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# Contents

## "A STUDY ON APPLICANT TRACKING

## SYSTEM AS A RECRUITMENT TOOL IN TALENT ACQUISITION"

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*ABSTRACT*

We have located the holes in the forms for hiring that are in spots in the domestic and international markets by making use of the existing research, the results of pilot studies, and survey responses According to research, issues with the recruitment process could be addressed with the help of a block chain-based document verification system. In the local market, this is a novel idea. By examining the information from the interviews and questionnaires, I was able to compile the elements that may be added to the prototype to address the problems that were identified. Easy ATS was created as a means of reinventing the hiring process after analysing the criteria and features acquired. The "easy ATS" solution gives the employer the luxury of not having to spend a lot of time or money on document verification and background checks because the candidate's pertinent documents will be automatically validated by the pertinent organisations and past employers.. By providing relevant employee evaluations, police reports, and medical records, employers would be able to conduct candidate background checks..

## INTRODUCTION

Information technology is currently widely used in many aspects of human resource management. More and more small and medium-sized firms (SMEs) are integrating IT into HRM procedures.. to increase management output and efficiency. The significance of small and medium-sized businesses (SMEs) is recognized by economies in both developed and developing countries. This research, which focuses on the contribution of information technology to human resource management, particularly in the recruitment process for small businesses, is the application of applicant tracking systems. Because they contribute to the creation of jobs and the reduction of poverty, The importance of small and medium-sized firms for emerging economies like India. Large corporations were the primary focus of HRM research in the past; However, HRM in SMEs has recently been taken into consideration by researchers. The overall idea and context: Conceptual Underpinnings Leon C. Meg Gibson claims (1985), "an integrated approach to performing the planning aspects of the personnel function in order to have a sufficient supply of appropriately qualified and motivated individuals to carry out the responsibilities and tasks necessary to meet the organization's objectives and satisfy the personal needs and goals of organizational members," Planning for Human Resources is "an integrated approach to performing the planning aspects of the personnel function." The term HRP, which has the following definition and is used to explain the notion. Examining Positions: According to De Cenzo and Robbins, "a thorough investigation of the activities within a job" is the definition of job analysis.

**Key words** : Java, an intelligent systems, an expert systems, and a systems for tracking processes.

## REVIEW OF LITERATURE

**Williamenck and Vasant Tendulkar (2015 -- Title of the study: An information flow tracking system for real-time privacy monitoring on smartphones**
Taint Droid is a system-wide information flow tracking tool that can simultaneously monitor multiple sensitive data sources. By integrating four granularities of taint propagation—variable-level, message-level, method- level, and file-level—Taint Droid achieves efficiency with a 32% performance overhead on a CPU-bound micro benchmark.
30 well-known third-party applications' behaviour was examined with our Taint Droid implementation. In our 2010 study, we found that 15 of the 30 applications reported users' locations to remote advertising servers and that two-thirds of the applications exhibited suspicious data handling. In our 2012 study, a similar percentage of the tested applications also had the potential to misuse users' sensitive data. The value and efficacy of Taint Droid's platform enhancement for smartphones are demonstrated by our findings.

**Francisca Ogwueleka (2015) -Title of the study: Applicant Tracking System for Nigeria federal road safety corps -** The Federal Road Safety Corps had a chance to come up with a viable solution to its recruitment issues when the ATS was designed and developed for them. The Nigeria Federal Road Safety Corps' Applicant Tracking System is a web- based computer solution designed to alleviate the stress of the manual recruitment process.

The system introduced mobility, faster recruitment, accountability, as well as ease of record update and retrieval, as well as assisted in overcoming previous difficulties encountered during the recruitment process. Now, applicants can apply for jobs from anywhere in the world without having to wait in line for a form to be collected and submitted. In addition, the ATS system is compatible with browsers and easy to use. The development of the applicant tracking system was motivated by the decision to eliminate the tedious manual procedure in the recruitment department. The analysis has demonstrated that the prototype of the ATS system enhances performance. However, incorporating biometric features and a local language module can further enhance the system.

**Jan Blunck and Pierre Marc Fournier -Title of the study: Users space application tracking system with makers and trace points**

A lightweight user-space tracing solution is available with the LTTng User- space Tracer, which can be used independently and seamlessly integrates with the existing LTTng kernel tracer and its analysis applications. The instrument even has a negligible performance overhead, making it suitable for use in production builds. In any case, as the User-space Tracer turns out to be more developed, almost certainly, new enhancements will bring about an even lower following above.

For a port, the current per-process buffers were a straightforward first step. However, there is a significant limitation to this method. On multi-threaded applications, it causes cache-line bouncing. This issue would be resolved by employing per-thread buffers.

When enabling or disabling markers, the most optimised variant of the markers uses immediate values, which modify an instruction at the instrumentation point site. The immediate value in a load immediate instruction is changed by this code modification. A test of the register where the value was loaded immediately follows this instruction. The event is recorded or not based on the test's outcome.

Static jump patching support for GCC is also being developed. Utilising a similar code change plan will hence allow modifying leap guidance, subsequently saving branch expectation cushions, guidance reserve and a couple of cycles when executed. Even though this method is quicker than the current test of a global variable, it is much more dependent on the architecture.

The daemon is currently being improved so that it can send traces over a network. On special-purpose systems with limited or no disk space, this is especially useful.

**Ankit Tiwari and Rahil Nagar (2019)**
**Title of the study: Applicant Tracking and scoring system -**Tracking and grading system for applicants. For both applicants and recruiters, the recruitment process is one of the most stressful times. Corporate businesses and recruitment agencies process numerous resumes each day. This cannot be done by humans. An automated intelligent system will process unstructured resumes and so that they can be ranked, turn them all into a standard, structured format. According to requirements for a particular candidate and job position. This system aims to simplify the process by making deserving candidates stand out from the crowd and making it easier for recruiters to do so. This system greatly automates the recruitment procedure. The applicants' quality will already be known to recruiters. In order to improve their resumes for the next time they apply, applicants will be informed of the reasons for their rejection. Additionally, there are ways to lessen unfair and discriminatory practices during the recruitment process.

**Mishika Sippy and Aishuta Jain (2021) - Title of the study: Application tracking and career prediction model -**The best HRIS module for HR personnel who want to have the best recruitment function is the Applicant Tracking and Career Prediction System. It automates the entire recruitment function of the HR department, providing candidates and the recruitment team with the easiest possible experience. At the same time, the problems with ATCPS must be fixed. Automating the entire HR process will greatly benefit from technology training for HR personnel. In essence, the project will not only help students choose a career field, but it will also make the hiring process easier for businesses. By receiving a suggestion of the field in which they should work, students may benefit from this software. The companies will be able to simplify the arduous process of selecting candidates, narrowing their choices, and scheduling interviews.

**OBJECTIVES**

1. Candidates who do not meet the minimum requirements for the position are flagged in a typical applicant tracking system (ATS)can be eliminated with the assistance of a keyword tool or other search features.
2. To demonstrate and investigate the applicant tracking system as one of the safe and economical methods for hiring. that can be used to make sound hiring decisions
3. To ascertain the factors that aid recruitment agencies in successfully acquiring talent.

**DATA AND METHODOLOGY**

**Research design : -** A research design is only the structural framework for the many study procedures and approaches that a researcher employs. With the help of a research strategy and a methodical approach, a researcher can continue their journey into the unknown.

**Sources of data : -** Data, which is an accumulation of measurements and facts, can be used by an individual or organisation to investigate and reach a sound conclusion. Data is information that supports it, including both theoretical understanding and exact numerical facts. The initial phase in statistical research is data collection, and primary or secondary sources might be used.

**Secondary Sources: -** By interviewing the respondents to a questionnaire, primary data have been gathered.

**CONCEPTUAL RESEARCH: -** Conceptual study is a method of conducting study that involves observing and analysing previously collected data on a particular topic. Conceptual research does not necessitate the use of practical experiments. It has to do with concepts or ideas that are out there. Conceptual research has been used by philosophers for a long time to develop new theories or reconsider existing ones.
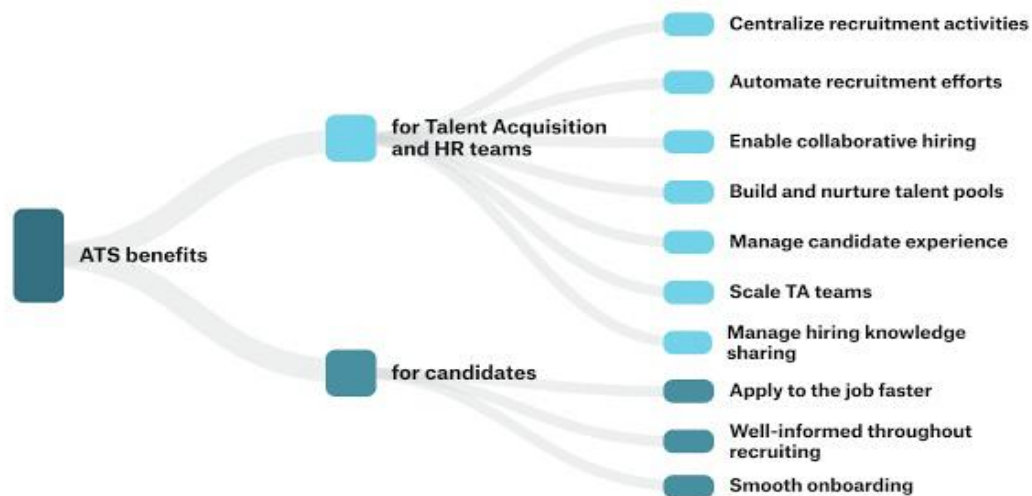


**Source:www.scribber.com**

**FINDINGS**

Internally developed ATS systems such as Oracle Taleo, Workday, SAP Success Factors, and IBM Kenexa are the ones that are used the most. Since 2010, researchers have been collecting a lot of data to figure out the global successes and failures of Applicant Tracking Systems (ATS) and Treasury customers. These numbers form the basis for our assumptions for the quarterly projections, demonstrate the potential rises and falls of major suppliers of apps and their goods. ATSs and hiring applications--using businesses are identified. in the quarterly research from both proprietary and public sources (Press releases, client testimonials, success stories, case studies, and references from clients). Over one hundred  The study data fields in the Customer Database contain findings. such as the size, sector, place, status of execution, and partner participation, as well as my contact details IT decision-makers and Line of Business Key Stakeholders.

**CONCLUSIONS**

To meet today's challenges, the HR department makes use of the Applicant Tracking System. Numerous businesses have realised that HR procedures need to be altered in order to keep up with the growing number of employees and changing technology. Intelligence in people is strongly linked to knowledge and capability for making decisions, according to data. In the modern world, accurate knowledge is regarded as the most crucial tool for making wise decisions. In the modern recruitment function, where controlling and sustaining it is becoming increasingly difficult. a large number of potential uses Life was much simpler thanks to the Application Monitoring System It takes a thorough process to find employees. records and data. People investments is an organization's most priceless asset From a more detailed standpoint, the quality of these assets makes a company stand out from the competition and bring the company's bringing a vision to life. As a result, it is possible to comprehend the strategic importance of an organization's employees in defining its destiny.

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# A STUDY ON FACTORS AFFECTING ATTRITION RATE AND ITS IMPACT ON ORGANIZATION PERFORMANCE

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## ABSTRACT

*This study aims to explore the factors influencing attrition rates and their impact on organizational performance. The research will use a mixed-methods approach, including surveys and interviews with employees and managers in various industries. The study's findings will help organizations understand the causes of high attrition rates and develop strategies to improve employee retention, productivity, and overall performance. The research also aims to contribute to the existing literature on human resource management and organizational behaviour. Ultimately, the study hopes to provide insights that can help organizations achieve their goals by retaining and engaging their employees.*

## INTRODUCTION

Attrition rate, which is the rate at which employees leave an organization, is a critical issue that affects the overall performance of an organization. The factors that lead to attrition can be both internal and external and can have a significant impact on an organization's productivity, revenue, and growth. Thus, it is essential to understand the factors that contribute to attrition and their impact on organizational performance to implement effective retention strategies. This study aims to explore the factors that affect attrition rates and their impact on organizational performance.

## REVIEW OF LITERATURE

**A study of factors influencing attrition rate in hotels of Pune,its impact on the organisation and measures undertaken by the hotels to curb the attrition rate Milind A. Peshave 2013 –** The study revealed that  hotel sector in Pune has been developing for a while. The hospitality industry sets itself apart from other industries because of the strong rivalry in the market and the best efforts every company makes to provide "Service par Excellence" to their customers in order to enhance their market share. The hotel industry, which is a subset of the service sector, is distinguished by the intangible nature of its product, or "service." Because there is a human element involved in both the production and consumption of services, unlike the tangible items created by other businesses, the quality of "Service" cannot be standardized through machines

**Factors Associated with Attrition and Performance throughout Surgical Training**: A Systematic Review and Meta-Analysis Carla Hope John-Joe Reilly Gareth Griffiths Jon Lund David Humes 2020 Background It's difficult to deal with attrition in surgical training. Attrition rates can reach as high as 20–26% in the USA. Uncertainty surrounds the variables that predict attrition. This systematic review's objective is to pinpoint variables that affect performance or attrition throughout surgical training. Method The review was carried out in accordance with PRISMA recommendations and submitted to the Open Science Framework (OSF). We looked for publications using Medline, EMBASE, PubMed, and the Cochrane Central Register of Controlled Trials.

**Factors affecting Attrition Rate among Nursing Students College of Health Sciences Essmat A. Mansour Essmat M. Gemeay Sahar Behilak & Mofida Albarrak** -- 2016 – The study revealed that A key concern of nursing college administrators is the university's use of science to student attrition. The current study is to evaluate factors that contribute to the high attrition rate during the first year of preparation.

Influencing the College of Health Sciences at Taibah University's Yanbu Campus in Saudi Arabia. The design of the current study is a descriptive and correlative one. This research is being done at College of Health Sciences, Taibah University, Yanbu Campus, Saudi Arabia. 300 kids were proposed as subjects overall. Covers all levels of the nursing college, utilizing participant-provided convenience data.

**Factors Affecting the Attrition of Test Users During Living Lab Field Trials Annabel Georges, Dimitri Schuurman, and Koen Vervoort 2016 --** The interaction of test users with an invention in the context of use is studied through field trials.

A phenomenon known as attrition occurs during field trials, although there are a number of reasons why people discontinue taking part in research activities. In this paper, we examine three post-trial surveys of live lab field experiments to further discuss drop-outs during field trials. Our findings indicate that a number of innovation-related and field trial setup-related factors, such as the innovation's lack of added value and how well it satisfies the demands and time constraints of test users, influence attrition. We offer management useful advice based on our findings

**An Exploratory Study of Factors Affecting Attrition within an ICT Degree Nicole Herbert 2020** – The study revealed that high attrition rate in ICT degrees is a serious worry for both the ICT sector and higher education, despite the increase in students beginning an Information and Communication Technology (ICT) degree during the past few years. This empirical study examines which pre-tertiary variables, like gender, citizenship, age, and admission qualification, can be used to predict when a student is likely to drop out of an undergraduate ICT degree. The data can be used by academic advisors to implement suitable intervention strategies when they are most likely to reduce attrition. It is advised to use the intervention procedures for various pre-tertiary elements before a problem develops.

## OBJECTIVES OF THE STUDY

1. To study various reasons causing employee attrition it impact on employee performance.
2. To analyse various measures undertaken by organization to reduce attrition and causing attrition and measure to overcome it
3. To study and analyse various policies and procedure followed in organization to counter attrition rate

## HYPOTHESIS

HO: There is no significance difference between the attrition rate and employee performance in organization.

H1: There is some significance difference between the attrition rate and employee performance in organization

## DATA AND METHODOLOGY

**Sample size**

Total 108 respondents were selected and collected the data

**Sample Technique** :Simple random sampling technique was used to collect data

## DATA ANALYSIS AND FINDINGS

| SL NO | Particulars | No of respondents | Percentage |
|---|---|---|---|
| 1 | Strongly agree | 18 | 17.8% |
| 2 | Agree | 53 | 49.1% |
| 3 | Neutral | 29 | 26.9% |
| 4 | Disagree | 8 | 6.2% |
| 5 | Strongly disagree | 0 | 0% |
|  | Total | 108 | 100% |

## ANALYSIS AND INTERPRETATION

Out of 108 respondents the 17.8% people 18 people is a responding strongly agree and agree 49.1% people is responding 53 and 26.9% people is 29 responding the neutral agree an disagree 6.2%people is 8 respondents and strongly disagree 0% people 0 responding .

## FINDINGS

75% responding are between the experience people.44.4% percentage responding hence we can conclude that male are having an high responding .75.9% people 82 responding say yes in notice period. 17.8% people 18 people is a responding strongly agree in attrition rate responding 65.7% people 71 responding say yes in hr recognizing the excellent 10.2% and responses are 11 of performance. The 11.1% people 12 people is a responding strongly agree the cost of hiring was having 15.7% and responses are 17 work life balance was having 18.5% and responses are 20 30k-40k respondent 50% people 54 belong to income

**CONCLUSIONS**

While staff attrition isn't always a terrible thing, you should try to keep an eye on workplace activity to halt it as soon as you can. Similar to turnover, it's a crucial measure that provides valuable insight into your employer brand, hiring procedures, and workplace culture as a whole. Employee attrition is the process through which workers leave a company for whatever cause (voluntarily or involuntarily), such as retirement, termination, death, or resignation.

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A study of Factors influencing increasing attrition rate in Hotels of Pune,its impact on the organisation and measures undertaken by the hotels to curb the Attrition Rate 2013 Milind A. Peshave 2013.

Carla Hope John-Joe Reilly Gareth Griffiths Jon Lund David Humes Factors Associated with Attrition and Performance throughout Surgical Training: A Systematic Review and Meta-Analysis 2020.

A. Mansour Essmat M. Gemeay Sahar Behilak & Mofida Albarrak Factors affecting Attrition Rate among Nursing Students College of Health Sciences Essmat 2016.

