.

4. **Avoids Repetition:** Data are presented putting similar nature of data under one head. So, chances of repetition of data are avoided.

5. **Can easily remember:** Systematization of data condenses the data in few numbers. Such a few numbers of data can be easily remembered for the future.

RULES OF TABULATION:

- The tables represented should be self-explanatory. Moreover, footnotes form a portion of tables, they should not be necessary to define the meaning of the data displayed in a table.
- If the amount of information is valuable, it is best to place them down in multiple tables rather than a single one.
- However, each table design should also be complete in itself and must serve the goal of the analysis.
- The figure of rows and columns should be kept minimum to present data in a brief and concise manner.
- Before the actual tabulating, data should be approximated, wherever required.
- Stubs and titles should be self-explanatory and need not require the assistance of footnotes to be comprehended.
- If certain conditions of data gathered cannot be tabulated under any stub or captions, they should be placed in a separate table with the heading of miscellaneous.
- Quantity and quality of data should never be negotiated under any situation while creating a table.

4.3 DATA ANALYSIS

MEANING OF DATA ANALYSIS:

Definition: Data analysis is defined as a process of cleaning, transforming, and modelling data to discover useful information for business decision-making.

The purpose of Data Analysis is to extract useful information from data and taking the decision based upon the data analysis.
A simple example of Data analysis is whenever we take any decision in our day-to-day life is by thinking about what happened last time or what will happen by choosing that particular decision. This is nothing but analyzing our past or future and making decisions based on it. For that, we gather memories of our past or dreams of our future. So that is nothing but data analysis. Now same thing analyst does for business purposes, is called Data Analysis.

To grow your business even to grow in your life, sometimes all you need to do is Analysis. If your business is not growing, then you have to look back and acknowledge your mistakes and make a plan again without repeating those mistakes. And even if your business is growing, then you have to look forward to making the business to grow more. All you need to do is analyze your business data and business processes.

DATA ANALYSIS TOOLS:

Data analysis tools make it easier for users to process and manipulate data, analyze the relationships and correlations between data sets, and it also helps to identify patterns and trends for interpretation. Here is a complete list of tools used for data analysis in research.

INFORMATION ABOUT THE STUDY:

- In this study, graphs and charts has been selected and shown in graphical format for technical analysis.
- Charts enable you to visually compare multiple sets of data. Charts can help people better understand and remember information. Many people understand a picture more quickly than blocks of text. A compelling chart can help you make your point more convincingly and lend credibility to your presentation.
- Six types of charts has been explained and shown in data interpretation for different time periods for both the banks.
- The comparison of both the stocks can be seen clearly from the charts which is important for a trader to make decisions about buying or investing in it.

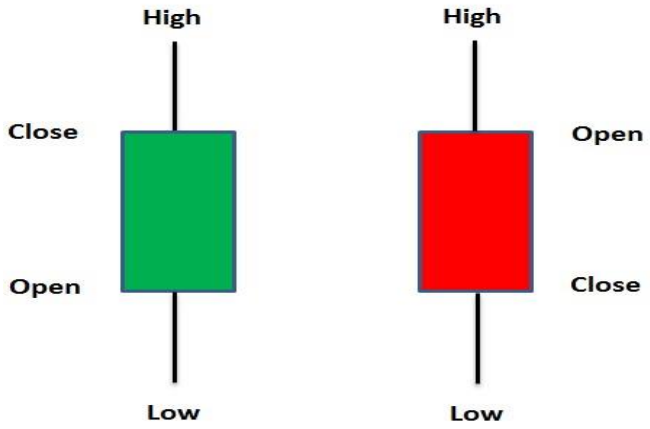
4.4 DATA INTERPRETATION

1. CANDLESTICK CHART

MEANING: The candlestick has a wide part, which is called the "real body." This real body represents the price range between the open and close of that day's trading. When the real body is filled in or black, it means the close was lower than the open. If the real body is empty, it means the close was higher than the open. Candlestick charts are more visual, due to the colour coding of the price bars and thicker real bodies, which are better at highlighting the differences between the open and the close.

BENEFITS OF USING CANDLESTICK CHARTS:

- **Superior to traditional charts:** Compared to traditional bar charts, candlestick charts display the market movements in much greater detail. After a small amount of practice and familiarization, candlestick chart pattern analysis can help investment decision making.
- **Insight into Financial Markets:** Candlesticks allow an investor to read the changes in the markets determination of value. As such, candlestick charts provide an insight into the financial markets that does not exist with traditional bar charts.
- **Easy to understand:** Candlesticks visually provide a clear and easy-to-identify set of patterns that are highly accurate in predicting market trends. By using candlesticks, along with some basic technical analysis, an investor can easily begin to see patterns emerge in the market.



ICICI BANK:

3 MONTH CHART:

Chart 4.1

6 MONTH CHART:

Chart 4.2

HDFC BANK:

3 MONTH CHART:

Chart 4.3

6 MONTH CHART:

Chart 4.4

Comment: In the above charts, the red colour filled body indicates loss and body filled with green colour shows profit of a single day in the 3 months and 6 months chart.

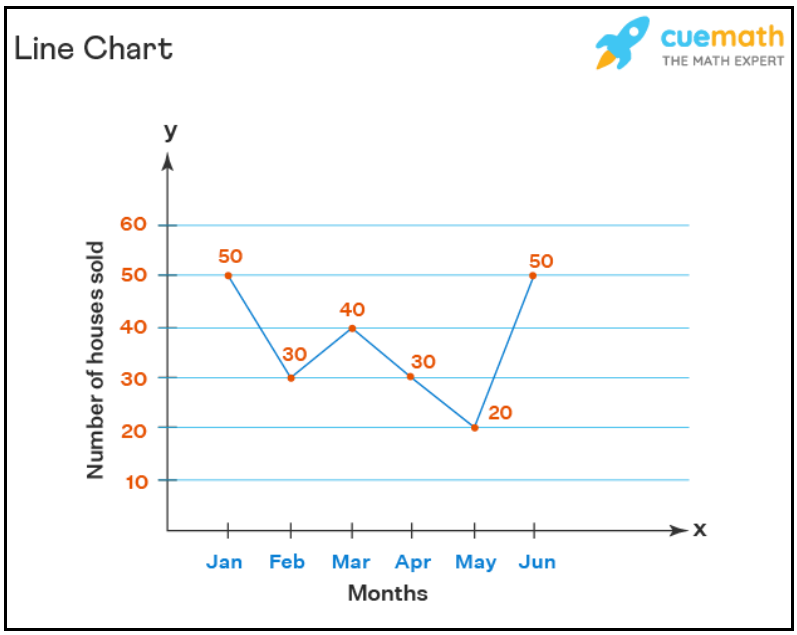
2. LINE CHART

MEANING: A line chart is a graphical representation of an asset's historical price action that connects a series of data points with a continuous line. This is the most basic type of chart used in finance, and it typically only depicts a security's closing prices over time. Line charts can be used for any timeframe, but they most often use day-to-day price changes.

A line chart gives traders a clear picture of where the price of a security has moved over a given time period. As line charts only show closing prices, they remove volatility. The closing prices are typically considered as the most important price. That is why line charts are popular with investors and traders. Traders can use line charts with other charts to see the full technical picture.

BENEFITS OF USING LINE CHART:

- **Clarity:** Traders may be confused with too much information when analysing a security's chart. Using charts that show a plethora of price information and indicators can give multiple signals that lead to confusion and complicate trading decisions. Using a line chart helps traders clearly identify key support and resistance levels, trends and recognizable chart patterns. Support occurs where a downtrend is expected to pause, due to a concentration of demand. Resistance occurs where an uptrend is expected to pause temporarily, due to a concentration of supply.
- **Easy-to-Use:** Line charts are ideal for beginner traders to use due to their simplicity. They help to teach basic chart reading skills before learning more advanced techniques, such as reading Japanese candlestick patterns. Volume and moving averages can easily be applied to a line chart. During volatile times or when analysing a very illiquid security, or in times of confusion, line charts can be very helpful.



ICICI BANK:

3 MONTH CHART:

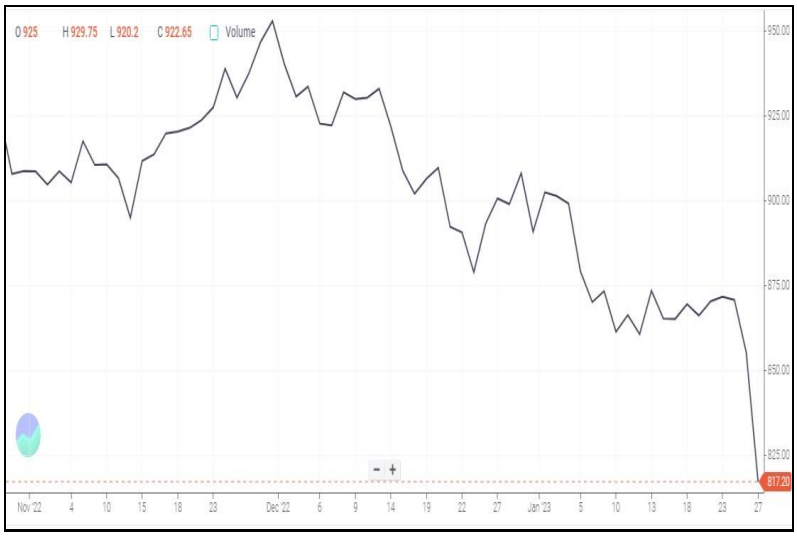


Chart 4.5

6 MONTH CHART:

Chart 4.6

HDFC BANK:

3 MONTH CHART:

Chart 4.7

6 MONTH CHART:

Chart 4.8

Comment: The above line charts are giving a clear picture about the closing price of stocks of every single day in the 3 months and 6 months charts where we can see a fall in stock price of ICICI Bank and growth in stock price of HDFC Bank.

3. BAR CHART

MEANING: A bar chart is a statistical approach to represent given data using vertical and horizontal rectangular bars. The length of each bar is proportional to the value they represent. It is basically a graphical representation of data with the help of horizontal or vertical bars with different heights. In real life, bar graphs are mainly used in the corporate sector.

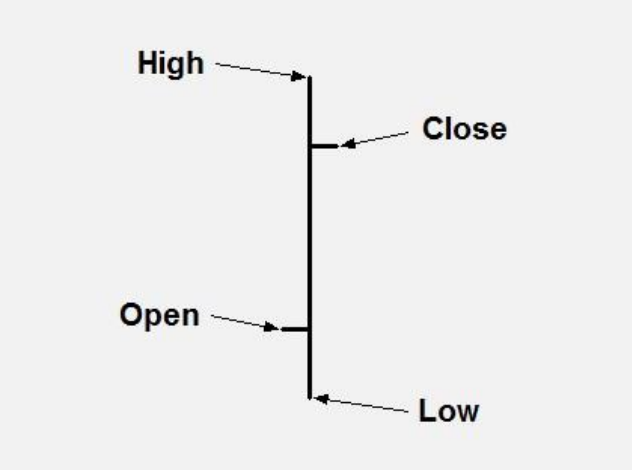
Bar charts enable us to compare numerical values like integers and percentages. They use the length of each bar to represent the value of each variable. For example, bar charts show variations in categories or subcategories scaling width or height across simple, spaced bars, or rectangles.

FEATURES OF BAR CHART ARE LISTED A UNDER:

- A bar chart shows the open, high, low and close prices for a specified period of time.
- The vertical line on a price bar represents the high and low prices for the period.
- The left and right horizontal lines on each price bar represents the open and close prices.
- Bar charts can be coloured coded. If the close is above the open it may be coloured black or green, and if the close is below the open the bar may be coloured red.

BENEFITS OF USING BAR CHARTS:

- Bar charts are some of the most popular type of charts used in technical analysis.
- The advantage of using a bar chart over a straight line graph is that it shows the high, low, open and close for each particular time period. Technical Analysis use bar charts to monitor the price performance of stocks which helps in making trading decisions.
- Bar charts allow traders to analyse trends, spot potential trend reversal and monitor volatility/price movements.



ICICI BANK:

3 MONTH CHART:

Chart 4.9

6 MONTH CHART:

Chart 4.10

HDFC BANK:

3 MONTH CHART:

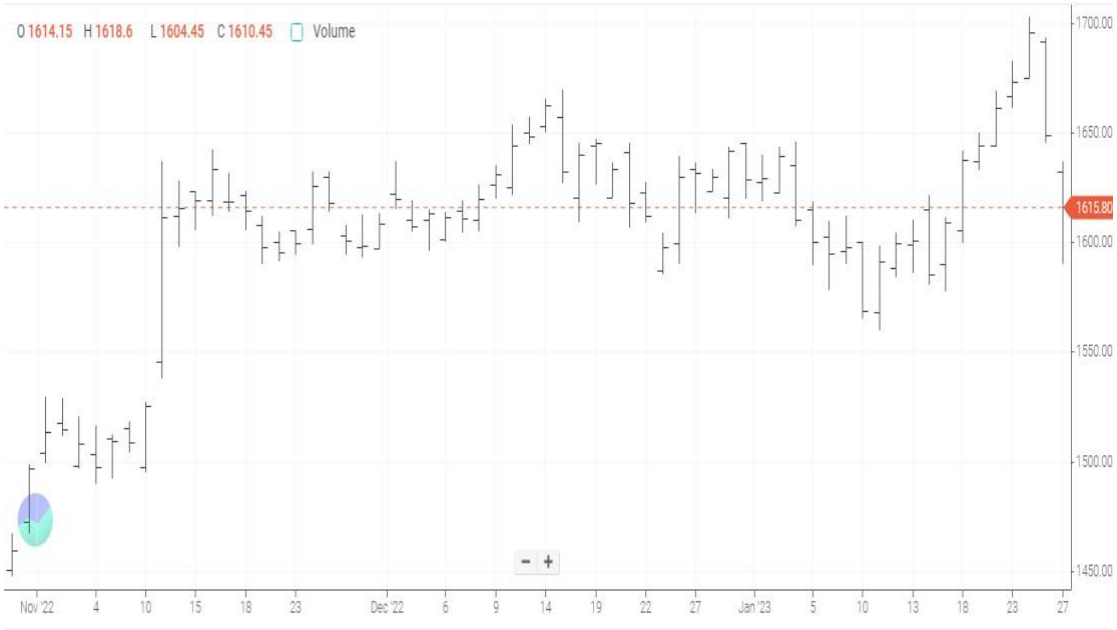


Chart 4.11

6 MONTH CHART:

Chart 4.12

Comment: In the above bar charts of 3 months and 6 months, some days indicate loss when the closing bar is on the lower price side and when the closing bar is on the higher price side then it shows profit. The disadvantage here is that the bar is not coloured which can make the chart easy to read.

4. HEIKIN ASHI CHART

MEANING: The Heikin-Ashi technique averages price data to create a Japanese candlestick chart that filters out market noise. Heikin-Ashi charts, share some characteristics with standard candlestick charts but differ based on the values used to create each candle. Instead of using the open, high, low, and close like standard candlestick charts, the Heikin-Ashi technique uses a modified formula based on twoperiod averages. This gives the chart a smoother appearance, making it easier to spots trends and reversals, but also obscures gaps and some price data.

Heikin-Ashi Candlesticks are an offshoot from Japanese candlesticks. Heikin-Ashi Candlesticks use the open-close data from the prior period and the open-high-low-close data from the current period to create a combo candlestick. The resulting candlestick filters out some noise in an effort to better capture the trend. In Japanese, *Heikin* means "average" and *Ashi* means "pace". Taken together, Heikin-Ashi represents the average pace of prices. Heikin-Ashi Candlesticks are not used like normal candlesticks. Dozens of bullish or bearish reversal patterns consisting of 1-3 candlesticks are not to be found. Instead, these candlesticks can be used to identify trending periods, potential reversal points and classic technical analysis patterns.

INTERPRETATION:

Heikin-Ashi Candlesticks are very similar to normal candlesticks, but differ in some key features. A Heikin-Ashi candlestick is hollow when the HA-Close is above the HAOpen; conversely, Heikin-Ashi candlesticks are filled when the HA-Close is below the HA-Open. This is similar to normal candlesticks, which are filled when the close is below the open and hollow when the close is above the open.

While traditional candlestick patterns do not exist with Heikin-Ashi candlesticks, chartists can derive valuable information from these charts. A long hollow Heikin-Ashi candlestick shows strong buying pressure over a two day period. The absence of a lower shadow also reflects strength. A long, filled Heikin-Ashi candlestick shows strong selling pressure over a two day period. The absence of an upper shadow also reflects selling pressure. Small Heikin-Ashi candlesticks or those with long upper and lower

shadows show indecision over the last two days. This often occurs when one candlestick is filled and the other is hollow.

ICICI BANK:

3 MONTH CHART:

Chart 4.13

6 MONTH CHART:

Chart 4.14

HDFC BANK:

3 MONTH CHART:

Chart 4.15

6 MONTH CHART:

Chart 4.16

Comment: These charts are similar like candlestick chart but the above charts shows strong selling pressure as well as strong buying pressure over a two day period.