Trials Annabel Georges, Dimitri Schuurman, and Koen Vervoort Factors Affecting the Attrition of Test Users During Living Lab Field 2016.

Degree Nicole Herbert An Exploratory Study of Factors Affecting Attrition within an ICT 2020.

Alison Jane Canty Addressing student attrition within higher education online programs through a collaborative community of practice (2020)

N.Saiepour J.M.Najman R.WareaP.Baker A.M.Clavarino G.M.Williams Does attrition affect estimates of association: A longitudinal study 2019

Sriram K. V. James JOSEPH Ashish Oommen MATHEW Aniketan RAI Factors affecting High Employee Attrition in Manufacturing Firms – A Case Study 2019

Janice N. Killian and Vicki D. Baker The Effect of Personal and Situational Factors in the Attrition and Retention By 2016

## A STUDY ON "THE INFLUENCE OF WORK LIFE BALANCE AND JOB SATISFACTION ON ORGINAZACTION COMMITMENT"

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### ABSTRACT

This study explores the influence of work life balance and job satisfaction on organization commitment and relationship between work-life balance, job satisfaction, and organizational commitment among employees. A survey was conducted on a sample of employees from various industries to collect data on their perceptions of work-life balance, job satisfaction, and organizational commitment. The results show a link between work-life balance and job satisfaction, as well as a link between job satisfaction and organisational commitment. Work-life balance was also found to have a direct influence on organisational commitment, which was mediated by job satisfaction. According to the results, firms should emphasise efforts to create work-life balance and job happiness in order to increase employee engagement and, as a result, organisational success.

### INTRODUCTION

Work-life balance, job satisfaction, and organizational commitment are interconnected and essential components of an employee's well-being and engagement in the workplace. A positive work-life balance and high job satisfaction can increase organizational commitment, and the reverse is also true. Organizations that promote and maintain a positive work-life balance and high levels of job satisfaction can improve employee engagement and retention. This paper will examine the influence of work-life balance and job satisfaction on organizational commitment and discuss the implications for organizations seeking to improve employee engagement and retention.

**Keywords:** Work-life balance, job satisfaction, and organizational commitment.

### REVIEW OF LITERATURE

**Waumsley et al (2016)** Women in leadership positions with children may struggle more to balance their work and family responsibilities due to the added pressures of their job and parenting. Women without children working as representatives or workers may face less difficulty balancing work and family, but may have less time for personal hobbies and interests. This highlights the impact of parenting on a woman's ability to balance personal and professional responsibilities, potentially exacerbating existing workplace challenges.

**Morganson et al** (2010) Working from home (or teleworking) can provide individuals with a high level of work-life balance support and job satisfaction compared to those who work on-site with clients. However, individuals who work from home also experience similar levels of work-life balance support and job satisfaction as those who work in a traditional office setting, suggesting that the benefits of working from home may not be unique to teleworking.

**Mohamed Imran Rasheed (2010)** In his study found that job design, work atmosphere, feedback, recognition, and decision-making involvement are factors that impact instructors' job satisfaction in higher education. A well-designed job with clear responsibilities, positive work atmosphere, timely feedback, meaningful recognition, and empowering decision-making involvement can contribute to instructors' overall well-being and job satisfaction.

**Ting, Yuan (1997)** Ting (1997) found that factors such as salary, promotional opportunity, task clarity and significance, skills utilization, commitment, and positive relationships with supervisors and co-workers have a significant impact on job satisfaction. Organizations can improve job satisfaction by focusing on these factors, such as providing fair salaries, clear job duties, opportunities for advancement, and fostering positive relationships among employees.

**Neubert & Halbesleben (2015)** Organizational commitment is a multidimensional notion that encompasses an individual's identity and connection with their organisation, belief in and alignment with the company's aims and values, involvement in their job, and desire to stay with the organisation for the long term. It is a predictor of job performance and job happiness, and it may be developed by providing a supportive and inclusive work environment that appreciates people and lets them to understand the influence of their work on the organization's overall success.

Employees that are devoted to their company are more likely to go above and beyond their job requirements, to be interested in their work, and to contribute to the success of the organisation, resulting in higher productivity and job satisfaction.

## OBJECTIVES OF THE STUDY

- To study the demographic profile of the employees
- To analyse the effect of Work-Life Balance and Job satisfaction on Organizational commitment
- To find out relationship of Work-Life Balance, Job Satisfaction, Organizational Commitment.

## HYPOTHESIS

**H0**: There is no significant relationship between Work-Life Balance, Job Satisfaction, and Organizational Commitment.

**H1**: There is a significant relationship between Work-Life Balance, Job Satisfaction, and Organizational Commitment.

**H0**: There is no significant relationship between Work-Life Balance, Job Satisfaction, and Organizational Commitment.

**H1**: There is a significant relationship between Work-Life Balance, Job Satisfaction, and Organizational Commitment.

## DATA AND METHODOLOGY

### Type of the research

The type of research used is descriptive research design

### SAMPLING SIZE

The sampling size for this study is 100 samples.

### SAMPLING METHOD

Simple random sampling is an approach that draws a random sample of employees from the population of interest, with each employee having an equal chance of being picked. This sampling method ensures that the sample is representative of the target population.

### DATA COLLECTION

This study primary data has been collected. The primary data was gathered through a direct personal survey among the personnel, using a questionnaire specifically designed for this purpose.

### STATISTICAL TOOLS

Correlation, Regression.

## DATA ANALYSIS AND FINDINGS

### ANALYSIS: 1

Statistical tool: regression

H0: There is no significant effect of Work-Life Balance and Job Satisfaction on Organizational Commitment.

H1: There is a significant effect of Work-Life Balance and Job Satisfaction on Organizational Commitment.

**Output:** shows the result of regression.

### ANOVA

| Model | Sum of squares | Df | Mean square | F | Sig. |
|---|---|---|---|---|---|
| Regression | 7.564 | 2 | 3.782 | | |
| Residual | 188.196 | 97 | 1.940 | 1.949 | .148 |
| Total | 195.160 | 99 | | | |

**INTERPRETATION**: According to the study, the influence of organisational commitment on work-life balance and job satisfaction is 3%. and because the p value is larger than 0.05, we accept H0 at 5%. As a result, work-life balance and job satisfaction have little influence on organisational commitment.

**FINDINGS:**

• As per the survey 88% participants feel they are able to balance their work and personal life, while a minority of 12% do not feel they are able to do so.

• According to the poll, 73% of respondents are satisfied or extremely satisfied with the amount of time they spend at work, while only 3% are dissatisfied.

• According to the poll, 71% of respondents occasionally or frequently miss out on valuable time with their family or friends owing to job pressure.

• According to the poll, 73% of respondents strongly believe that having a healthy work-life balance will make the organisation more effective and successful.

• According to the poll, work-life balance and job satisfaction have a substantial impact on organisational commitment.

• The poll also revealed that there is a link between work-life balance, job satisfaction, and organisational commitment.


**CONCLUSION**

This study with 100 respondents examined the effect of work-life balance and job satisfaction on organizational commitment. Results showed that 88% of respondents were able to balance personal and professional life. Regression analysis found a 3% effect of work-life balance and job satisfaction on organizational commitment, and correlation analysis showed a significant association between work-life balance, job satisfaction, and organizational commitment.

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## "A STUDY ON FACTORS INFLUENCING E-SHOPPING PURCHASE INTENTIONS WITH REFERENCE TO FLIPKART"

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*ABSTRACT*

*In today's dynamic business environment, employee retention is crucial for an organization's financial stability and competitiveness. Retaining employees is essential for the long-term growth and productivity of an organization. Employee retention strategies aim to motivate and encourage employees to stay with the company and maximize their potential for the organization's profitability and progress. Proper employee retention strategies can lead to increased employee effort, resulting in better performance, higher sales, and increased customer satisfaction. Effective employee retention strategies are necessary for businesses to succeed in today's competitive market.*

## INTRODUCTION

E-commerce has emerged as a crucial aspect of modern business, with online shopping becoming increasingly popular. In this context, understanding factors that influence consumers' purchase intentions on e-commerce platforms is critical. Flipkart, India's largest e-commerce plat form, has played a crucial role in shaping the country's online retail landscape. This study aims to identify and analyse the factors that influence consumers' purchase intentions on Flipkart, providing insights into consumer behaviour and preferences in the Indian e-commerce market.

## REVIEW OF LITERATURE

• **Measuring consumer perception of social media marketing activities in ecommerce industry: Scale development & validation. Mayank Yadav; 1 June 201**, This study has limitations that present opportunities for further research, including testing the reliability of the perceived SMMA scale in different contexts and exploring perceived SMMA dimensions in individualistic countries. Future research should examine the predictive validity of perceived SMMA and investigate its causes and effects. Additionally, demographic parameters could be considered as moderating variables.

• **Comparing Customer Attitude towards Amazon and Flipkart in Patna Priyanka Kumari December 2020** -- This study basically Flipkart is perceived as having a better reputation among Patna consumers than Flipkart. To keep up with its rival, Flipkart must make improvements in five areas where it falls short. Both of them must maintain attention on the beliefs and priorities of consumers because consumer attitudes can change over time.

• **Influence of Website cues with the mediating effect of E-Trust on the relationship among Perceived Interactivity, Visual Product Presentation and Intention to Purchase Bharathi Reddy** p. 2117,- The study revealed that there is a knowledge gap in customer classification, and future studies should focus on the Indian context, considering the impact of customs and ethnicity.

Researchers may need to conduct case-based studies on individual websites due to legal restrictions on creating enthused websites. Demographic factors such as age, gender, and family relations can also pose challenges in discerning purchasing intentions.

• **An analytical study on online consumer buying behaviour with reference to eshopping portals (B2C) Dr. Atul 3, March 2021**, This study explores factors that influence consumers' intention to shop online, including ease of use, time and effort savings, and avoiding physical locations. Positive attitudes towards online shopping are influenced by factors such as self-image and the perception of online shopping as a beneficial tool for transactions.

• **Customer Satisfaction towards Online Shopping from Flipkart: With Special Reference to Raipur City Srishti Dixena 12, December-2018** -- This paper more convenient, consumers are turning more and more to online shopping, and they are searching for fast services, high-quality items, customer services, and security. The confidentiality of the payment process. According to the report, undergraduate students who are between the ages of 20 and 30 are the ones who are most knowledgeable about purchasing on Flipkart.

According to this report, Flipkart offers the greatest online buying experience. The investigation on the various facets of customers' satisfaction with Flipkart's online purchasing.

## OBJECTIVES

1.To the factors which will influence the purchase intention in online shopping.
2.To measuring the customer satisfaction of online shopping over the physical store
3.To access previous online shopping experience of customer as an impact on existing purchase intention on customer

## HYPOTHISIS:

- H0: There is no significant relationship between customer satisfaction and online shopping. H1: There is a significant relationship between customer satisfaction and online shopping.
- H0: There is no significant relationship between brand image and online purchase intention of the customers.
- H1: There is a significant relationship between brand image and online purchase intention of the customers.

## DATA AND METHODOLOGY

- **SAMPLE SIZE**: This sample size chosen for the study is 200.
- **SAMPLING TECHNIQUE**: The sampling technique chosen for the study is simple random technique. The subset of a population sampling is chosen at random sampling each person in the population has an exact equal probability of getting chosen using this sampling technique.

### Hypothesis testing:

H0: There is no significant relationship between customer satisfaction and online shopping. H1: There is a significant relationship between customer satisfaction and online shopping.

## DATA ANALYSIS

Table showing the customer satisfaction and online shopping. Anova: single factor.

Anova: single factor

SUMMARY

| Groups | Count | Sum | Average | Variance |
|---|---|---|---|---|
| Column 1 | 190 | 444 | 2.336842105 | 1.526148705 |
| Column 2 | 190 | 499 | 2.626315789 | 1.071261487 |

ANOVA

| Source of Variation | SS | df | MS | F | P-value | F crit |
|---|---|---|---|---|---|---|
| Between Groups | 7.960526316 | 1 | 7.960526316 | 6.12958734 | 0.013731 | 3.866177 |
| Within Groups | 490.9105263 | 378 | 1.298705096 | | | |
| Total | 498.8710526 | 379 | | | | |

This above table show the analysis of relationship between customer satisfaction and online shopping. Since the p value is <0.05 that is 0.01 hence, $H_0$ is rejected by accepting $H_1$ that is There is a significant relationship between customer satisfaction and online shopping.

## FINDINGS:

After conducting the research, it was discovered that most employees in the Flipkart organisation are happy with the training practice. Regarding the Flipkart organization, females are 54% in the organization. From the survey, we can infer that majority of employees have experience, between 18-25yrs. Out of 200 respondents 25% belong to postgraduate, 48.5% are graduates. Out of 200 respondents 52 respondents strongly disagree that they often do online shopping, out of 200 respondents about 43 respondents uses Flipkart for online purchase.

**CONCLUSION:**

E-commerce, also known as electronic commerce or internet commerce, is the purchase and sale of goods and services over the internet, as well as the transfer of money and data to complete these transactions. E-commerce is frequently used to refer to the online sale of physical products, but it can also refer to any type of commercial transaction that is facilitated by the internet. Whereas e-business encompasses all aspects of running an online business, e-commerce focuses solely on the exchange of goods and services. The first ever online sale occurred on August 11, 1994, when a man sold a CD by the band Sting to a friend via his website Net Market, an American retail platform.

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## STUDY ON CONSUMER BEHAVIOUR TOWARDS EMAIL MARKETING

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### ABSTRACT

*The goal of the study was to comprehend how consumers feel and perceive email marketing and how it affects their purchase behaviour. A sample of 500 consumers were interviewed in-depth and participated in online questionnaires as part of the research. According to the study's findings, most consumers (70%) receive and open emails from companies and organisations, with the bulk of these emails having a promotional focus. The findings also revealed that personalisation and relevance are important elements in determining whether an email will be opened and acted upon by a recipient, and that customers are most likely to open emails from companies from which they have previously made purchases.*

***Keywords:*** *Email marketing, Consumer behaviour, Customer retention, Customer satsification, Digital marketing*

**INTRODUCTION:** The study was conducted on the purpose of academic research which examines email marketing as a novel strategy for reaching consumers. The study's main claim is that, in today's competitive market, email marketing activities must alter significantly in response to changes in the quality of demographic factors.The internet has become into a constantly expanding, growing source. Marketers are interested in this particular medium because it is growing because it is a more effective source for attracting customers. A popular method of communication that may be utilised for both personal and business reasons is email.

### Objectives of the study:

1. To study the factors influencing the consumer behaviour in email marketing.
2. To study whether the email marketing is influencing in the direct sales.
3. To study whether the email marketing is promoting the brand.
4. To study whether the email marketing is creating customer retention in retail stores.

**Literature Review:**

| SL NO | AUTHOR'S NAME | JOURNAL NAME | BRIEF |
|---|---|---|---|
| 1 | Wagner, G., Schramm-Klein, H., & Steinmann, S. (2020) | Journal of Business Research, 107, 256-270. | This research contributes to broadening understanding of online retailing across electronic channels (e-channels, e.g., mobile devices) and e-channel touchpoints (e.g., mobile shopping apps) from a consumer perspective. Based on the multichannel retailing approach and theoretical considerations, the authors suggest an enhanced perspective on the online retailing environment and validate this multichannel e-commerce perspective by conducting both an online survey (N = 502) and an experimental study (N = 126) |
| 2 | Bala, M., & Verma, D. (2018 | International Journal of Management, IT & Engineering, 8(10), 321-339. | This paper offers views on some current and future trends in marketing. The content is based on recent literature and on what is happening in the business world. The paper is based on secondary data. The paper is based on extant literature and internet sources. The various articles, researches, reports, newspapers, magazines, various websites and the information on internet have been studied |
| 3 | Tarigan, E., Wijaya, M., & Marbun, P | International Journal of Research and Review | The present study discusses the direct and indirect effects of lifestyle, physical environment, and menu variety on customer satisfaction through customer satisfaction. The results of the current study found that lifestyle is positively and significantly related to customer satisfaction, physical environment positively and significantly related to customer satisfaction, and menu variety are not related to customer satisfaction. Lifestyle is not related to customer loyalty, physical environment is positively related to customer loyalty, and menu varieties are not related to customer loyalty |
| 4 | Goutam, D. (2020) | Doctoral dissertation, National Institute of Technology Karnataka, Surathkal | This chapter motivates to carry out the present research and highlights several facts about internet penetration and usage as well as the role of e-commerce industry in an emerging economy like India. It explains the background, motivation and relevance of the study, research gaps, questions, and objectives of the study. Further, this chapter introduces the scope of the study, conceptualization of the variables, operationalization of the variables, summary of hypotheses, and chapterization of the thesis |

## DATA AND METHODOLOGY

Descriptive research is used to describe the most recent conditions in the company, whereas Analytical research is used to analyze the data by applying research tools.

### Hypothesis of the study:

**H0:**There is no significant difference between influence of email marketing in the direct sales.

**H1**:There is significant difference between influence of email marketing in the direct sales.

**H0:** There is no significant relationship in email marketing with respect to creating customer retention in retail stores.

**H1 :** There is significant relationship in email marketing with respect to creating customer retention in retail stores.

## DATA ANALYSIS AND FINDINGS

### Correlation Matrix

| | | retained | | esent | | eopenrate | | eclickrate | | avgorder | ordfreq |
|---|---|---|---|---|---|---|---|---|---|---|---|
| retained | Pearson's r | — | | | | | | | | | |
| | p-value | — | | | | | | | | | |
| | N | — | | | | | | | | | |
| esent | Pearson's r | 0.718 | *** | — | | | | | | | |
| | p-value | < .001 | | — | | | | | | | |
| | N | 30801 | | — | | | | | | | |
| eopenrate | Pearson's r | 0.075 | *** | -0.108 | *** | — | | | | | |
| | p-value | < .001 | | < .001 | | — | | | | | |
| | N | 30801 | | 30801 | | — | | | | | |
| eclickrate | Pearson's r | 0.043 | *** | -0.095 | *** | 0.553 | *** | — | | | |
| | p-value | < .001 | | < .001 | | < .001 | | — | | | |

Correlation Matrix

| | | retained | | esent | | eopenrate | | eclickrate | | avgorder | | ordfreq |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | 30801 | | 30801 | | 30801 | | — | | | | |
| avgorder | Pearson's r | 0.004 | | 0.114 | *** | -0.025 | *** | -0.031 | *** | — | | |
| | p-value | 0.481 | | < .001 | | < .001 | | < .001 | | — | | |
| | N | 30801 | | 30801 | | 30801 | | 30801 | | — | | |
| ordfreq | Pearson's r | 0.011 | | 0.036 | *** | 0.039 | *** | 0.062 | *** | 0.060 | *** | — |
| | p-value | 0.058 | | < .001 | | < .001 | | < .001 | | < .001 | | — |
| | N | 30801 | | 30801 | | 30801 | | 30801 | | 30801 | | — |

**Regression**

Model Fit Measures

| Model | R | R² | Overall Model Test | | | | |
|---|---|---|---|---|---|---|---|
| | | | F | df1 | df2 | p | |
| 1 | 0.0669 | 0.00448 | 138 | 1 | 30791 | < .001 | |
| 2 | 0.7540 | 0.56852 | 20285 | 2 | 30790 | < .001 | |

Model Comparisons

| Comparison | | | | | | |
|---|---|---|---|---|---|---|
| Model | Model | ΔR² | F | df1 | df2 | p |
| 1 | - | 2 | 0.564 | 40250 | 1 | 30790 | < .001 |

**INTERPRETATION**

The p-value indicates the correlation's significance. A statistically significant correlation is shown by a p-value less than .05. This means that the results are unlikely to be the result of chance. The significance level is denoted in the table by an asterisk (*), with *** denoting p .001, ** denoting p .01, and * denoting p .05

**CONCLUSION**

The analysis leads to the conclusion that customer retention and open rates are important indicators of how many emails will be sent throughout an email marketing campaign. The number of emails sent and the open rate were shown to be negatively correlated, while the number of emails sent and client retention were found to positively correlate. These results underline how crucial it is to keep an eye on open rates and client retention in email marketing strategies because they have a big impact on how successful an email marketing campaign is overall. Businesses can effectively boost the number of emails sent and enhance their entire marketing efforts by concentrating on increasing these KPIs.

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## A STUDY ON IMPACT OF BIG FIVE MODEL ON EMPLOYEE SURVIVAL

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*ABSTRACT*

This study aims to investigate the Big Five Model's effects on employee survival analysis. Extraversion, Independence, Anxiety, Self-Control, and Novator were the factors evaluated. The Big Five Model was employed as the theoretical contribution. To test the data that were gathered to determine the impact of the big five model on employee survival analysis, secondary data was collected among the employee turnover data. Percentage analysis, correlation analysis, regression, descriptive analysis, and one-way anova were the data analysis techniques used.

According to the study's findings, extraversion and independence are positively and significantly related to employee survival analysis. It is also suggested that extraversion, independence, self-control, anxiety, and Novator are the most important factors in determining employee survival analysis, with employee turnover serving as a dependent variable.

Employee turnover should focus more on personality qualities to make it easier and to grasp the correct match for employee survival, according to the study's findings, which were limited to looking at the impact of the big five model on employee survival analysis. Extraversion and self-control findings were also conducted, indicating that the big five model could be used to analyse the effects of the big five model on employee survival. This project also successfully extended the big five model by including extraversion, independence, self-control, anxiety, and neuroticism.

**Key words:** Extraversion, Independent, Novator, Self-Control, Anxiety, Employee Turnover

## I. INTRODUCTION

To detect potential dangers, provide a way to track employees leaving your business or organization, and identify potential hazards, a study was done. Based on the quantity of fired employees and the sample size that was still in existence at the time, it also determines the likelihood that a termination will occur. The demand on human resources departments to develop and launch new initiatives is great. As a result, extensive research has focused on employee survival analysis to understand the factors that determine employee survival and track the movements of the employee. utilizing formulaic methods such as one-way anova, descriptive, correlational, and percentage.

Investigating the elements linked to the various patterns of employee survival analyses that have been noticed is another option. This study is also intended to contribute to the use of the Big Five Model's influence on employee survival analysis. Demographic variables like extraversion, independence, self-control, anxiety, and novation as well as dependent variables like employee turnover are examined for their relationship to employee survival analysis. This study aims to highlight the new information acquired whenever the duration of survival is used as the foundation for comprehending the principles underlying employee survival analysis. It also seeks to identify the influence of the Big Five Model on employee survival analysis by predicting the variables that will have an impact on it are dependent variables.

To make the most use of human resources, it is crucial to match employees' knowledge, skills, and abilities with their allocated positions within the company. Human resources are seen as a key source of growth for enterprises. Independent variables are those that were employed in this investigation. Extraversion, independence, restraint, worry, and dependent variable: Employee churn.

This study's primary goal is to quantify the effects on employee survival analysis. The primary critical duty is to monitor employee mobility, forecast termination calculations, estimate interpretive survival, and evaluate the relationship between the variables and employee survival analysis.

## II. REVIEW OF LITERATURE

**Belen Mesurado, Marshall Valencia, Maria Cristina Richaud 2014** used correlation as an analytical technique to conduct research on extraversion's nature, growth, and impacts on psychological health and work life.

The key terms from this study that examine the effects of extraversion on personality traits, health behaviours, subjective well-being, and positive psychological development are gregariousness, excitement-seeking, positive affect, personality trait, age and gender, mental health and work leadership, work engagement and involvement. The empirical data from this study will be used to evaluate the relationship between extraversion and work life as well as extraversion's influence on several areas of psychological health and work life. The study found that sociability, which is characterised by a need for excitement and pleasant social interactions, is also viewed as a major component of extraversion.

**Olivia Remes, Carol Brayne, Rianne van der Linde, and Louise LaFortune 2016** used a descriptive analysis tool to review the prevalence of anxiety disorders in adult populations. Medline, PsycInfo, Embase, PRISMA Methodology, and Manual Citation are the key words used in this study to assess the prevalence of anxiety disorders in adult populations. This study investigates the relationship between a systematic methodology and a comprehensive synthesis of the various findings from systematic reviews on the global burden of anxiety. Anxiety disorders, which are largely based on anxiety disorders, are becoming more and more recognised as important global contributors to poor health.

**Santiago Amaya 2020** did research on human self-control. The essential terms utilised in this study are self-control, human motivation, behaviour, self-regulation, and personality, which aid in understanding the structure and dynamics of human motivation in self-control. This study has focused on self-control as a window for thinking about self-regulation and continuous goal pursuit to better understand the structure and dynamics of human motivation. According to the poll, self-control is an important factor in effective self-management. It's also noteworthy to note how self-control relates to other psychological abilities and character qualities.

**Jacqueline Tingo, Samwel Mseti 2022** conducted a study on employee independence on employee performance, particularly on job involvement, work team autonomy, and on individual employees. The study's key words were "employee independence," "employee performance," "job involvement," and "access to information." Descriptive, correlational, regression, standard deviation, mean, and frequency analysis tools were used for the study's analysis. This study's findings make it possible to analyse how strongly significant and beneficial employee independence was to employee performance.

**Dr. M. Safdar Rehman were conducted in 2012** study on staff employee turnover and retention strategies as well as an empirical analysis of public sector organisations by Turnover, job retention, public sector organisations, and human resource management were the terms used in the investigation, which used regression analysis. This study examines the main causes of employee turnover in several public sector regulatory organisations. This study's objectives are to identify the major factors affecting public sector regulatory organisations and to suggest employee retention strategies. The study, according to the survey, reinforced the idea that the public sector, especially in the regulatory bodies, has a high rate of turnover. Additionally, it assisted in enhancing HR policies and procedures.

### OBJECTIVES

- Understanding the big five model extroversion-related factors, independence, anxiety, self-control, and neuroticism. Analyzing employee survival strategies and tactics. To analyze employee survival strategies and techniques.
- To investigate the link between the key elements of the Big Five Model and employee survival.
- To examine how the big five determinants affect employee survival.
- Percentage analysis, descriptive analysis, correlation analysis, and regression analysis are some of the statistical tools employed.

### HYPOTHESIS

**01.** H0: There is no significant relationship between big five factors and employee survival.

H1: There is a significant relationship between big five factors and employee survival.

**02.** H0: There is no significant impact of big five model factor on employee survival factors.

H1: There is a significant impact of big five model factor on employee survival factors.

## III. DATA AND METHODOLOGY

### RESEARCH DESIGN

The current study's research design makes use of descriptive research to reflect current business circumstances. It serves as a foundation for choosing the methods and research approaches to apply in a study. Researchers can fine-tune the study methods most effective for the subject thanks to this framework. The fact that the researcher has no control over the variables is this method's main flaw. You can only report what happened.

**SIZE OF THE SAMPLE:** 1131

### TOOLS FOR STATISTICS USED

Percentage Analysis, Correlation, Regression, One -way Anova.

## IV. DATA ANALYSIS AND FINDINGS

**Correlation Matrix**

|  |  | Extraversion | Independent | Self-Control | Anxiety | Novator | Experience |
|---|---|---|---|---|---|---|---|
| Extraversion | Pearson's r | — | | | | | |
|  | p-value | — | | | | | |
|  | N | — | | | | | |
| Independent | Pearson's r | -0.189 | — | | | | |
|  | p-value | < .001 | — | | | | |
|  | N | 1129 | — | | | | |
| Self-Control | Pearson's r | -0.522 | -0.165 | — | | | |
|  | p-value | < .001 | < .001 | — | | | |
|  | N | 1129 | 1129 | — | | | |
| Anxiety | Pearson's r | -0.136 | -0.420 | -0.104 | — | | |
|  | p-value | < .001 | < .001 | < .001 | — | | |
|  | N | 1129 | 1129 | 1129 | — | | |
| Novator | Pearson's r | 0.285 | 0.029 | -0.535 | 0.240 | — | |
|  | p-value | < .001 | 0.334 | < .001 | < .001 | — | |
|  | N | 1129 | 1129 | 1129 | 1129 | — | |
| Experience | Pearson's r | -0.153 | 0.064 | 0.038 | 0.057 | 0.044 | — |
|  | p-value | < .001 | 0.031 | 0.201 | 0.054 | 0.143 | — |
|  | N | 1129 | 1129 | 1129 | 1129 | 1129 | — |

**Regression**

Model Fit Measures

| Model | R | R² | Overall Model Test | | | |
|---|---|---|---|---|---|---|
| | | | **F** | **df1** | **df2** | **p** |
| 1 | 0.232 | 0.0514 | 7.92 | 36 | 1291 | <.001 |

BROAD ANOVA TEST

| | **Sum of Squares** | **df** | **Mean Square** | **F** | **p** |
|---|---|---|---|---|---|
| Independent | 73.3 | 9 | 8.14 | 6.98 | <0.002 |
| self-control | 68.3 | 9 | 7.58 | 7.65 | <0.004 |
| Anxiety | 70.67 | 9 | 7.32 | 5.87 | <0.003 |
| Novator | 72.16 | 9 | 6.86 | 6.14 | <0.003 |
| Residuals | 190.208 | 1459 | 2.365 | | |

## Analysis and Interpretation:

Omnibus Anova Test: The independent P value is 0.002, which is less than 0.05, and the F value is 6.98, which is greater than 2.56, both of which are significant. The value of 0.004 for self-P control is less than 0.05 and is noteworthy. Its F value of 7.65, which is higher than 2.56, is also noteworthy. The F value of 5.87, greater than 2.56, and the P value of 0.003, less than 0.05, both show that anxiety is significant. The Novator P value is significant at 0.003 (higher than 0.05), and the F value is significant at 6.14. (>than 2.56).

## V. CONCLUSION

According to the study's findings, implementing new technology can both minimise and cause a drop in the impact of staff turnover. Good HR managers consider how their organisation and company profit will be impacted by employee survival analyses. IT-related HR professionals must be adaptable and approach employees to determine what factors are affecting employee turnover. HR managers must also communicate with employees in a highly skilled manner. To sustain and lessen the influence of employee survival analysis and to achieve the highest possible profit in the process, the big five model's impact on employee survival analysis must be lessened.

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5. Rehman, Dr.M. Safdar Employee Turnover and Retention Strategies an Empirical Study of Public Sector Organizational of Pakistan.

## PREDICTION OF EMPLOYEE ATTRITION USING IBM DATA

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*ABSTRACT*

*Attrition is a serious problem and is now quite high in the sector. It is the main issue that stands out in all companies. Despite the fact that the term "ATTRITION" is often used, many people are unable to understand what it truly is. "Attrition is defined as the gradual loss of workers due to retirement, resignation, or death. It may also be referred to as employee turnover or employee defection. When a skilled and well-adapted employee departs from the company, a gap is left behind. As a result, the company loses important contacts, expertise, and abilities. Modern managers and people administrators are very interested in lowering attrition in the business in a way that will support the organization's growth, development, and effectiveness to the fullest.*

*Keywords: Job involvement, Job satisfaction, Performance rating, Relationship satisfaction, Environment satisfaction, Work-life balance and Attrition*

**INTRODUCTION:** Employee attrition continues to be one of the major problems in today's organizational structure, despite a number of changes in the external environment. Attrition will unavoidably happen in every company. According to the definition of employee attrition, this natural process causes a moderate loss of staff, employees through retirement, voluntary departure, and death. Therefore, they are not immediately replaced. Certain forms of attrition, as when an employee retires or relocates, cannot be avoided. However, at a certain point, attrition has the capacity to seriously harm an organisation. An organisation experiences a void when a talented and well-adapted employee departs the company for whatever reason.

**Objectives of the study:**

• TO analyze job involvement, job satisfaction, performance rating, relationship satisfaction, and work-life balance, environment satisfaction.

• To analyze attrition strategies followed by IBM company.

• To study the relationship between relationship satisfaction, job involvement, job satisfaction, performance rating, environment satisfaction, work-life balance, and attrition.

• To study the impact of the relationship between job satisfaction, job involvement, environment satisfaction, performance rating, relationship satisfaction, and work-life balance on attrition.

**Literature Review:**

| SL NO | AUTHOR'S NAME | JOURNAL NAME | BRIEF |
|---|---|---|---|
| 1 | Fr.Reginold John | Archaeology of Egypt/Egyptology | From the study, it was discovered that there is a clear link between employee engagement and work satisfaction and that there is a direct link between employee engagement and employee attrition. This study's weakness is that it only included 150 people in its sample and that its population was restricted to Kerala. Variables including leadership, organizational commitment, supervisor support, and perceived organizational support may be included in a future study. |
| 2 | Tiiu Kamdron | Organizational Psychology | Menon's Empowerment Scale, the Job Crafting Scale, and the Kanungo Job Involvement Scale. Means, standard deviation, and correlation are research tools. results of the research, Results supported the central theory that JI serves as a lone mediator between PE and JC. Important partial mediations were discovered via a bootstrapping analysis. |
| 3 | Shikha Rana | International Journal of Organizational Analysis | The study's findings confirmed links that had been theorized since PA justice in India strongly predicted bank workers' AC. For senior employees and female employees, respectively, the moderating effects of age and gender on the link between PA justice and AC are shown to be significant. Since the current study was cross-sectional, there are few conclusions that can be drawn about causation. |
| 4 | Neha Agrawal | Journal of Positive School Psychology | The study shows the review result about occupation turnover aim, which is discovered that 77% (293) women professionals react that they didn't prepare for occupation turnover expectation, and 23% (87) women professionals respond that they are preparing for occupation turnover aim in the situation of work-life balance. |
| 5 | Dr.B.Latha Lavanya | International Journal of Business and Management Invention | Calculating staff attrition in the firm is the primary goal. Analysis of the effect of demographic parameters on attrition is one of the secondary objectives. Regression, T-test, and Chi-square are the tools utilized. There is no statistically significant difference between the components' dimensions as a predictor of employee attrition. Age, gender, and the cause of attrition are all significantly different demographic factors, and H0 is rejected. Only 100 observations have been included by the researcher. For generality, the results should be validated using a large sample. |

## DATA AND METHODOLOGY

Descriptive research is used to describe the most recent conditions in the company, whereas Analytical research is used to analyze the data by applying research tools.

### Hypothesis of the study:

1. H0: There is no significant relationship between relationship satisfaction, job satisfaction, environment satisfaction, performance rating, job involvement, work-life balance and attrition.

H1: There is a significant relationship between relationship satisfaction, job satisfaction, environment satisfaction, performance rating, job involvement, work-life balance and attrition.

2. H0: There is no significant impact between relationship satisfaction, job satisfaction, environment satisfaction, performance rating, job involvement, work-life balance and attrition.

H1: There is a significant impact between relationship satisfaction, job satisfaction, environment satisfaction, performance rating, job involvement, work-life balance and attrition.