5. HOLLOW CANDLE CHART

MEANING: A Hollow Candlestick Chart plots the data series using a sequence of candlestick figures. A single candlestick consists of a body and a wick. The entire length of the candlestick represents the distance from the high to the low. The body represents the distance between the open price and the close price.

A hollow bar will always be created when the close is higher than the open. This type of candle shows buyers were in control of the security because the price was able to rise over the period, but this does not provide enough information to predict what will happen next.

Hollow candlesticks use colour and fill attributes to show price behaviour.

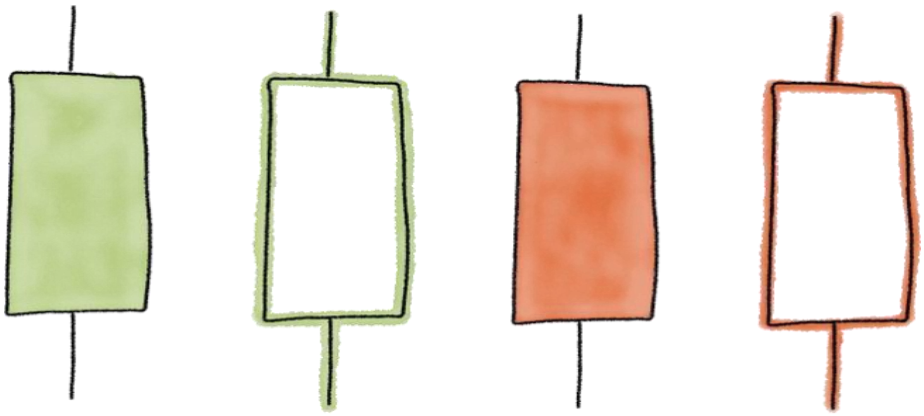
- When a candle is SOLID it means that the CURRENT closing price is lower than the same period's open price.

- When a candle is HOLLOW it means that the CURRENT closing price is higher than the same period's open price.

The candle's colour compares current closing price to the previous candle's closing price, so:

- Green candles mean that the current closing price is GREATER than the previous candle's close price.
- Red candles mean that the current closing price is LOWER than the previous candle's closing price.

This is how hollow and solid (or filled) candlesticks usually look:



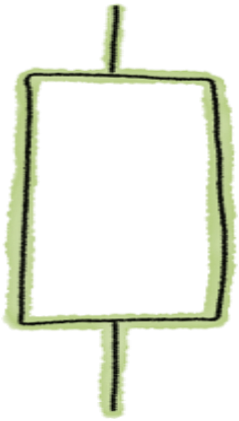
There is a lot of confusion when people ask the difference between a solid and a hollow candlestick, as the question itself makes you think that you are comparing a hollow or solid candle with a traditional candlestick chart where all the candles are solid.

Traditional candlestick charts (which are well covered in our technical analysis guide) are all solid and behave completely different from a solid candlestick in a hollow candlestick chart.

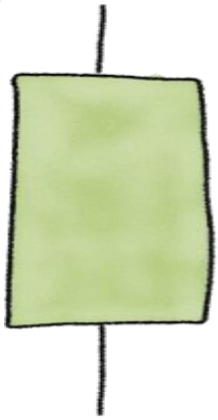
Let's take a look at the new language of hollow candlestick charts to understand how it

works: **Hollow VS. Solid Candlesticks**

The hollow or filled attribute in these candlesticks serves the purpose of showing if the current closing price of the candle is higher or lower than the same period's open price. Let's not focus on the colour for a moment and just look at whether it's filled or not:



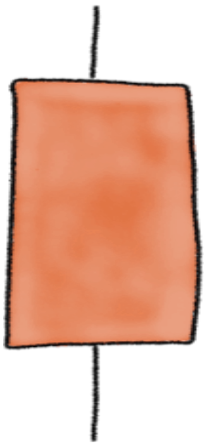
If the candlestick is hollow as the image shown, it means that the candlestick's current closing price it's GREATER than the candle's open price, so we can think of it as a bullish candle.



Now here it's where it gets tricky, in the candle shown which looks just like a standard candlestick that we've seen before, the fact that its solid (filled) means something completely different, in this case it's telling us that the current closing price is LOWER than the candle's open price.

Green VS. Red Candles in hollow candlestick charts

In hollow candlestick charts, the colour attribute of the candle is determined by comparing the candle's current closing price against the PREVIOUS candle's closing price, let's take a look at an example:



A red candlestick (regardless if it's hollow or not) means that the closing price is LOWER than the previous candle's closing price.