## DATA ANALYSIS AND FINDINGS

**Correlation Matrix**

| | | Attrition | Work-life balance | Relationship satisfaction | Environment Satisfaction | Job Involvement | Job satisfaction | Performance rating |
|---|---|---|---|---|---|---|---|---|
| Attrition | Pearson's r | — | | | | | | |
| | p-value | — | | | | | | |
| Work-life balance | Pearson's r | -0.063 | — | 0.020 | | | | |
| | p-value | 0.015 | — | 0.453 | | | | |
| Relationship satisfaction | Pearson's r | -0.047 | 0.020 | — | | | | |
| | p-value | 0.072 | 0.453 | — | | | | |
| Environment Satisfaction | Pearson's r | -0.106 | 0.028 | 0.008 | — | | | |
| | p-value | < .001 | 0.290 | 0.769 | — | | | |
| Job Involvement | Pearson's r | -0.129 | -0.015 | 0.034 | -0.008 | — | | |
| | p-value | < .001 | 0.576 | 0.189 | 0.751 | — | | |
| Job satisfaction | Pearson's r | -0.101 | -0.019 | -0.012 | -0.007 | -0.021 | — | |
| | p-value | < .001 | 0.456 | 0.633 | 0.795 | 0.411 | — | |
| Performance rating | Pearson's r | 0.002 | 0.003 | -0.031 | -0.030 | -0.029 | 0.002 | — |
| | p-value | 0.936 | 0.922 | 0.230 | 0.258 | 0.265 | 0.930 | — |

**Regression**

Model Fit Measures

| model | R | R² | overall model test | | | |
|---|---|---|---|---|---|---|
| | | | F | df1 | df2 | p |
| 1 | 0.227 | 0.0514 | 7.91 | 10 | 1459 | < .001 |

omnibus ANOVA Test

| | Sum of Squares | df | Mean Square | f | p |
|---|---|---|---|---|---|
| Environment Satisfaction | 3.101 | 3 | 1.034 | 7.97 | < .001 |
| Job Involvement | 3.985 | 3 | 1.328 | 10.24 | < .001 |
| Job satisfaction | 2.517 | 3 | 0.839 | 6.47 | < .001 |
| Work-life balance | 0.796 | 1 | 0.796 | 6.14 | 0.013 |
| Residuals | 189.208 | 1459 | 0.130 | | |

**INTERPRETATION**

The work-life balance p = 0.015 which is < 0.05 it is significant. The relationship satisfaction p = 0.072 which is > 0.05 it is not significant. Environment satisfaction p = 0.01 which is <0.05 it is significant. Job Involvement p = 0.01 which is < 0.05 it is significant. Job Satisfaction p = 0.01 which is <0.05it is significant. The performance Rating p = 0.936 which is > 0.05it is not significant.

**CONCLUSION**

According to the findings of the study, to reduce the attrition rate in the organization they should use new, innovative technologies and efficient training methods which provide employees to improve in the organization. Any smart HR manager is aware that an effective staff retention strategy depends on employee satisfaction. The effect that employee happiness has on consumers and, ultimately, company profits. In order to grow, inspire, and keep their talent pool, HR professionals in firms must be flexible in their methods.

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## A STUDY ON EMPLOYEE RETENTION STRATEGIES ON ORGANISATIONAL PERFORMANCE

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*ABSTRACT*

Employee retention is a driving factor because employees' knowledge, talents, competences, and capacities are critical to a company's capacity to remain financially stable and competitive. The unprecedented nature of business, which is characterized by a dynamic working environment, a rapidly changing global economy, technology-driven business, and cutthroat competition, has resulted in the creation of more and more avenues and opportunities for employees while also posing a challenge to organizations in attracting, developing, and retaining their employees. Employee retention is a process of techniques and strategies used by organizations to induce their employees to stay and remain in the organization for the longer-term productivity and growth in terms of high sales, customer satisfaction, and so on, which is attributed to the organization's ability to retain their human capital.

**Keywords:**

Job Satisfaction, Leadership styles, Organizational politics, Workplace accident, stress and fatigue, unsafe act, machinery and tools, design of workplace, training procedures.

## I. INTRODUCTION

In the current environment, human resources are seen as a strategic partner rather than a support role because employees are an organization's most valuable resource. A corporation has a responsibility to effectively manage the talent within its employees in order to meet its goals. The workforce of today is dynamic and diversified. Not just them, but many others also lack respectable opportunities. As soon as they become dissatisfied with their current employer or position, they change occupations. Employers have an obligation to retain their best employees. If they didn't, they would be left without any respectable employees. An effective employer knows how to attract and keep talent. Retaining employees means trying to keep them on board for as long as feasible. Keeping employees is a big problem for businesses nowadays. For every business, hiring knowledgeable employees is essential. However, hiring is not as important as retention. A talented person has no shortage of opportunities. Many businesses are looking for these workers. Management has expressed serious concern about the retention of skilled individuals in the service industry on a global scale. This development has greatly changed how human resource managers recruit quality candidates for their companies and implement retention strategies.

## II. REVIEW OF LITERATURE

**Athar Waqas, Umair Bashir, Imtiaz Hussain, (2014),** conducted a study on factors influencing job satisfaction and its impact on job loyalty. The study's purpose is to determine the level of job satisfaction, its impact on loyalty, and the factors that influence it to order to help efficient and successful management systems in developing countries. This study indicates to managers how employee job satisfaction may boost an organization's efficiency and effectiveness. Tools used in this study is regression. There is no positive relationship between job satisfaction and job loyalty. There is also a positive relationship between job satisfaction and job loyalty. Organizations must develop structured, incentive-based reward systems to boost employee engagement. Job satisfaction may be influenced by the physical environment in which one works. Job satisfaction is a generally recognized criterion for the performance of any firm; the study focuses on job satisfaction and its affecting aspects, as well as the relationship to job loyalty.

**Tala Helmi, Malak Abunar, (2021),** conducted a study on the impact of job satisfaction on employee job performance, to investigate the relationship between job performance and job satisfaction and also to understand job satisfaction from the standpoint of employees. A basic percentage analysis is been used in this research. The respondents are qualified and have adequate work experience to defend their initial decision based on job performance and job satisfaction. Each firm must build its own common variable among its employees to ensure that its employees remain motivated and perform well.

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**Sujatha, S, (2021),** conducted a study on the impact of work environment on employees' job satisfaction in Bharat Heavy Electricals Limited HPVP Visakhapatnam AP, to investigate the link between demographic characteristics, work environment, and job satisfaction, also to evaluate the influence of the workplace on employee performance. Research the necessity for and importance of a work environment, as well as employee job satisfaction. Cronbach's alpha is the analysis used in this research. There are no significant differences between the level of satisfaction of employees in the organizational work environment. There are significant differences between the level of satisfaction of employees in the organizational work environment.

**Noorul Huda Zakaria, Norudin Mansor, Zalinawati Abdullah, (2012),** conducted a study on workplace accidents in Malaysia: Most common cause and solutions to determine the factors that lead to workplace accidents among workers. It also investigates the association between individual characteristics such as stress and weariness, as well as risky behaviours, and workplace accidents among workers. Chi-Square Test, Correlation Coefficient, and Multiple Regression Analysis are the analytical tools utilized.

**Michael Gibbs, Christoph Siemroth, (2022),** Work from home & productivity: Evidence from personnel & analytical data on IT professionals is the research paper conducted by the researcher, understanding the flexibility of working hours in terms of working from home versus working from the office. To compare the productivity of WFH with WFO. To analyse WFH productivity job features. Analytical tools are Correlation and Regression. Employees were less pleased under WFH, but they still wanted to achieve the same output or goals, thus they worked longer until the same output was achieved.

## OBJECTIVES

- Assess in order to aid effective and prosperous management systems in developing nations, we must understand quality of work life, its impact on commitment, and the variables that affect it.

- To examine how staff retention methods, affect different aspects of organizational performing's.

- To examine a connection among workplace efficiency and contentment at work.

- To research the link between corporate performance and staff retention tactics.

## HYPOTHESIS

**H0:** There is no significant difference in a link between corporate performance and factors like customer satisfaction, current mean duration worked, advancement and workplace mishap.

**H1:** there is a significant difference in a link between corporate performance and factors like customer satisfaction, current mean duration worked, advancement and work place mishap.

## III. DATA AND METHODOLOGY

### RESEARCH DESIGN

To provide a critical evaluation of the material, the researcher must evaluate already-existing facts or information. It involves a detailed analysis and evaluation of the information at hand in an effort to explain complex events.

### STASTISTICAL DESIGN

This type of unique study is used for now. This strategy is relevant given that the study discusses the challenges and barriers that organizations have when trying to come up with creative strategies to keep employees around for an adequate amount of time. This study examined how employee retention strategies affected in company performing. The goal of this descriptive response important aspects through phenomenon from the perspective of a specific individual, organization, or enterprise, of interest. Correlation and regression.

**Size of sample:** 15000

### TOOLS FOR STATISTICS USED

Percentage Analysis, Correlation, Regression, Score of Mean.

**IV. DATA ANALYSIS AND FINDINGS**

**REGRESSION**

**Hypothesis:**

**H0:** There is no significant difference in a link between corporate performance and factors like customer satisfaction, current mean duration worked, advancement and workplace mishap.

**H1:** there is a significant difference in a link between corporate performance and factors like customer satisfaction, current mean duration worked, advancement and work place mishap

<p align="center">Table -1</p>

**Model Fit Measures**

**Overall Model Test**

| Model | R | R² | Adjusted R² | F | df1 | df2 | p |
|---|---|---|---|---|---|---|---|
| 1 | 0.0704 | 0.00496 | 0.00476 | 24.9 | 3 | 14995 | < .001 |

<p align="center">Table -2</p>

**Omnibus ANOVA Test**

| Sum of Squares | | df | Mean Square | F | p |
|---|---|---|---|---|---|
| satisfaction level | 6.154 | 1 | 6.154 | 49.98 | < .001 |
| average_montly_hours | 0.146 | 1 | 0.146 | 1.18 | 0.276 |
| promotion_last_5years | 2.640 | 1 | 2.640 | 21.45 | < .001 |
| Residuals | 1846.145 | 14995 | 0.123 | | |

<p align="center">Table -3</p>

**Durbin–Watson Test for Autocorrelation**

| Autocorrelation | DW Statistic | p |
|---|---|---|
| 0.0160 | 1.97 | 0.062 |

<p align="center">Table - 4</p>

**Collinearity Statistics**

| | VIF | Tolerance |
|---|---|---|
| satisfaction level | 1.00 | 0.999 |
| average_montly_hours | 1.00 | 1.000 |
| promotion_last_5years | 1.00 | 0.999 |

**Analysis and interpretation:**

**Omnibus ANOVA Test**

**Satisfaction level:** It can be seen from the preceding table that 0.1 is the value of P, which is lower of 0.5. Therefore, it's important. The value of F is more than 2.56, is 49.98.

**Monthly hour in average:** It can be seen from the following table that the p value is 0.276, which is higher than 0.05. As a result, it is not important. 1.18 is the F value, which is lower than 2.

**Last 5 years in promotion:** It can be seen from the preceding table that the value of P is 0.1, which is below 0.05. Therefore, it's important. The value of F is larger than 2.56 and is 21.45.

**Model fit measures:** It can be seen from the preceding table that the p value is 0.001, which is lower than 0.05, and is therefore significant. It can be seen from the following table that the F value is 24.9, which is higher than 2.56, the R2 value is 0.00496.

**FINDINGS**

- The majority of respondents stated that their previous promotion had been five years ago.
- According to the report, 48.8% of "reward" low pay.
- According to the statistics, 76.2% of the workforce has departed the business.
- According to the report, 29.1% of the staff are working on four different tasks.
- There is no significant difference in a link between corporate performance and factors like customer satisfaction, per month duration worked, updated, task activities.
- There would be significance variation in a link between corporate performance and factors like customer satisfaction, average monthly hours worked, promotion, and work accident.

**V. CONCLUSION**

According to the study's findings, the workplace environment aided employees in meeting employee goals and improved performance. Many employee retention tactics could aid in lowering turnover and creating a welcoming environment. Staff retention can help a company achieve its strategic objectives and may reduce the costs related to staff turnover. Retention can be enhanced by remuneration, workplace environment, and interaction in particular, and this has a positive effect on organizational performance.

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# A STUDY ON EFFECTIVENESS OF NON-MONETARY BENEFITS ON EMPLOYEE PERFORMANCE IN AN ORGANISATION

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## ABSTRACT

*Non-monetary benefits is a concept that has become an integral aspect of modern living of employees. Irrespective of the age, gender and designation all the employees are in the expectation of some or the other benefits from their employer. The work-life balance, additional leave, allowance, appraisals, recognition, schedule, utilities, and child care alternatives are all things that Indian businesses are seeking to provide. The objectives of this study is to find the different types of non-cash benefits being provided and to understand the level of job satisfaction among employee through non-monetary benefits. The study was analyzed by using IBM SPSS software the statistical tools used were correlation and chi-square. The sample size is of 105. To collect the data questionnaire with 5 Likert scale was used. According to the findings it is found that 16.2% of the respondents are strongly agreeing that non-cash awards engaging their better performance and 5.7% are strongly disagreeing.*

*Keywords: Non-monetary benefits, Employee performance, recognition, appraisals, motivation.*

## INTRODUCTION:

An organisation's most important asset is its employees, so the organisation's challenge is to increase employee performance and motivation. These kinds of significant rewards can keep employees connected and motivated to their job. The comfortable environment created by the organisation goes a long way in promoting employee engagement and engagement work conscientiously and honestly.

Employee performance is directly influenced by monetary rewards, and organizations also offer non-monetary incentives to employees to boost their motivation, which in turn will help them perform better and increase the company's productivity. Effective non-monetary rewards have the power to alter an individual's attitude in the workplace, resulting in a positive environment shift and improved employee performance. Employees become engaged and feel more committed to the organization when they have a positive attitude toward their work.

Effective performance has traditionally been viewed as the result of the collaboration between individual capability and inspiration, with evaluating performance and rewarding rewards at the forefront of firms' management of individual performance. The development of the organization is heavily influenced by employee performance. Employee performance is influenced by the type of reward policies offered by an organization. Employee performance is improved through a variety of means. One of the most important practices in human resources is the implementation of reward policies.

## OBJECTIVES OF THE STUDY:

- ➢ To study the impacts of non-monetary rewards on employee performance.
- ➢ To identify different types of non-financial incentives offered to employees.
- ➢ To understand the level of job satisfaction among employee through non-monetary benefits.

## LIMITATIONS OF THE STUDY:

- Sample size was limited to only 100 respondents.
- We did not have a direct conversation rather it happened in an online mode.

## REVIEW OF LITERATURE:

| AUTHOR | YEAR | FINDINGS |
|---|---|---|
| Linda O. Okereke, Baleche Asha | 2022 | This paper states that non-financial rewards such as employee appreciation flexible working hours and learning and development have a specific influence on employee achievement in the company. And they examine that staff work at Mount Meru Referral hospital in Arusha, Tanzania. Subsequent parallelism composition used to bring out the study. While the sample size is 188 people including 8 operators. The application of flexible employed hours is presently being applied at the hospital must be maintained to do the activity effectively. |
| Abdulkhaleq Nader Qader | 2021 | This study aimed to analyse the result of non-financial benefits and job surroundings on worker's job satisfaction. To realize the purpose of this, work the researchers used analytical descriptive approach and SPSS. The output indicates that there's an effective vital relationship between the variables involved, and it also says that non-financial benefits are absolutely related to with work performances. Additional findings from this study, which are related to previous findings from the many articles reveals that both work output and non-monetary rewards are correlated to each other. |
| Amar Kumar Chaudhary, Snigdha Ghosh | 2017 | The goal of the study was to determine how non-financial and financial incentives affected the agents at LIC of India. To highlight the variations in employee perceptions about job satisfaction and incentives. The outcome of this study reveals a striking similarity and also indicated that a substantial correlation between financial and non-financial rewards and improved work performance. |

**RESEARCH METHODOLOGY:** Data was collected using questionnaire through electronic media with 5 point Likert scale, ranging between1-5. The sample size used for the survey was

105. The statistical tool used was SPSS. And the tests used was descriptive analysis, correlation and chi-square.

## DATA ANALYSIS AND INTERPRETATION

### Table 1: MARITAL STATUS

| SL. NO | PARTICULARS | FREQUENCY | PERCENTAGE OF RESPONDENTS |
|--------|-------------|-----------|---------------------------|
| 1. | Married | 28 | 26.7% |
| 2. | Single | 77 | 73.3% |
| | **Total** | 105 | 100% |

**INTERPRETATION:** The above table and graph, it shows us that out of 105 respondents there ae 26.7% of married respondents and 73.3% of them are single.

### Table 2: It is good to give non-Monetary benefits to encourage employee performance

| SL. NO | PARTICULARS | FREQUENCY | PERCENTAGE OF RESPONDENTS |
|--------|-------------|-----------|---------------------------|
| 1. | Strongly disagree | 8 | 7.6% |
| 2. | Disagree | 4 | 3.8% |
| 3. | Neutral | 29 | 27.6% |
| 4. | Agree | 42 | 40% |
| 5. | Strongly agree | 22 | 21% |
| | **Total** | 105 | 100% |

**INTERPRETATION:** From the table and graph, it expresses that 21% of the respondents are strongly agreeing and 7.6% of them are strongly disagreeing the statement.

## INFERENTIAL ANALYSIS

### Analysis 1: Correlation

$H_0$: There is no significance relationship between non-monetary rewards and the quality of work in employees of an organization.

$H_1$: There is a significance relationship between non-monetary rewards and the quality of work in employees of an organization.

| VARIABLES | | QUALITY OF WORK |
|-----------|--|-----------------|
| Non-monetary rewards | Pearson Correlation | 0.154 |
| | Sig (2-tailed) | 0.117 |
| The quality of work done in the recent and past as a result of non-monetary reward | Pearson Correlation | 0.154 |
| | Sig.(2-tailed) | 0.117 |

**Interpretation:** Since the P value is greater than 0.05, $H_0$ is accepted at 5% level of significance, hence we can conclude that there is no significance relationship between non-monetary rewards and the quality of work in the recent and past as a result of non-monetary reward.

## ANALYSIS 2: Chi-square test

$H_0$: There is no significance association between age and income level of employees in an organization.

$H_1$: There is a significance association between age and income level of employees in an organization.

| Age : * Income level Cross tabulation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Income level | | | | | Total | CHI-SQAURE | P-Value |
| | | Below 20000 | 20000-40000 | 40000-60000 | 60000-80000 | 80000 & above | | | |
| below 25 | Count | 42 | 22 | 6 | 0 | 0 | 70 | | |
| 25-35 | Count | 5 | 10 | 5 | 0 | 0 | 20 | | |
| 35-45 | Count | 0 | 3 | 5 | 2 | 2 | 12 | 58.657 | 0.000 |
| 45-55 | Count | 0 | 1 | 1 | 0 | 1 | 3 | | |
| Total | Count | 47 | 36 | 17 | 2 | 3 | 105 | | |

**Interpretation**: Since the p value is 0.000 which is less than 0.05, hence $H_0$ is rejected and $H_1$ is accepted with the chi-square value of 58.65 and can be interpreted as there is a significant association between age and the income level of the employee in an organization.

**FINDINGS:**

**1.** Out of 105 respondents, 48.6% are male and 51.4% are female.

**2.** The analysis reveals that, 66.7% of respondents are falling below 25 age group and 2.9% are between 45-55 age group.

**3.** 61.9% of the respondents are PG qualified and 3.8% are other Qualification.

**4.** It is found that 79% are having 0-5 year of experience and 1% are having 15-20 years of experience.

**5.** 12.4% of the respondents are strongly agreeing on their job responsibilities are interesting and encouraging because of non-cash benefits such as allowances, sick leaves, flexible working hours, etc. and 3.8% are strongly disagreeing.

**CONCLUSIONS:** Non-monetary rewards have great impact on employee performance in an organization. Different types of non-financial incentives offered to employees will motivate and increase their level of job satisfaction and increase their capacity and productivity. The monetary rewards can be replaced by moral incentives, it can cause and affect people to change the norms they perceive as bad or good decision. Extreme financial rewards can tempt people to get into unethical practices. But, not all employees will expect or be motivated through the non-cash rewards.

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## A STUDY ON RETAILOR SATISFACTION TOWARDS SUGUNA POULTRYFARMING

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**ABSTRACT**

*The **meat production industry** is a vital part of the Indian agricultural setup. According to a research, meat production in India is estimated at 6.3 million tons annually and **is ranked 5th in the world in terms of production volume.** India is responsible for 3% of the total meat production in the world. The nation has the world's largest population of livestock at about 515 million. T**he meat industry** handles the slaughtering, **processing**, packaging, and distribution of animals such as poultry, cattle, pigs, sheep and other livestock. While India has an abundant supply of meat, the meat processing industry is still emerging. Meat processing covers a spectrum of products from sub-sectors comprising animal husbandry and poultry farms, to bulk frozen meat, chilled and deli meat, packaged meat, and ready-to-eat processed meat products. In the present scenario, there is a large scope for meat processing in poultry as well as in red meat. In fact, the poultry industry has made considerable progress by developing and marketing value-added products. India exports more than more than 7,000 metric tons of poultry meat to other countries. Livestock trading in India is regulated by the state governments. India has the lowest per capita meat consumption in the world. It was just **5.6 kg in 2013, whereas the global average was 33.2 kg in that year**. The Indian meat market mostly focuses on fresh meat; frozen meat is mostly exported.*

*This study aims to understand how the retailors are satisfied towards the Poultry industry. It has been conducted by collecting relevant data from the questionnaire (Primary Data) and analysing the responses directly from the Retailors of Suguna brand. The project report deals with the introduction, and various literature review, data analysis and interpretation, findings, suggestions and conclusion for the retailor satisfaction.*

*Keywords: Retailor satisfaction , Poultry Farming , Suguna Brand*

## INTRODUCTION:

The meat industry refers to hens reared for their flesh as "broiler" chickens, and they are often housed in enormous, windowless buildings that can accommodate tens of thousands of birds. This close quarters encourage sickness and squalor, and many of the birds experience severe health issues due to being forced to breathe ammonia and particulate matter from faeces and feathers all day long. Consumer Reports discovered that 2/3 of the chicken flesh examined wascontaminated with either salmonella, campylobacter, or both. Subtherapeutic doses of antibiotics are given to factory-farmed animals as "growth boosters." People who handle or eat sick meat come into touch with antibiotic-resistant bacteria as a result of feeding animals low dosages of antibiotics. Types of Poultry include Plymouth Rock, Wyandotte, Rhode Island Red, and New Hampshire, as well as the Asiatic Brahma, which is popular for its meat and brown eggs. Suguna Poultry Farming is a private business in India that produces top quality chicken meat and eggs.

It has numerous branches around India and its headquarters are in Udumalplet, Tamil Nadu. Their net income is 1.8 billion and their goal is to provide as many retailers and consumers with good quality chicken meat as possible. They give 8-10 rupees per kilogramme and form a contract with the farmers for delivery of chicken meat of acceptable quality

## OBJECTIVES OF THE STUDY:

❖ To Study the Retailors Satisfaction on Suguna Poultry Chicken .

❖ To know the performance in terms of quality with reference suguna chicken industry .To determine the pricing Strategy adopted by Suguna Chicken industry compared to others Chicken industry .

**LIMITATIONS OF THE STUDY:**

❖ The process of data collection was time-consuming.

❖ Because of misleading data, the survey may not be considered .

**REVIEW OF LITERATURE:**

| AUTHOR | YEAR | FINDINGS |
|---|---|---|
| **Luuk S. M. Vissers** | 2022 | This paper states that the framework takes into account the prerequisites for relevant incentive compatibility as well as welfare impacts. The New Dutch Retail Standard in the Dutch broiler market was empirically applied to show that all three incentive compatibility conditions were met in this situation, supporting a successful introduction. The additional advantages from connected externalities also proved to be advantageous. This instance shows how, in an environment of "understandardisation," a pseudomandatory standard that goes above a legal or public minimum standard can be welfare boosting. Governments should think about a variety of responses to such norms (facilitating, supporting, and exercising caution), which go beyond the traditional antitrust response of forbidding private sector "agreements" impacting market conditions. |
| **Cynthia I , Etl** | 2021 | This study aimed to analyse to elicit consumer perceptions of the ideal chicken farm. There are four main factors that could be found to be significant for many: (1) husbandry systems with plenty of space for the animals, including free-ranging; (2) circular farming (everything is done on the farm, from fodder production to slaughtering); (3) transparency about good animal conditions for consumers; and (4) proximity between place of production and consumption. In summarising these findings, it can be said that the "ideal" chicken farm is quite different from conventional production systems that typically produce intensively indoors, purchase animal feed that is produced and traded internationally, and sell the products into unidentified markets where consumers can't readily trace the product back to individual farms. |

**RESEARCH METHODOLOGY:** Data was collected using questionnaire through electronic media with 5 point Likert scale, ranging between 1-5 and closed ended questions . The sample size used for the survey was 60. The tests used was descriptive analysis .

**DATA ANALYSIS AND INTERPRETATION**

**Table 1: GENDER**

| SL. NO | PARTICULARS | FREQUENCY | PERCENTAGE OF RESPONDENTS |
|---|---|---|---|
| 1. | Male | 56 | 94.9% |
| 2. | Female | 3 | 5.1% |
| | **Total** | 59 | 100% |

**INTERPRETATION:** The above table , it shows us that out of 59 respondents there are 94.9% of male respondents and 5.1% of them are female respondents.

**TABLE 2: HOW FAIR ARE THE PRICES OF SUGUNA POULTRY COMPARED TO OTHER POULTRIES?**

| SL. NO | PARTICULARS | FREQUENCY | ERCENTAGE OF RESPONDENTS |
|--------|-------------|-----------|--------------------------|
| 1. | Strongly disagree | 10 | 16.9 % |
| 2. | Disagree | 42 | 71.2 % |
| 3. | Neutral | 6 | 10.2 % |
| 4. | Agree | 1 | 1.7 % |
| 5. | Strongly agree | 0 | 0 |
|  | **Total** | 59 | 100 % |

**INTERPRETATION:** From the table , it expresses that 0% of the respondents are strongly agreeing and 16.9% of them are strongly disagreeing to the statement.

**FINDINGS:**

1. As per the survey it is found that the male respondents are more interested in poultryindustry

2. It is found that 31 – 40 age male candidate are preferably more into the poultry business

3. It is found that the average income range is more between 50000 to 75000

4. The education level in the male respondents is found more to be above schooling that is pre university

**CONCLUSIONS:**

Rural India's development has been related to Suguna's growth and every economic activity it has engaged in, and the study emphirically demonstrates that Suguna Daily Fresh Retailors have positive opinions of the product and the Daily Fresh wholesalers . Suguna is pursuing a wide range of socio-economic, environmental, educational, and health projects in order to further the organization's core values. The expansion of Suguna and every commercial venture it has done have both contributed to the improvement of rural India. The survey also makes it abundantly evident that Suguna Daily Fresh Retailers are satisfied with the product and theDaily Fresh Wholesalers .

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## A STUDY ON CUSTOMER PERCEPTION TOWARDS SPICES OILS AND BRAND AWARENESS

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### ABSTRACT

*Based on consumer perception and brand awareness, the entire analysis is focused on branded products The major objective of the project is to help management make informed decisions about perception and awareness, which will increase revenues that was done report is thought to be organised. One way to display research findings logically is through chapters. Customer perception is the way in which consumers view a brand or product. Every direct and indirect connection people have with the business shapes their perception is thoroughly described in the first chapter. In the second chapter. For a better understanding of the study and its application in the analysis and literature reviews, it focuses on elaborative material on the topic selected for the investigation. The third chapter covers issues like the study's stated problem, methodology, and its restrictions. Tables and graphs are used to analyse and understand data in the fourth chapter. The study's conclusions recommendations and findings are discussed in the fifth chapter.*

**KEY WORDS:** *Customer Perception, Brand Awareness, Brand Loyalty.*

**INTRODUCTION:** Customer perception is the way in which consumers view a brand or product. Every direct and indirect connection people have with the business shapes their perception of it. For instance, when a retail cloth store uses cheap plastic hangers to display clothing in crowded racks, Customers believe the company is of low caliber. Brand awareness is the degree to which a potential customer is familiar with connected to your good or service. For instance, if you want a cold beverage you probably think of Pepsi or Coke. Customers consider customer perception, and it has a significant effect on a company's brand. The way a product is perceived by the customer does not always match up with how well it actually performs.

Based on the brand's current reputation and the perception of the product customer expertise. Customer perception starts from the moment a customer sees or learns about a certain product. The cycle continues until the customer has a viewpoint on the product.

### LITERATURE REVIEW

**1     Rupali Khanna (2015)** Customer perception towards brand: A study on 'Pathanjali'. Consumer satisfaction is a person's feelings of pressure or disappointment caused Buy a product perceived performance in relation to his or her expectations. Patanjali is enjoying an advantageous position in the market through spirituality element involved in its products. However, it should not ignore the competitors like naturals, pure roots, vindhya herbals. Customers perception towards brand is built largely on the satisfactory value and benefits.

**2     Hong-Youl Ha, Helen Perks** Effects of consumer perceptions of brand experience on the web: Brand familiarity, satisfaction, and brand trust. Creating a customer experience that is synonymous with a specific brand is increasingly being recognized as an important driver of e-performance. E-tailors Are just as likely as brick and mortar retailers to try to influence consumer purchasing behavior through atmosphere and service.

### RESEARCH DESIGN

### STATEMENT OF THE PROBLEM

The ability of a corporation to express client feedback on its goods and services depends critically on how its customers perceive it. For the business to innovate and create fresh marketing tactics. As a result, the studies main objective is to ascertain how customers perceive the company and its brand.

### OBJECTIVES OF THE STUDY

- To investigate consumer perception and brand consciousness.

- To research the value of brand awareness and consumer perception in boosting sales revenue and market share.

## RESEARCH METHODOLOGY

With the purpose of enhancing brand awareness and consumer impression. Consumer perception and brand awareness were investigated using quantitative research methods.

- **Research technique**

Research is the methodology methodical and scientific quest for relevant information. By selecting a representative subset of about 100 clients from a particular structure, research methodology is employed to come to a conclusion in order to find a distinct relationship.

- **Descriptive research**

Descriptive research studies concentrate on describing the traits of an individual or a group of individuals.

- **Research instruments**

The research instrument for closed ended questions in structured questionnaires. Question is being the instruments that are used to collect data.

- **Statistical tools used**

In addition to Chi-Square and Correlation analysis, the percentage technique has been utilized to examine the primary data.

## HYPOTHESIS OF THE STUDY

1. **H0-** There is no relationship between brand awareness and customer perception.

**H1**- There is a relationship between brand awareness and customer perception.

2. **H0-** There is no significant association between a H&C nor heard about products brand.

**H1-** There is a significant association between age and seen or heard about products brand.

## LIMITATIONS

o   The amount of time given for data collection and analysis is insufficient.
o   Some responder's responses maybe biased.
o   The perception of respondents could alter in the future.
o   When compared to the population the study's sample size of 100 participants' is quite small.it may not therefore reveal the precise opinions of the respondents.

## DATA ANALYSIS AND INTERPRETATION

### Analysis 1

Statistical tool used: Correlation (parametric test) Variable 1: How aware are you about the products Variable 2: Did brands met your perception Hypothesis test

H0- There is no relationship between brand awareness and customer perception. H1- There is a relationship between brand awareness and customer perception. Output – Correlation test for brand awareness and customer perception.

| Variable | Correlation value | P value |
|---|---|---|
| Brand awareness Customer perception | 0.440 | 0.000 |

**Interpretation**

From the above table it is observed that P value is less than 0.05, H0 Is rejected at 5:00 percent level of significant. Hence we conclude that there is significant relation between brand awareness and customer perception.

The correlation coefficient of brand awareness and customer perception is 0.440 with indicates that 44% positive correlation between Brand awareness and Customer perception.

### Analysis 2

Statistical tool used: chi-square test (Non Parametric test)Variable 1: Age

Variable 2: Where have you seen or heard about the products brandHypothesis test

H0- There is no significant association between a H&C nor heard about products brand. H1- There is a significant association between age and seen or heard about products brand.

Output – Chi- square test for association between brand and seen or heard about products brand.

| Age | Seen or Heard about the Brand | | | | Total | Chi-Square | P Value |
|---|---|---|---|---|---|---|---|
| | Social Media | Online Search | In-store Advertisement | Not Noticed | | | |
| 10-20 years | 0 | 1 | 0 | 0 | 1 | | |
| 20-30 years | 18 | 13 | 18 | 16 | 65 | | |
| 30-40 years | 1 | 12 | 4 | 0 | 17 | | |
| 40 years and above | 5 | 2 | 7 | 2 | 16 | 25.532 | 0.002 |

### Interpretation

From the above table it is observed that P value is lesser than 0.05, Hence H0 Is rejected at 5:00 percent level of significant. So therefore there is significant association between age and seen or heard about the brand.27.7% of the customer are false under the age of 20 to 30 years has seen or heard about the product brand, Brand recently threw social media and in store advertisement.

### FINDINGS

- 29% of respondents have seen about the product in store advertisement recently 18% respondents have not noticed.

- 50% of respondents influenced by quality factor 10% influenced by service factor.

- 46% of respondent's brand perception may be met 18% brand perception not met.

- 34% of respondents have neutral rate of popularity about the product 2% have strongly disagreed withpopularity risk about the product.

### CONCLUSION

The purpose of this research is to assess customer brand awareness and perceptions of the product separate surveys of consumers were conducted in order to provide a clear picture of the market, including brand perception customer preferences perceptions and attitudes about different components of the product. the research demonstrates that a focus and well executed it takes marketing effort. the company must face off against its rivals in a professional manner. It is investigating the markets potential. as a result, better advertisements keeping high standard of quality and providing more customer friendly incentives can strengthen the future actions for the company should be taken with these viewpoints in mind.

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## A STUDY ON EMPLOYEE MOTIVATION AND TRAINING TOWAEDS ORGANISATION PRODUTIVITY

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*ABSTRACT*

*The study analyses the opinion of employee on motivators factors at work place and  basing on the response , the statistical tools like correlation , descriptive analysis test are applied.The result of study is very useful to every company which needs to manage its employees and make them satisfies at work place and helps in retaining the employees in the company for a long time .*

*Training is critical process which seeks to improve the performance of workers in the organisation .training is a job oriented learning process where employee acquire knowledge and skills for doing a job. Training involves changes in ones knowledge skill=sets and attitudes and it provide the employees that there is always room for  growth  and  advancement. It also gives overview of employees weakness and strengths*

*KEYWORDS: Employee motivation ,productivity , workplace training , performance development*

**INTRODUCTION:** Employee motivation is the attitude that employees have toward their employment. It is the desire and energy that keeps people engaged in and committed to their jobs. It is what propels, pushes, or "motivates" someone to succeed or even show up for work every day. Employee motivation is an inner and internal urge to exert the required effort and activity in work-related activities.Employee training refers to initiatives that give workers access to knowledge, new abilities, or chances for professional growth. It is reasonable to think of training as a company endeavour intended at assisting a worker in acquiring the fundamental skills necessary for the efficient and effective performance of the task for which he or she has been hired. Expanding a business demands the right kind of training.

### Limitation

- Data collection process is time consuming , and some respondents give incorrectanswers.

- We don't speak with survey participants directly.

- The survey might not be taken into account due to inaccurate data.

### Objectives of the study:

- To examine how organisational factors affect employee performance and motivation.

- To be aware of an organization's employee training and motivating measures

- Researching the effects of training and motivational programmes on staff morale and organisational performance.

**Literature Review:**

| SL NO | AUTHOR'S NAME | JOURNAL NAME | BRIEF |
|---|---|---|---|
| 1 | Kalogiannidis,S.(2016) | The strategic journal of business and change management | A study on how motivation through the reward system affects organizational performance found out that most banks offer both extrinsic and intrinsic rewards to boost the morale of employees towards enhancing organizational performance.Studies indicate that the extrinsic rewards include; employee allowances, compensation, bonuses and salary advancements |
| 2 | Ouma Ochola(2018) | Juniper publishers key to the researchers | Concurs that employee motivation can considerably impact an organization's success after taking into account the document analysis this study conducted. It is true that stressed, worn out, and demoralised hearts and/or minds are linked to bad performance, whereas motivated ones maintain focus on the organisational goals, resulting in enhanced productivity and performance. |
| 3 | DR.Austin Oparanmma , Thomas Dorcas , wright and Boswell (2002), | International journal of business and law research | They found that a significant link between training and employee motivation that was both strong and favourable. Employees' performance and motivation levels typically rise when they receive training, which leads to the employees' achieving their full potential for the organisation. They also posited that when workers participate in training and development programmes. |
| 4 | Saleem Raza Bhatti Sheema Haider (2014) | Department of business administration and commerce , industry university, Karachi | They Found that Employees who are highly motivated perform at an exceptionally high level for the organisation, which promotes their growth, success, and productivity. As a result, there is a direct link between employee motivation and organisational effectiveness. |

## RESEARCH METHODOLOGY

Data was collected using questionnaire . the sample size used for the survey was 105. The statistical tool used was SPSS .And the tests used was descriptive analysis, correlation.