A green candlestick (regardless if it's hollow or not) means that the closing price is GREATER than the previous candle's closing price.

ICICI BANK:

3 MONTH CHART:

Chart 4.17

6 MONTH CHART:

Chart 4.18

HDFC BANK:

3 MONTH CHART:

Chart 4.19

6 MONTH CHART:

Chart 4.20

Comment: This type of chart of ICICI Bank and HDFC Bank shows that sometimes the candlestick is red in colour (regardless if it is hollow or not) which indicates a loss when compared to the previous day.

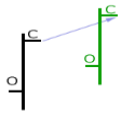
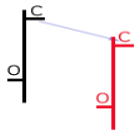
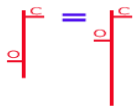
6. COLOURED BAR CHART

MEANING: The left and right horizontal lines on each price bar represent the open and closing prices. Bar charts can be colored coded where if the close is above the open it may be colored black or green, and if the close is below the open the bar may be colored red.

Green indicates the stock is trading higher than the previous day's close. Red indicates the stock is trading lower than the previous day's close. Blue or white means the stock is unchanged from the previous closing price.

While a basic bar chart has bars of the same colour, many platforms offering stock charts include an option of a coloured bar chart too. The bars are coloured green or red based on the following aspects:

- If the closing price of the current interval > the closing price of the previous interval, then the bar is green.
- If the closing price of the current interval < the closing price of the previous interval, then the bar is red.
- If the closing price of the current interval = the closing price of the previous interval, then the bar is coloured the same as the previous interval.

Color of Candle	Description	Image
Green	The current bar's closing price is higher than the previous bar's closing price.	
Red	The current bar's closing price is lower than the previous bar's closing price.	
Same as previous bar	If the current candle's closing price is the same as the previous candle's closing price, then the current bar is colored.	

ICICI BANK:

3 MONTH CHART:

Chart 4.21

6 MONTH CHART:

Chart 4.22

HDFC BANK:

3 MONTH CHART:

Chart 4.23

6 MONTH CHART:

Chart 4.24

Comment: The above charts are same like the bar chart but these are coloured for better understanding. There are more red coloured bars in ICICI Bank chart as compared to HDFC Bank where we can see growth.

CHAPTER 5
FINDINGS AND CONCLUSION

5.1 FINDINGS

- Six types of charts are taken for the Technical Analysis of ICICI Bank and HDFC Bank for the period of 3 months and 6 months from which technical analysts judge the past trading activities.
- In the case of ICICI Bank, on the 1st day of November, the stock price was open for Rs.921 and at the end of January its closing price came down to Rs.817. But while looking at the 6 months chart, the opening stock price was less as compared to November which was Rs.820 on the 1st day of August.
- In the case of HDFC Bank, on the 1st day of November, the share's opening rice was Rs.1500 and we can see an uptrend as the price went upto Rs.1615 at the end of January. While comparing the 6 months chart, the stock was open for Rs.1439 which is consistent.
- All six types of charts shown in data interpretation are equally important and useful for analysts.
    - Candlestick charts are more visual, due to the colour coding of the price bars and thicker real bodies.
    - Using a line chart helps traders clearly identify key support and resistance levels, trends and recognizable chart patterns. Support occurs where a downtrend is expected to pause, due to a concentration of demand. Resistance occurs where an uptrend is expected to pause temporarily, due to a concentration of supply.
    - A bar chart shows the open, high, low and close prices for a specified period of time. The vertical line on a price bar represents the high and low prices for the period.
    - Heikin-Ashi candlesticks are filled when the HA-Close is below the HA-Open. This is similar to normal candlesticks
    - A hollow bar will always be created when the close is higher than the open.
    - Bar charts can be colored coded where if the close is above the open it may be colored black or green, and if the close is below the open the bar may be colored red.

5.2 RECOMMENDATIONS

- Recently it is recommended to buy the ICICI bank stock which is having a downtrend recently because of the article i.e KR Choksey is bullish on ICICI Bank has recommended buy rating on the stock with a target price of Rs. 1175 in its research report.

- ICICI Bank is stable throughout the period and it is also a safe option for traders to invest as this company has it's name in the market and it is good for long term investment. Company is able to expand its net interest margin on a continuous basis over the last 3 years with margins of 3.09% in last year.

- On the other hand, HDFC Bank if compared is way more better option to invest as we can see growth from all the six types of charts.

- With the merger with HDFC Ltd imminent and approvals also expected to be positive, we believe HDFC Bank has the potential to deliver good returns to investors in the next one year. Valuations are compelling and asset quality is the best in the sector

5.3 CONCLUSION

Technical Analysis is a useful technique in guiding investment decisions. In light of our study on two companies, we have seen how technical analysis can be used to predict the possible future swings of stock prices. After analysing the companies, the following conclusion was drawn.

RSI is a technical indicator used in the analysis of financial markets. It is intended to chart the current and historical strength or weakness of a stock or market based on the closing prices of a recent trading period. In general, we can conclude from the result that technical indicators can play useful role in the timing of stock market entry and exit. It can be said that some tools of technical analysis are more useful than others. However, none of them can be termed as analysts panacea. The stock price movements are influenced by various fundamental factors and the economy as a whole. Even though there are some universal principles and rules that can be applied, it must be remembered that technical analysis is more of an art form than a science. As an art form, it is subject to interpretation. However, it is also flexible in its approach and each investor should use only that which suits his or her style. Developing a style takes time, effort and dedication, but the rewards can be significant.

Analysis can offer great insight but if used improperly, they can also produce false signals. While trend lines have become a very popular aspect of technical analysis, they are merely one tool for establishing, analysing and confirming a trend. Trend lines should not be the final arbiter, but should serve merely as a warning that a change in trend may be very useful. In some situation, this principle is violated. By studying six types of charts, it can be stated that technical analysis does not provide 100% accuracy to the investor. As the stock prices are dynamic in nature, combination of Fundamental analysis and technical analysis will increase the percentage of accuracy and thus giving an idea to the investor to invest in that stock which will yield him good returns.

Technical analysis works best on currency markets, intermediate on futures markets, and worst on stock markets. Chart patterns work better on stock markets than currency markets. Nonlinear methods work best overall. Technical analysis doesn't work as well as it used to.

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APPENDIX

ICICI BANK

BALANCE SHEET OF ICICI BANK (in Rs. Cr.)	MAR 22	MAR 21	MAR 20	MAR 19	MAR 18
	12 mths	12 mths	12 mths	12 mths	12 mths
EQUITIES AND LIABILITIES					
SHAREHOLDER'S FUNDS					
Equity Share Capital	1,389.97	1,383.41	1,294.76	1,289.46	1,285.81
TOTAL SHARE CAPITAL	**1,389.97**	**1,383.41**	**1,294.76**	**1,289.46**	**1,285.81**
Revaluation Reserve	3,195.66	3,093.59	3,114.87	3,044.51	3,003.19
Reserves and Surplus	165,659.93	143,029.08	112,091.29	104,029.40	100,864.37
Total Reserves and Surplus	168,855.59	146,122.67	115,206.16	107,073.91	103,867.56
TOTAL SHAREHOLDERS FUNDS	**170,511.97**	**147,509.19**	**116,504.41**	**108,368.04**	**105,158.94**
Deposits	1,064,571.61	932,522.16	770,968.99	652,919.67	560,975.21
Borrowings	107,231.36	91,630.96	162,896.76	165,319.97	182,858.62
Other Liabilities and Provisions	68,982.79	58,770.37	47,994.99	37,851.46	30,196.40
TOTAL CAPITAL AND LIABILITIES	**1,411,297.74**	**1,230,432.68**	**1,098,365.15**	**964,459.15**	**879,189.16**
ASSETS					
Cash and Balances with Reserve Bank of India	60,120.82	46,031.19	35,283.96	37,858.01	33,102.38
Balances with Banks Money at Call and Short Notice	107,701.54	87,097.06	83,871.78	42,438.27	51,067.00
Investments	310,241.00	281,286.54	249,531.48	207,732.68	202,994.18
Advances	859,020.44	733,729.09	645,289.97	586,646.58	512,395.29
Fixed Assets	9,373.82	8,877.58	8,410.29	7,931.43	7,903.51
Other Assets	64,840.12	73,411.21	75,977.67	81,852.17	71,726.80
TOTAL ASSETS	**1,411,297.74**	**1,230,432.68**	**1,098,365.15**	**964,459.15**	**879,189.16**
OTHER ADDITIONAL INFORMATION					
Number of Branches	5,418.00	5,266.00	5,324.00	4,874.00	4,867.00