## DATA ANALYSIS AND INTERPRETATION

### Table 1. Table showing the Age of the employees

### Age Group in year

|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Below 25 | 84 | 56.0 | 56.0 | 56.0 |
|  | 25-35 | 37 | 24.7 | 24.7 | 80.7 |
|  | Above 35 | 29 | 19.3 | 19.3 | 100.0 |
|  | Total | 150 | 100.0 | 100.0 |  |

**Interpretation:** According to the above graph, the majority of employees, 56.0% are the age below 25,24.7% are the age between 25-35, while 19.3% are above the ages of 35 in the organisation.

### Table 2:

### Table showing that Does your manager or supervisor motivate to your job performance

|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | yes | 76 | 72.4 | 72.4 | 72.4 |
|  | no | 29 | 27.6 | 27.6 | 100.0 |
|  | Total | 105 | 100.0 | 100.0 |  |

**Interpretation:** The above chart reveals that, 72.4%of employees say their manager or supervisor motivate to your job performace and 27.6% of employees say their manager or supervisor motivate to their job performace .

### Inferential Analysis Analysis 1: Correlation

**H0:** There is no significant relationship between employee motivation and training and productivity of organisation

**H1:** There is significant relationship between employee motivation and training and productivity of organisation

### Correlations

|  |  | EMT | OP |
|---|---|---|---|
| EMT | Pearson Correlation | 1 | .087 |
|  | Sig. (2-tailed) |  | .377 |
|  | N | 105 | 105 |
| OP | Pearson Correlation | .087 | 1 |
|  | Sig. (2-tailed) | .377 |  |
|  | N | 105 | 105 |

**Interpretation:** From the above output table, it is observed that the p-value is greater than 0.05, and H0 is accepted at a 5% level of significance. Hence it is concluded that no significant relationship between employee motivation and training and productivity of organisation .

**FINDINGS:**

1. As per the survey ,56.0percent of employee are between the ages of below 25.

2. As per the survey female employees are more than male employees in theorganisation

3. It is found that 46.7 percent of the employees hold post graduate degrees in the organisation.

4. According to the report , 31.4 percent of the employees had 5-10 years ofexperience with the company .

5. Based on the data 72.4percent agree that manager or supervisor motivate to their job performance .

**CONCLUSION:** Employee motivation towards performance and tasks have productive relationship motivated employee work most exceptional in the interst of the organisation performance which leads them towards growth ,success and productivity .As a result the employee motivation and organsition efficiency are straight related with the employee motivation hence the organisation must work out and construct such policies and organisation structure that support employee recognition ,acknowledgement and autnomy for the attainment of organizational goals and objective in the best and better way . As a result, motivation and training has a favourable effect on organisation productivity .According to the employees feedback employees enhancement will generate employee productivity and organization profit and goal as well.

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## A COMPARATIVE STUDY BETWEEN WORK – LIFE BALANCE OF MALE AND FEMALE EMPLOYEES OF IT INDUSTRY

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*ABSTRACT*

*Work-life balance is a concept that has become an integral aspect of modern living. Although understanding the meaning of this phrase is simple, practical acceptance appears to be tough. Men and women are both experiencing work-life imbalance. Indian companies are looking at ways to provide flexible work schedules, part-time employment, amenities, and child care options. The objectives of this study are to identify the primary cause for the imbalance between work and life and impact of work life balance on males and females of IT industry. To gather the data structured five point Likert's scale questionnaire was used. A survey was conducted with the sample size of 110. To test the hypotheses correlation and regression statistical tests were applied. According to the findings it is found that females agree that they are satisfied with their work-life balance as compared to the males.*

*Keywords: work-life balance, IT industry, work-from home, stress*

**INTRODUCTION:** Work-life balance generally includes building and maintaining friendly and healthy workplaces that allow workers balance between personal and professional duties and thereby enhance productiveness and employee's loyalty. Work-life balance implementation in organizations is often viewed as a benefit to employees.

In the present situation, an employee is not just searching for a position inside the organization but is also worried about finding a balance between their professional and personal life as well as their own wellbeing and happiness. A company will have great success raising employee happiness at work if it complies with these conditions and relies on offering more career prospects. (Hasan bin Saleh ,2015).

A good work-life balance minimises absenteeism, improves productivity and enhances company image, employee loyalty and dedication, increases retention of valued employees and lower staff turnover rates. (Lazar, I., Osoian, C., & Ratiu, P. 2010)

**OBJECTIVES OF THE STUDY**

1. To determine the primary cause of imbalance between work and life.
2. To study the impact of work-life balance on males and females of IT industry
3. To study the consequences of improper work-life balance in males & females of IT industry.

**LIMITATIONS OF THE STUDY:**

a. The data that is collected will be limited to Karnataka state only. The study is limited only to IT industry and therefore cannot be summarized to other industries.
b. The study is based on primary data, which have their own constraints such as biased responses, altered answers etc.

**REVIEW OF LITERATURE:**

| AUTHOR | YEAR | FINDINGS |
|---|---|---|
| Trivedi Krupa Udaykumar | 2022 | The study says that work-life balance is essential for human sustainability and to identify the cause that influence work-life equity and the encounter of this cause on women and men. It also found that emotional intelligence, support from fellowship and healthy working conditions have been shown to originally contribute to an employee's work-life balance. The sampling size of the study was 122 banking professionals from Gujarat |
| Nikhat Tabasum et al | 2020 | This article discusses gender difference in work-life balance. Difficulty in the work-life balance is a problem for both men and women. Although businesses are crucial in preserving a supportive work place environment to boost work-life balance. This article also discuss how workplace might be made more comfortable or employees and advantageous to their professional journey. This research is from international research journal on advanced science hub. |
| Dr. Yashwant Singh Rawal and Dr. Madhu Murdia | 2017 | This study focuses on investigation and comparation of work-life balance levels of men and women of an educational institution. The study also concludes that both men and women have modest levels of work-life balance. However, men have been found to handle work-life more effectively than women. The sample size was 90. The paper is from International Journal of Applied Services Marketing Perspectives. |

**RESEARCH METHODOLOGY:**

**TABLE 1: RESEARCH METHODOLOGY**

| | |
|---|---|
| Research design | Descriptive |
| Data collection method | Random sampling method |
| Data sources | Primary |
| Sample area | Employees of IT industry from Bengaluru |
| Sample size | 110 |
| Research Instrument | Questionnaire |
| Type of Questionnaire | Structured |
| Statistical tool used | SPSS |
| Scaling Technique | Likert's Five Point Scale |

**DATA ANALYSIS AND INTERPRETATION**

**TABLE 2 : GENDER OF THE RESPONDENTS**

| SL. NO | PARTICULARS | FREQUENCY | PERCENTAGE OF RESPONDENTS |
|---|---|---|---|
| 1. | Male | 54 | 49.1% |
| 2. | Female | 56 | 50.9% |
| | **Total** | 110 | 100% |

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**TABLE 3 : AGE OF THE RESPONDENTS**

| SL. NO | PARTICULARS | FREQUENCY | PERCENTAGE OF RESPONDENTS |
|--------|-------------|-----------|---------------------------|
| 1. | Below 25 | 71 | 64.5% |
| 2. | 25 - 35 | 15 | 13.6% |
| 3. | 35 – 45 | 11 | 10% |
| 4. | 45 – 55 | 11 | 10% |
| 5. | Above 55 | 2 | 1.8% |
| | **Total** | 110 | 100% |

**INFERENTIAL ANALYSIS**

Analysis 1

Hypothesis 1

$H_0$: There is no significant relationship between Gender and Work-life balance

$H_1$: There is a significant relationship between Gender and Work-life balance

**Correlations**

| | | Gender | WLB |
|--------|---------------------|--------|------|
| Gender | Pearson Correlation | 1 | -.007 |
| | Sig. (2-tailed) | | .942 |
| | N | 110 | 110 |
| WLB | Pearson Correlation | -.007 | 1 |
| | Sig. (2-tailed) | .942 | |
| | N | 110 | 110 |

Interpretation- Since the P value( significant value ) is greater than 0.05 ( i.e., 0.942 > 0.05) $H_0$ is accepted and $H_1$ is rejected at 5% level of significance. Therefore, we conclude that there is no significant relationship between gender and work-life balance.

ANALYSIS 2

Hypothesis 2

$H_0$: There is no significant impact of personal life factors on work-life balance

$H_1$: There is a significant impact of personal life factors on work-life balance

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------|----------|-------------------|----------------------------|
| 1 | .535[a] | .286 | .280 | 2.78528 |

**ANOVA**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|--------|-------|
| 1 | Regression | 335.976 | 1 | 335.976 | 43.308 | .000[b] |
| | Residual | 837.842 | 108 | 7.758 | | |
| | Total | 1173.818 | 109 | | | |

Interpretation: Since the P value( significant value ) is less than 0.05 ( i.e., 0.00<0.05) $H_0$ is rejected and $H_1$ is accepted at 5% level of significance. Therefore, we conclude that there is a significant impact of personal life factors on work-life balance

**FINDINGS:**

a)  From the analyses it is found that females agree that they are satisfied with their work-life balance as compared to the males.

b)  The major causes for the work life balance is having proper technology (software, mobiles, laptops etc.) and child care facilities provided to mothers and to people who live afar need work from home facilities.

c)  The major impacts of not having work-life balance is not spending time with family and friends, improper sleep pattern from heavy work load, and having healthcare facilities.

d)  The positive impacts of having proper work life balance is that it reduces absenteeism among the employees.

**SUGGESTIONS:** The suggestions of the study are the  organization should support its employees in achieving their goals in both their professional and personal lives. In order to provide employees more time for their private lives, companies should cut back on excess time. The identified findings indicate that both men and women genuinely believe that flexible work schedules may improve WLB. The suggestion for the males who lack work-life balance is that scheduling the work priorly. The employees must prioritize the important work and least important work then should proceed to work. In order to have a peaceful mind, exercise regularly, meditate daily and having a time for oneself. Having a good relationship with co-workers also leads to peace of mind. Setting the boundaries for all kinds work also help in maintaining work-life balance

**CONCLUSIONS:** The realities of work-life balance in the Indian context are revealed by this research. Work-life balance may be improved with the right implementation of flexible scheduling, child care services, part-time employment, and work from home options. Another key element that promotes work-life balance is having a proper technology for the work. The selected employees' responses served as the foundation for this investigation. These replies vary depending on the sample size and type. Additionally, it is acknowledged that in order to promote job satisfaction, which might be started by businesses, individual distinctions must be properly highlighted. Even though the study was limited to IT professionals, the findings have opened up a number of new areas for additional studies on the subject of WLB.

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## A STUDY ON IMPACT OF EMPLOYEES PERFORMANCE AND REWARDS ON EMPLOYEES' ATTRITION LEVEL IN IT INDUSTRY" (IBM) BANGALORE

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*ABSTRACT*

*The purpose of this study is to investigate the relationship between employee performance, rewards, and attrition levels in the IT industry, with a particular focus on IBM in Bangalore. The study's goal is to investigate how employee performance and rewards affect employee retention rates. Data was gathered through surveys and interviews with IBM employees from various departments. According to the findings, there is a significant relationship between employee performance and rewards and employee attrition levels. Furthermore, the study emphasizes the importance of effective reward systems in retaining top-performing IT employees. These findings can help human resource managers design effective reward systems to improve employee retention rates in the IT industry.*

*Key word: Employees performance, Rewards, Attrition level.*

## I. Introduction

The term "attrition" describes a worker's downward progression within an organisation. For a variety of reasons, including advancement within another organisation, changing careers, or pursuing higher education, employees may quit a company. "People leave jobs primarily to go to a firm with a superior organisational culture and value, career chances, income, and perks," claims Alex Gray in the World Economic Forum [1]. When your staff reduces over time because of unavoidable circumstances like people leaving for personal or professional reasons, this is known as employee attrition. When an employee leaves their current position for a variety of reasons, this is known as attrition. It happens when an employee leaves a company where they were paid for their efforts. It denotes a reduction in the workforce due to retirement, resignation, or death. Employees leave when their expectations for compensation for the services they receive are not met by the company. Employee attrition rates in any company are influenced by a variety of factors, some of which can be attributed to both the employer and the employees. Pay, benefits, attendance, job performance, and other workplace factors have a significant impact on employee turnover. Employee Attrition Rate? The Indian IT industry recorded **25.2 per cent** employee attrition in FY22. Attrition occurs when an employee leaves his or her current job for a variety of reasons. It is the termination of an employee's membership in an organisation where he or she received monetary compensation for the work performed. It is a decrease in the number of employees because of retirement, resignation, or death. Employees leave because the organisation fails to meet their expectations in exchange for the services they receive. Employee attrition rates are affected by a variety of factors, which can come from both the employer and the employees. The importance of wages, benefits provided by the employer, attendance, and job performance in determining employee turnover.

The corporation itself, IBM, performed the poll to determine the company's attrition rate, and data from that survey was used in this study. No of their location, sector, or size, all organisations must deal with the issue of attrition. A company's costs associated with employee attrition include those associated with business interruption, employing new employees, and training new employees. As a result, understanding and reducing worker attrition are of major business importance.

## II.Literature Review

**1. Ms.Shivani Arora, Shalini Rawat, Pooja Bisht & Prakash Srivastava (2021) A Study on Attrition Rate In Bpo Industry: A Case Study Of Chennai** Stated that the expectation and satisfaction level of employees in BPO will not be same when it is considered to the employee's performance. The various reasons for attrition among employees in selected BPO. A proper and open system of performance evaluation and professional training may be the solution to the problem. The self-esteem is also considered has one of the most important needs of any human being. As this results in the addressing the need may be a solution to the problems.

**2. Kiran Mayi Immaneni & Dr. Vedala Naga Sailaja (2019) A Study on Factors Effecting the Employee's Attrition in Hotel Industry with Reference Hyderabad** Scholler is explaining that factors that affecting the employee attrition in hotel industry. He focused on the Reduced work timing and followed by the offering the Incentives / Recognition of employees for their contribution so that the attrition will be cutdown to some extent.

**3. D N Venkatesh (2017) Study on Impact of Employee Training & Development on Attrition– "Hospitality Industry, Goa"** The author is analysing that the training and the development is the most important thing in hospitality industry. To evaluate the relationship between staff training and employee commitment and turnover in the industry. Employees in the hospitality industry benefit greatly from training because it increases their competency and leads to better performance. The study demonstrated that hospitality organisations can reduce employee attrition by investing in training and development.

**4. Dr. V. Antony Joe Raja & R. Anbu Ranjith Kumar (2016) A Study to Reduce Employee Attrition in It Industries** This study is helpful in finding out the most industries are retaining employees where in other hand the employees also should get the on-the-job training which helpful in the employees' performance in the company. They understand the opinion and attitudes of the various categories of employees of IT sector towards the reduction of employee attrition in the organisations.

**5. Dr. Shine David, Saakshi Kaushik, Harshita Verma & Shivani Sharma (2015) Attrition in It Sector** Stated that escaping the issue of attrition is not an unattainable goal When employees are truly committed and dedicated to their work, attrition can be reduced. To reduce employee turnover, in-depth hiring or exit interviews are beneficial. The privatisation of the IT sector has resulted in a variety of reasons for attrition.

### III.Objective of the study

➢    This study is to identify the impact of employee's performance which affects the attrition level in IT industry (IBM).

➢    To understand the underlying factors that retains the employee in IBM.

➢    To examine the steps taken to reduce attrition in the IT industry.

➢    To explore a solution to this significant issue.

### IV.Limitations

➢    This research is limited to IT sectors only.

➢    The data which are collected are confined with employee's turnover in the firm.

➢    Secondary data is collected for selected company because time constraint.

➢    The analysis which is made are applicable only to selected IT firms.

### V.Research methodology

Type of Research: Empirical Research

Sample size: 204 (IBM)

Data type: Secondary data source from Kaggle.

( https://www.kaggle.com/datasets/pavansubhasht/ibm-hr-analytics-attrition-dataset )

Tools and Techniques: Descriptive Research, Regression analysis, Correlation analysis

### VI.CONCEPTUAL FRAMEWORKS

Employees performance: Employee performance refers to the employee's productivity, output generated during the work. It involves the qualitative and quotative output generated the workplace is called as employee performance. This employee performance mainly depends on the motivation at the work.

Rewards: This will also influence the attrition directly or indirectly where the employees are majorly concern about the rewards. When it comes to the IT sector the employees need the recognitions, rewards. With the rewards and appraisal employees will get some sort of satisfaction so that attrition can also reduce in the origination. According to this paper the rewards will plays a major and important role in the reducing of the employees in the organisation.

## VII.DATA ANALYSIS AND INTERPRETATION

### Descriptive Statistics

|                            | N   | Minimum | Maximum | Mean  | Std. Deviation |
|----------------------------|-----|---------|---------|-------|----------------|
| Age                        | 203 | 0       | 4       | 2.20  | 1.010          |
| Gender                     | 203 | 1       | 2       | 1.40  | .492           |
| Monthly income             | 203 | 1       | 4       | 1.70  | .930           |
| Environment Satisfaction   | 203 | 1       | 4       | 2.66  | 1.043          |
| Performance Rating         | 203 | 3.0     | 4.0     | 3.212 | .4096          |
| Attrition                  | 203 | 1       | 2       | 1.85  | .356           |
| Training Times Last Year   | 203 | 0       | 6       | 2.72  | 1.287          |
| Job Satisfaction           | 203 | 1       | 4       | 2.77  | 1.090          |
| Valid N (listwise)         | 203 |         |         |       |                |

**Interpretation:** In the above descriptive statistics output where the table contains sample size of 203 respondents from the IBM data source which was collected in the company for measuring the attrition level in the company. The variables like age, gender, monthly income, environment satisfaction, performance rating, attrition, training, and job satisfaction are considered, and this analysis is done for knowing the reason 's for the frequent attrition level. Hear the demographics analysis is done like when it comes to the gender among the 204 respondent's the male candidates was more in numbers and the different age group of employees fall under the age group of the 31-40 years and the income level of the individual and the group of employees was between the twenty thousand only.