Number of Employees	105,844.00	98,750.00	99,319.00	86,763.00	82,724.00
Capital Adequacy Ratios (%)	19.16	19.12	16.11	16.89	18.42
KEY PERFORMANCE INDICATORS					
Tier 1 (%)	18.35	18.06	14.72	15.09	15.92
Tier 2 (%)	0.81	1.06	1.39	1.80	2.50
ASSETS QUALITY					
Gross NPA	33,294.92	40,841.42	40,829.09	45,676.04	53,240.18
Gross NPA (%)	4.00	8.00	6.00	7.00	0.00
Net NPA	6,931.04	9,117.66	9,923.24	13,449.72	27,823.56
Net NPA (%)	0.81	2.10	1.54	2.29	5.43
Net NPA To Advances (%)	1.00	2.00	2.00	2.00	5.00
CONTINGENT LIABILITIES, COMMITMENTS					
Bills for Collection	75,150.83	54,643.42	48,216.24	49,391.99	28,588.36
Contingent Liabilities	3,867,675.87	2,648,640.67	2,523,825.80	1,922,038.29	1,289,244.00

HDFC BANK

BALANCE SHEET OF HDFC BANK (in Rs. Cr.)	MAR 22	MAR 21	MAR 20	MAR 19	MAR 18
	12 mths	12 mths	12 mths	12 mths	12 mths
EQUITIES AND LIABILITIES					
SHAREHOLDER'S FUNDS					
Equity Share Capital	554.55	551.28	548.33	544.66	519.02
TOTAL SHARE CAPITAL	**554.55**	**551.28**	**548.33**	**544.66**	**519.02**
Revaluation Reserve	0.00	0.00	0.00	0.00	0.00
Reserves and Surplus	239,538.38	203,169.55	170,437.70	148,661.69	105,775.98
Total Reserves and Surplus	239,538.38	203,169.55	170,437.70	148,661.69	105,775.98
TOTAL SHAREHOLDERS FUNDS	**240,092.94**	**203,720.83**	**170,986.03**	**149,206.35**	**106,295.00**
Deposits	1,559,217.44	1,335,060.22	1,147,502.29	923,140.93	788,770.64
Borrowings	184,817.21	135,487.32	144,628.54	117,085.12	123,104.97
Other Liabilities and Provisions	84,407.46	72,602.15	67,394.40	55,108.29	45,763.72
TOTAL CAPITAL AND LIABILITIES	**2,068,535.05**	**1,746,870.52**	**1,530,511.26**	**1,244,540.69**	**1,063,934.32**

ASSETS					
Cash and Balances with Reserve Bank of India	129,995.64	97,340.74	72,205.12	46,763.62	104,670.47
Balances with Banks Money at Call and Short Notice	22,331.29	22,129.66	14,413.60	34,584.02	18,244.61
Investments	455,535.69	443,728.29	391,826.66	290,587.88	242,200.24
Advances	1,368,820.93	1,132,836.63	993,702.88	819,401.22	658,333.09
Fixed Assets	6,083.67	4,909.32	4,431.92	4,030.00	3,607.20
Other Assets	85,767.83	45,925.89	53,931.09	49,173.95	36,878.70
TOTAL ASSETS	**2,068,535.05**	**1,746,870.52**	**1,530,511.26**	**1,244,540.69**	**1,063,934.32**
OTHER ADDITIONAL INFORMATION					
Number of Branches	6,342.00	5,608.00	5,416.00	5,103.00	4,787.00
Number of Employees	141,579.00	120,093.00	116,971.00	98,061.00	88,253.00
Capital Adequacy Ratios (%)	18.90	18.79	18.52	17.11	14.82

KEY PERFORMANCE INDICATORS					
Tier 1 (%)	17.87	17.56	17.23	15.78	13.25
Tier 2 (%)	1.03	1.23	1.29	1.33	1.57
ASSETS QUALITY					
Gross NPA	16,140.96	15,086.00	12,649.97	11,224.16	8,606.97
Gross NPA (%)	1.00	1.00	1.00	1.00	1.00
Net NPA	4,407.68	4,554.82	3,542.36	3,214.52	2,601.02
Net NPA (%)	0.32	0.40	0.36	0.39	0.40
Net NPA To Advances (%)	0.00	0.00	0.00	0.00	0.00
CONTINGENT LIABILITIES, COMMITMENTS					
Bills for Collection	56,968.05	44,748.14	51,584.90	49,952.80	42,753.83
Contingent Liabilities	1,395,442.30	971,097.60	1,128,953.40	1,024,715.12	875,488.23