### Regression table

| SL.NO | VARIABLES                                          | F    | SIG  |
|-------|----------------------------------------------------|------|------|
| 1     | Attrition level v/s Age                            | 1.34 | 0.25 |
| 2     | Attrition level v/s Income                         | 2.22 | 0.14 |
| 3     | Attrition level v/s Training                       | 0.07 | 0.79 |
| 4     | Attrition level v/s Employees job satisfaction     | 0.03 | 0.86 |

**Interpretation:** The above table shows the difference between Attrition level as a Independent factor and Age, Income, Training and Employees job satisfaction is a dependent factor. It is identified from the above table then significance value for the age of the employees is 0.25; income of the employees 0.14, Training is 0.79, and the Employees job satisfaction is at 0.86 It is evident that all values are greater than 0.05 at 5% level of significant. Thus, it is concluded that null hypothesis is accepted and proven there is no difference between attrition level and age, income, Training, and Employees job satisfaction.

**VIII. Findings:**

- As per the study most of the employees belongs to the age group of 31-40 years which 75% and 25% of employees belong to the age group of less than 20-30 years.
- As per the study the 60% of male employees and 40% of female employees.
- The impact of age on attrition level is 1% where the age factor is affecting less in the organization, the income level which makes the impact on the attrition level with 5%, In the organisation, where it is having a 7% impact on attrition, employee training and development is more crucial.
- Financial rewards, such as bonuses and salary increase, can be effective in reducing attrition, but non-financial rewards, such as opportunities for growth and development, can also play a significant role.

**IX. Conclusion:** According to the survey, companies in the IT sector, like IBM, should concentrate on rewarding and recognising top performers to lower attrition rates and boost staff retention. By recognizing and rewarding employees who contribute to the success of the organization, companies can create a positive work environment that supports employee motivation and job satisfaction. The results of this study can be used by organizations in the IT industry to develop strategies to reduce employee attrition levels and increase employee retention. The study has looked at the main factors that triggers attrition of employees in the selected IT sector. They include job satisfaction, performance appraisal, and rewards. Here the organization should make the employees apprised there and then, they must be trained, for the betterment of the performance the employees should undergo with certain training programmes, which helps in the reduce of employee's turnover in the organization. To establish the sample size and gather secondary data, the study used a straightforward randomization process. The study has framed the objectives and applied the various statistical methods. To measure the attrition level in the IT industry IBM, and we analysed that the performance appraisal should be provided for the employees in the organization and increase in the upskilling of employees will reduce the turnover in the organization. A comprehensive approach that includes both financial and non-financial rewards can be more effective in reducing attrition than a focus solely on financial rewards. To effectively reduce attrition, companies must understand the specific needs and motivations of their employees and tailor their performance and reward programs accordingly.

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**A STUDY ON AWARENESS LEVEL TOWARDS E LEARNING RESOURCES AMONGST MBA STUDENTS -A STUDY AT BENGALURU**

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*ABSTRACT*

E-resources are the products that a library makes access able over a computer network. The term "electronic resources" also refers to digital data collections, full-text search engines, electronic reference books and bibliographic databases that are available online. Electronic resources are often known as E-resources, are documents in digital format that may be accessed online. The findings showed that out of 120 respondents 50.8% are male respondents and 49.2% are female respondents. From the analysis it is found that 44.17% students agree about there level of awareness towards E-books and only 5% students disagree about there level of awareness towards E-journals.

*Keywords:* E-resources , MBA students, E-books, E-journals

**INTRODUCTION:** In the field of information and technology has seen significant transformation. The conventional libraries have been replaced with digital and virtual ones. From their digital or virtual library spaces, today's modern libraries offer a variety of services to their patrons, as well as assisting them in getting the information they need at their fingertips wherever they are. Electronic resources, or E-resources, have grown in importance for users and libraries alike in this age of information explosion. In this context, this article investigated student knowledge of and usage of electronic resources or E-resources. In order to quickly expand, it's crucial to comprehend and employ electronic resources. So, materials that appear to be in an electronic format and are made available to users using any computer-based information retrieval system are referred to as E-resources.

Electronic journals, electronic books ,electronic magazines ,E- thesis and projects, E- newspaper, E-syllabus, e - employment news, E-question paper ,E-videos ,online databases in different digital formats, Adobe Acrobat documents (.pdf), and Web Pages are types of E-resources.

**OBJECTIVES OF THE STUDY**

1. To study the awareness level among the MBA students towards open access to e -learning resources.

2. To identify the difficulties faced by the users while accessing to open access to E-resources

3. To determine the level of satisfaction of users about e –resources services..

**LIMITATIONS OF THE STUDY:**

1. The data collected will be limited to Bengaluru city only.
2. The study is limited to MBA students only and therefore summarized to other students.
3. The study is based on primary data which have their own constraints.

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**REVIEW OF LITERATURE:**

| AUTHOR | YEAR | FINDINGS |
|---|---|---|
| Maitato and Botswana | 2020 | The study carried out research on the frequency and intent of E-resource use in relation to the awareness level of students at Sardar Vallabhbhai Patel University of Agriculture and Technology. This study looked at how often and for what purposes E-resources were used at Sardar Vallabhbhai Patel University of Agriculture and Technology. Accordingly, the study looked at the student population's demographics and knowledge of E-resources. This study employed a descriptive research design. For this investigation the deliberate sampling approach was used. There are 120 respondents in the sample. One null hypothesis was tested at the significance level of 0.05 and three study objectives were satisfied. The study has revealed that pupils use electronic resources regularly with the internet ranking at the top. |
| **Sharma and Srivastava** | 2019 | The article carried out research on "Awareness and usage of online information resources in engineering college affiliated with RGPV, Bhopal." In private engineering college libraries connected to RGPV Madhya Pradesh .The study aims to determine faculty members awareness level and use of online information resources. The awareness of internet information sources among library users is briefly discussed in this research. E-resource availability in engineering college libraries was investigated. The preliminary study's research reveals the reason why people use internet resources and how satisfied they are with them. |
| Yamson, Appiah, and Tsegah | 2018 | The research was investigated on the use of digital vs. printed resources in the library at Central University in Ghana. Users are observed to be more drawn to print materials than to electronic ones. Because the university is spending so much money on E-resources, the library staff is working especially hard to increase the usage of these materials. |

**RESEARCH METHODOLOGY:**

This study involved a descriptive research design and a well-designed online questionnaire was used to collect data. The 120 respondents were MBA students from various colleges in Bengaluru .The questionnaire was administered among MBA students to collect the necessary primary data, keeping in view the objectives of the study. Observations were done using statistical tools such as correlation and chisquare test .The data collected through an online questionnaire has been analyzed by using SPSS software.

**DATA ANALYSIS AND INTERPRETATION**

**Table 1 : Table showing the gender of respondents**

| SL.NO | PARTICULARS | RESPONDENTS | PERCENTAGES |
|---|---|---|---|
| 1 | MALE | 61 | 50.8% |
| 2 | FEMALE | 59 | 49.2% |
| | TOTAL | 120 | 100% |

**Table 2 :** Table showing the age of respondents

| SL.NO | PARTICULARS | RESPONDENTS | PERCENTAGES |
|---|---|---|---|
| 1 | 20-24 YEARS | 87 | 72.1% |
| 2 | 25-29 YEARS | 15 | 12.3% |
| 3 | 30-35 YEARS | 11 | 5.8% |
| 4 | ABOVE 35 YEARS | 7 | 9.8% |
|  | TOTAL | 120 | 100% |

**INFERENTIAL ANALYSIS**

Analysis 1

Hypothesis 1

H0 : There is no significant association between  awareness  level and usage of E-resources.

HA: There is a significant association between  awareness  level and usage of E-resources.

**4.1.1 Chi-Square Test**

|  | Value | df | Asymptotic Significance (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 344.008ᵃ | 224 | .000 |
| Likelihood Ratio | 219.942 | 224 | .564 |
| Linear-by-Linear Association | 34.011 | 1 | .000 |
| N of Valid Cases | 120 |  |  |

**Analysis** : Since P value = 0.00 less than0.05, H0 is rejected and H1 is accepted  at 5% level of significance , hence  we conclude that there is a significant association between  awareness  level and usage of E-resources.

ANALYSIS 2

Hypothesis 2

H0: There is no significant relationship between satisfaction level for E-books among MBA students.

HA: There is a significant relationship between satisfaction level for E-books among MBA students.

**4.2.1 Correlation test**

| VARIABLES | | Satisfaction level | E-books |
|---|---|---|---|
| Satisfaction level | Pearson Correlation | 1 | .373** |
|  | Sig. (2-tailed) |  | .000 |
|  | N | 120 | 120 |
| E-books | Pearson Correlation | .373** | 1 |
|  | Sig. (2-tailed) | .000 |  |
|  | N | 120 | 120 |

**Analysis:** Since P value =0.00 less than0.05, H0 is rejected and H1is accepted at 5% level of significance , hence  we conclude that there is a significant relationship  between satisfaction level for E- books among MBA students.

**FINDINGS:**

1. Out of 120 respondents 50.8% are male respondents and 49.2% are female respondents.
2. The analysis reveals that, 72.1% respondents are between the age group of 20 -24 years and majority of them are MBA students.
3. It is found that 5.7% respondents strongly disagree and 20.5% respondents strongly agree that they are aware of E-resources that are available.
4. 24.16% students ocassionally access to E-resources and that 25% students strongly disagree to access E -resources twice in a week.

**SUGGESTIONS:**

The study recommends that students concentrate more on using E-resources and identify the challenges and limitations users encounter when accessing E-resources with some purposeful recommendations for its improvement. It also suggests appropriate recommendations to improve facilities and services related to the use of E-resources, as well as by raising awareness about the use of E-books, E-journals and E-magazines. The supply of improved internet capabilities an increase in reading proficiency, the creation of a supportive environment, and ongoing instruction of students in the use of electronic resources. The bandwidth and processors used for the utilisation of electronic resources should be increased in order to fix the poor internet access.

**CONCLUSIONS:**

The current study investigated on student awareness, usage, and problems with using electronic resources. Modern libraries are expanding their E-resource collections as a result of the rising popularity of these materials. As a result, E-resources are crucial to the teaching and learning profession. Students mostly use online resources for academic and research purposes, specifically to get ready for assignments, projects, course work, final exams, etc. The majority of respondents use electronic resources on a weekly basis, the study also found. The main difficulties that students encounter when using electronic resources, nevertheless, are inadequate training, a lack of professional assistance  and slow internet connectivity. The study also identified the need for the following actions: provision of quick internet connection; provision of sufficient funding; provision of acceptable infrastructure; provision of regular power supply and provision of user education, among others.

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## A STUDY ON IMPACT OF WORK LIFE BALANCE ON JOB SATISFACTION LEVEL OF EMPLOYEES AT WIPRO COMPANY

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**ABSTRACT**

*Modern living now includes the idea of work-life balance as a fundamental principle. The meaning of this expression is clear, but it seems to be difficult to put into practice. Work-life imbalance is a problem that affects both men and women. The objective of this study is to identify the factors related to work life balance at Wipro company and to study the impact of work life balance on job satisfaction level of employees in IT industry. To gather the data structured five- point Likert's scale questionnaire was used. A survey was conducted with the sample size of 126. To test the hypotheses correlation and regression statistical tests were applied. According to the findings it is found that employees have job satisfaction level while working at Wipro company.*

*Keywords: work-life balance, IT industry, job satisfaction.*

**INTRODUCTION:**

Work-life balance is critical in today's competitive workplace, and employees may experience difficulties if they lack job satisfaction and consistency in their lives. There is stress associated with finding a work-life balance all over the world, which affects everyone. It becomes critical when there is no job satisfaction. Gaining consistency between professional and personal work is essential for achieving work-life balance and reducing conflict between professional and household life. The overall performance of any organisation is determined by the performance of its people, which is determined by a number of variables. Work-life balance refers to an individual's ability to manage both personal and professional life. Job satisfaction is defined as a pleasurable or positive emotional state caused by an evaluation of one's job or experience.

**OBJECTIVES OF THE STUDY**

- To identify the factors related to work life balance at Wipro company.
- To study the impact of work life balance on job satisfaction level of employees in IT industry.

**LIMITATIONS OF THE STUDY:**

This study is limited to Bangalore city. This study is limited to only Wipro company and received less respondents also. For this study we could use only regression and correlation as we were studying the relationship and the impacts. A happy job is essential for a successful professional life nevertheless, one of the main disadvantages of job satisfaction is that it can lead to an unwillingness to move outside of your comfort zone

**REVIEW OF LITERATURE:**

Ms. Priya Sahrawa and Prabhat Singh Rawat (2021): The title of the paper is "Work life balance and job satisfaction among corporate employees" and found that Worklife balance and job satisfaction are strongly intertwined. People with a satisfied work life balance and job happiness are more likely to be highly productive and maintain their employment better. This also results in a large decrease in personnel turnover in the corporate sector. As a result, it is an essential component of business policy to keep their personnel content.

Dr. S. Ramesh, Vignan, Dr. Haniefuddin Shaik, Dr. Shaik Shamshuddin Assistant Professor (2020): A sizeable portion of respondents are happy with their jobs, the outcomes of job satisfaction are dependent on the organisational climate. He added that for the purposes of this study, he had selected the private and public sectors, and that the results of employment-related aspects play a crucial part in the job satisfaction of employees.

K. Agha, F. T. Azmi, and A. Irfan (2017): The title of the paper is "Work-Life Balance and Job Satisfaction: An Empirical study Focusing on Higher Education Teachers in Oman" and found that the structural equation model's values suggested that WIPL and PLIW have a strained relationship with education. WPLE had a higher level of pleasure and work satisfaction, whereas WPLE had a lower level of satisfaction and job satisfaction.

There is a good link between teaching satisfaction and work satisfaction. Furthermore, instructor satisfaction had a favourable impact. job satisfaction correlation. As a result, it was clear that in the present scenario, the anticipated model holds true because all hypotheses were acceptable.

**DATA AND METHODOLOGY:**

The research method used in this study is descriptive research design. 120 random samples were obtained for data analysis and interpretation using the questionnaire method of data collection. In this questionnaire we have used five-Likert scale. The scores ranged strongly disagree (1) to strongly agree (5). In this study, descriptive statistics were performed for data analysis, there was a total of four sections in the questionnaire. Questions relevant to the respondents' fundamental information were asked in the first segment. The objective of the second session is to know the causes for disturbed work life balance in organizational and personal related factors. The purpose of the next section is to discover the impact for disturbed work life balance in both personal as well as organisational related factors. The final part discussed the suggestive measures to relieve work life balance and job satisfaction.

**DATA ANALYSIS AND INTERPRETATION:**

Hypothesis 1: Correlation on work life balance and job satisfaction

H0= There is no significant relationship between the work life balance and job satisfaction level of employees at Wipro.

H1= There is a significant relationship between the work life balance and job satisfaction level of employees at Wipro.

**Correlation**

| | | Are you satisfied with the training opportunities provided by y | Do you think by providing fair pay can improve employee job satisfaction level? |
|---|---|---|---|
| Are you satisfied with the training opportunities provided by y | Pearson's r<br>p-value<br>N | -<br>-<br>- | |
| Do you think by providing fair pay can improve employee job satisfaction level? | Pearson's r<br>p-value<br>N | 0.402<br><.001<br>126 | -<br>-<br>- |

Interpretation: Based on the above table p= 0.01 which is < .005, we conclude that there is a significant relationship between Wipro employees' work-life balance and job satisfaction level

H0 is rejected and H1 is accepted that is there is a significant relationship between the work life balance and job satisfaction level of employees at Wipro.

Hypothesis 2: Regression on work life balance and working hours

H0= There is no significant impact of working hours of employees on work life balance
H1= There is a significant impact of working hours of employees on work life balance

**Normality Test (Shapiro-Wilk)**

| Statistics | p |
|---|---|
| 0.927 | <.001 |

Interpretation: From the above table it is observed that p= 0.01 which is < 0.05, we conclude that there is a significant impact of working hours of employees on work life balance.

H1 is accepted and H0 is rejected there is a significant impact of working hours of employees on work life balance.

Hypothesis 3: Regression on Gender and job satisfaction

H0= There is no significant impact of gender on work life balance and job satisfaction.

H1= There is a significant impact of gender on work life balance and job satisfaction.

**Normality Test (Shapiro-Wilk)**

| Statistics | p |
|---|---|
| 0.895 | <.001 |

Interpretation: From the above table it is observed that p= 0.01 which is < 0.05, we conclude that there is no significant impact of gender on work life balance on job satisfaction and the f = 3.41 which is < 2.56.

H1 is rejected and H0 is accepted that is there is no significant impact of gender on work life balance on job satisfaction.

**FINDINGS:**

**1.** As per the study 101 respondents are comfortable with their work schedule is (80%) and the 25 respondents are not comfortable with their work schedule is (20%)
**2.** The above study tells that the 63 respondents belong to the under graduate that is (50%) and the 14 respondents belong to the group of others that is (11%).
**3.** From the above analysis it tells that majority of the responders comes under the monthly income of 35,000-50,000 per month (36%) and the least number of respondents comes under the monthly income of up to 90,000 per month (13%).
**4.** We founded that the 37 respondents take 10 minutes to go to work (29%) and 28 respondents take more than an hour (22%).

**SUGGESTIONS:** The study we got to know that majority of the employees are comfortable with their work schedule, to reach to work most of them take maximum 10 minutes from their home, there is a lack of a healthy work life balance may be caused by higher expenses without rise in pay, majority of responders feel that unsatisfied work life balance may result from increased responsibilities at work place. By receiving frequent feedback can increase productivity and also by providing fair pay can motivate the employees. Also by promoting yoga, meditation can reduce stress for employees. Empowering employees can increase the job satisfaction. By providing training opportunities for willing employees make them to be loyal and knowledgeful. Even by providing the counselling sessions can improve work life balance and job satisfaction level of each individual

**CONCLUSIONS:** The idea of work-life balance is not new in the field of human resources, so it always be scrutinised in numerous studies. The more workers believe they have control regarding their workplace, the better they will be able to juggle family and work. From the study we got to know that employees feel that the work will be equally distributed so that there is no bias done inside organisation. The employees gives response as due to lack of work load they are facing sleeping disorder. The overall analysis concludes that work-life balance in organisations can be achieved only by increasing employees' autonomy and capability to perform well at the work and the home, work life balance practises, once available and used, will reduce work-life conflict and increase organisational productivity. Majority of the responders says that they have missed some specific moment of their lives due to workload and time constraint. The work load the organisation is providing to their employees are causing mental health so they need to take care of that.

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**ASSET LIABILITY MANAGEMENT AT HDFC BANK USING GAP MODEL**

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**ABSTRACT**

*Even though it can be challenging to quantify, market risk—the risk that a sudden shift in market prices could have an impact on profits or capital—is still very significant. Gap Analysis is one technique for determining how exposed a bank is to interest rate fluctuations. Gap analysis has mainly lost its appeal. The most effective use of gap analysis today is as a theoretical tool for explaining problems relating to interest rate and liquidity risk.*

*Keywords; GAP Analysis, Ratio Analysis, Interest Earned, Interest Expended*

**INTRODUCTION**

The key that unlocks both production and price possibilities is finance. Financial performance is essential for the formulation and application of financial decisions. It is a way to evaluate how well a company uses its assets. Primary market strategy to boost sales and evaluate a company's total financial health for a predetermined period of time. Liquidity, solvency, and profitability ratios are only a few of the measurements used to gauge the company's financial success. One of the major financial organisations in the private sector, HDFC, through this process to better define its long- and short-term goals. To analyse the ratio analysis in this study, we have used data in a number of different ways. This information is used to determine the competitors' market position.

Asset-liability management involves regulating the use of assets and cash flows to reduce the likelihood that a company may lose money as a result of a liability's late payment. Earnings of a firm can be increased by properly managing assets and liabilities. By carefully aligning assets and liabilities, financial organisations can increase efficiency and profitability while reducing risk. Asset allocation and management (ALM) deals with how assets, equity, interest rate, and credit risk are allocated and managed, including risk overlays, as well as how corporate-wide tools are calibrated within these risk frameworks for optimum performance and management in the local regulatory and capital environment.

**Objectives of the Study**

1. To explore the difference between rate sensitive assets and rate sensitive liabilities.

2. To analyse the relation between the asset liability management among selected banks.

**REVIEW OF LITERATURE**

| SL NO | Author and Journal Name | LITERATURE REVIEW |
|---|---|---|
| 1 | (Srividhya, 2019) in his paper "An Analysis OF Asset-Liability Management in Banking Sector with Special Reference of HDFC Bank" | Aims to understand fully about the theoretical background of Asset Liability Management To assess the complete profitability position of HDFC Bank also to give proper recommendations and valuable suggestions for the study |
| 2 | (SINGH & RIYA, 2018) in their paper "A Study on Asset Liability Management of HDFC BANK AND BOB" | Presents the situation of interest rate risk in BOB and HDFC bank and evaluates the level of interest rate risk using Gap Analysis in BOB and HDFC Bank, Assets-Liability Mismatch and Gap analysis have been done to measure interest rate risk based on the analysis it is found both the banks either it is private sector or public sector have been facing interest rate risk during the research period of the study. |
| 3 | (DrAnjuGarg, 2022) in their paper "Gap Analysis: Asset and Liability Management at a Bank" | Although market risk, or the possibility that a rapid shift in market prices could have an impact on earnings or capital, can be challenging to quantify, it doesn't lessen its significance. Gap Analysis is one method of determining how exposed a bank is to shifting interest rates. Gap Analysis is no longer widely used. Today, the theoretical use of gap analysis in communicating interest rate and liquidity risk-related issues is its greatest strength |
| 4 | (MathivannanSPrabhakarDr., 2017) in their paper "Asset Liability Management – A Comparative Study On Public Private And Foreign Sector Commercial Bank In India | A comprehensive and dynamic framework for assessing, monitoring, and controlling a bank's market risk is called asset-liability management (ALM). In order to maximise net interest income, the balance sheet's asset-liability structure must be managed within the banks' general (past and future) appetite for risk. |
| 5 | (VeenaK.PK.M.MsPragathiDr., 2018) in their paper "An Analysis of Asset-Liability Management in Banking Sector: A Case Study of Kotak Mahindra Bank" | The Indian financial system is evolving and expanding quickly. World of business is competitive combining fluctuating interest rates and currency exchange rates for both the assets and liabilities pressured bank management to maintain high profitability. |

## III. DATA AND METHODOLOGY

The present study is a post hoc analytical study as it is based on the past data. The source of data is entirely secondary in nature. The data is drawn from the annual reports of the selected companies for the period of 11 years. The tool used for analyzing the data is correlation and mathematical difference in the amount of interest income an interest expenditure. The correlation analysis is done with the help of excel.

Gap analysis, which takes longer and has fewer applications, analyses exposure to a wider variety of term structures movements. Regulatory regulations on financial risks and organisational processes that are influencing the banking industry have increased the demand for precise and fast information on the capacity to deliver value in every business line.

**DATA ANALYSIS AND FINDINGS**

**Table 1: GAP in HDFC bank for 11 years**

| Year | Interest earned | Interest expense | GAP = Interest earned – Interest Expense |
|------|-----------------|------------------|------------------------------------------|
| 31/03/2012 | 27,28,63,517 | 14,98,95,780 | 12,29,67,737 |
| 31/03/2013 | 35,06,48,736 | 19,25,37,521 | 15,81,11,215 |
| 31/03/2014 | 41,13,55,336 | 22,65,28,999 | 18,48,26,337 |
| 31/03/2015 | 48,46,99,044 | 26,07,42,352 | 22,39,56,692 |
| 31/03/2016 | 60,22,14,451 | 32,62,99,330 | 27,59,15,121 |
| 31/03/2017 | 69,30,59,578 | 36,16,37,334 | 33,13,92,244 |
| 31/03/2018 | 80,24,13,550 | 40,14,64,913 | 40,09,48,637 |
| 31/03/2019 | 98,97,20,505, | 50,72,88,255 | 48,24,32,250 |
| 31/03/2020 | 1,14,81,26,509 | 58,62,63,979 | 56,18,62,530 |
| 31/03/2021 | 1,20,85,82,265 | 55,97,86,560 | 64,87,95,705 |
| 31/03/2022 | 1,27,75,31,191 | 55,74,35,282 | 70,00,95,909 |

The annual report of the HDFC Bank for the years 2017 through 2022 reveals a generally higher trend in interest earnings as well as an annual widening of the gap (difference between interest earned and interest expended). When it hits 72,00,95,909, the gap widens to its greatest extent in 2022. This shows that the bank's interest earnings are expanding more quickly than its interest costs. The table demonstrates that every year, the company consistently made more money through interest than it spent. The difference between interest generated and spent has grown over time, which suggests that the company's net interest income has grown with time. Due to the interest income, the corporation has been turning a growing profit over the years.

**Table 1: GAP in ICICI bank for 11 years**

| Year | Interest earned | Interest expense | GAP = Interest earned – Interest Expense |
|------|-----------------|------------------|------------------------------------------|
| 31/03/2012 | 37,99,48,587 | 25,01,32,455 | 12,98,16,132 |
| 31/03/2013 | 44,88,45,894 | 28,28,54,093 | 16,59,91,801 |
| 31/03/2014 | 49,47,92,476 | 29,71,06,119 | 19,76,86,357 |
| 31/03/2015 | 54,96,39,961 | 32,31,81,538 | 22,64,58,423 |
| 31/03/2016 | 59,29,37,057 | 33,99,64,746 | 25,29,72,311 |
| 31/03/2017 | 60,93,99,802 | 34,83,58,328 | 26,10,41,474 |
| 31/03/2018 | 62,16,23,505 | 34,26,20,468 | 27,90,03,037 |
| 31/03/2019 | 71,98,16,540 | 39,17,75,414 | 32,80,41,126 |
| 31/03/2020 | 84,83,57,730 | 44,66,55,222 | 40,17,02,508 |
| 31/03/2021 | 89,16,26,638 | 42,65,90,874 | 46,50,35,764 |
| 31/03/2022 | 42,65,90,874 | 38,90,84,507 | 3,75,06,367 |

The ICICI Bank's annual report for the years 2012 to 2022 reveals a steady rise in interest income and a matching rise in the difference between interest income and interest outlays. A difference of 12,98,16,132 was created in 2012 between the bank's interest income of 37,99,48,587 and its expenditures of 25,01,32,455. By 2022, the bank had a 46,50,35,764 deficit after earning 89,16,26,638 in interest and spending 42,65,90,874. This shows that the bank's efforts to increase revenue through collecting interest on loans and investments have been successful. It's important to note that the difference between interest generated and expended in 2022 is considerably smaller than it was in prior years, suggesting that the bank may have scaled back on its lending and investing activities.

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*Table 3: Correlation Analysis*

|  | HDFC | ICICI |
|---|---|---|
| HDFC | 1 | 0.2386 |
| ICICI | 0.2386 | 1 |

*Interpretation*

According to the individual who gave the table, the correlation findings show that there is little association between the values of HDFC and ICICI because the correlation coefficient value is less than 0.05.A weak or absent link between two variables is often indicated by a correlation coefficient of less than 0.05. A correlation value of less than 0.05 is frequently used as the cut off for assessing statistical significance in statistical significance testing. This indicates that if the correlation coefficient is less than 0.05, the relationship between the two variables is thought to be weak or absent and is not deemed statistically significant.

**CONCLUSION**

The main conclusions and takeaways from the study of the correlation between two or more variables should be enumerated in the conclusion to the correlation results. The existence, strength, and direction of a relationship between the variables can all be ascertained using a correlation study. Every bank is attempting to maximise yield and minimise their exposure to risk since it has become the primary emphasis in the banking sector. The banks must cooperate effectively with in order to improve their performance with reference to Asset Liability Management. For every bank, managing the assets and liabilities is essential.

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## PERFORMANCE EVALUATION OF DIFFERENT REGIONAL RURAL BANKS IN INDIA

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*ABSTRACT*

*The current study on Regional Rural Bank explained about history of RRBs in 1975 and the meaning of RRBs and the State of problem in the fields of credit offering in rural population. This study examines the economic results in India about RRBs from 2017–2018 to 2021–2022. Secondary data serve as the foundation for the study. The research paper deals with the financial performance of RRBs during the selected period and how the RRBs financial performance will differ from area to area. This paper evaluate the financial key indicators. This study has utilized the data gathered from the reports of NABARD. The study is an exploratory nature. Secondary data is mostly what the research depends on.*

*Key words: RRB, Performance Evaluation, Rural Credit, Farm Credit*

## I. INTRODUCTION

Regional Rural Banks (RRBs) were established in 1975 in accordance with the provisions of the Ordinance promulgated on September 26, 1975, and the Regional Rural Banks Act, 1976, in order to expand the rural economy by providing credit and other facilities, particularly to small and marginal farmers, agricultural labourers, artisans, and small business owners. These banks were constructed based on suggestions from the Narasimhan Committee Working Group. The first RRB was created under the name Prathama Bank, with a five-crore rupee authorised capital and its headquarters in Moradabad, Uttar Pradesh. The Central Government (50%) owns RRBs, together with the States (15%) and their respective sponsor banks (35%).

**Statement of Problem:** The provision of various forms of farm credit in rural regions with the loans they demand is overseen by RRBs, which are an essential source of financing for those areas. Many regional rural banks are now coping with problems like past-due accounts, recoveries, and non-performing assets as well as other issues consequently, it is important to research the RRBs' financial performance in country like India.

**Objective of the study:**

**1** To evaluate the financial efficiency of RRBs during the year of 2018-2022.

**2** To assess how the performance of RRBs has changed

**3** To evaluate India's RRBs' key performance indicators.

## II. REVIEW OF LITERATURE

**(Rahul, Venkata Mrudula, & Aashi, april 2022) Study on Regional Rural Banks and their Impact on Poverty Reduction in India.**

The panel data model includes the cross-sectional and time-series analysis models, two more well-known analysis methods [12]re[34]. It was found that PDM can provide comparative amounts of information that a single time series or cross-section analysis cannot. The findings of this study indicate that the federal government and regional rural banks ought to focus more on.

**(Govinda Prasad, 1 April 2019) Region Wise Working of the Regional Rural Banks in India.**

Considering the specifics, the research aimed to look into the regional operations of RRBs in terms of branch network, the number of profitable and unprofitable RRBs, the typical amount of loans and advances per office, the typical amount of non-performing assets (NPA), net profit, and regional recovery trends.

**(Anis Ur, 2020) Innovation and Management by Regional Rural Banks in Achieving the Dream of Financial Inclusion in India: Challenges and Prospects**

To study the information that is currently available regarding the performance and operation of RRBs in India in order to determine the difficulties that these banks' staff face when promoting their services to rural customers. Percentages and the Chi-square test of independence were used to check the study's presumptions. The study's results can aid government officials in better comprehending the difficulties that local rural banks face while attempting to assist the underprivileged and disadvantaged sectors of society.

**(Dr. Nagendra , june 2020) The Performance Evaluation of Regional rural banks in India**

Banks help the economy grow faster by acting as lenders of credit and capital. to investigate the RRBs' financial performance between 1985–1986 and 2015–2016 in India. evaluate the performance of RRBs in relation to India both before and after the merger. The current research is based on secondary data that can be found in R.B.I. publications, including Reports on Currency and Finance, Bulletins, NABARD publications,

**(Dr. Satish , Vibhor, & Ms. Poonam, Performance evaluation of regional rural banks ( RRBs ) in India, April 2017) Performance Evaluation of Regional Rural Banks (RRBs) in India**

In India, the banking system plays a significant role in advancing important national policies like social justice, modernization, and growth. An in-depth credit development policy is used to accomplish this. By serving as capital and credit lenders, banks contribute to a more rapid expansion of the economy.

## III. DATA AND METHODOLOGY

Utilizing the data gathered, the inquiry has an exploratory nature. The Reserve Bank of India and the National Bank for Agriculture and Rural Development (NABARD) provided annual reports that served as the primary sources of the study's real data (RBI). Secondary data is mostly what the research depends on. The tool used for analyzing the data is T-test two-sample assuming unequal variance and ANOVA single factor accomplished through excel.

## IV. DATA ANALYSIS AND FINDINGS

### 4.1 Financial performance: -

The financial main indicators in RRBs' annual statements, including deposits, loans, borrowings, paid-up capital, investments, and other criteria including branches, employees, and the number of RRBs, change from 2017–18 to 2021–22.

**Table 1: Performance of Key Financial Indicators of RRBs for the selected period**

| Sl. NO | Parameter | 2017-2018 | 2018-2019 | 2019-2020 | 2020-2021 | 2021-2022 |
|---|---|---|---|---|---|---|
| 1 | No of RRBs | 56 | 53 | 45 | 43 | 43 |
| 2 | Branches | 21747 | 21871 | 21847 | 21856 | 21892 |
| 3 | Staff | 89806 | 92443 | 91616 | 87861 | 95833 |
| 4 | Paid up Capital | 6436 | 6721 | 7849 | 8392 | 14880 |
| 5 | Reserves | 25083 | 25398 | 26814 | 30348 | 34359 |
| 6 | Total Borrowings | 57647 | 53548 | 54393 | 67864 | 73881 |
| 7 | Total Deposits | 400459 | 434444 | 478737 | 525226 | 562538 |
| 8 | CASA (%) | 53 | 54 | 53 | 53.8 | 54.5 |
| 9 | Gross Loans O/S | 253978 | 280755 | 298214 | 334171 | 362838 |
| 10 | Total B/S | 654438 | 715199 | 776952 | 859397 | 925376 |
| 11 | CD Ratio (%) | 63 | 65 | 62 | 63.6 | 64.5 |
| 12 | Priority Sector Loans O/S | 227941 | 255022 | 270182 | 334171 | 362838 |
| 13 | Total Investments | 222266 | 226172 | 250859 | 275658 | 295665 |
| 14 | Net Owned Funds | 29653 | 29232 | 28195 | 38740 | 49239 |
| 15 | Accumulated Losses | 1866 | 2887 | 6467 | 8264 | 9062 |

Source: NABARD annual report from 2017-18 to 2021-22

**T-Test: Two-Sample Assuming Unequal Variances**

**Hypothesis:**

H0: - For the chosen time period, there is no difference in the financial performance of RRBs.

H1: - There is a difference in financial performance of RRBs for the selected time period.

**Result:**

t-Test: Two-Sample Assuming Unequal Variances

| | *56* | *53* |
|---|---|---|
| Mean | 100196.3333 | 36608.25 |
| Variance | 22532676928 | 1451207754 |
| Observation | 6 | 4 |
| Hypothesized Mean Difference | 0 | |
| D f | 6 | |
| t stat | 0.990876393 | |
| P(T<=t) one-tail | 0.180004 | |
| t Critical one-tail | 1.943180281 | |
| P(T<=t) two-tail | 0.360007999 | |
| t Critical two-tail | 2.446911851 | |

**Interpretation:** In the above table and result of t-test: two- sample assuming unequal variances, the P (T less than equals to t) one-tail value is 0.180004, P value is more than the significance level (0.180004 is more than 0.05 level of significance), so that the result conclude that accepting the H0 because there is no difference in performance of RRBs for the selected period.

**ANOVA: Single Factor**

**Hypothesis:**

H0: - There is no difference in between groups and within groups of financial performance indicators for selected time period.

H1: - There is a difference in between groups and within groups of financial performance indicators for selected time period.

**ANOVA: Single Factor**
**SUMMARY**

| Groups | Count | Sum | Average | Variance |
|---|---|---|---|---|
| 2017-2018 | 15 | 1991492 | 132766.13 | 3.5967E+10 |
| 2018-2019 | 15 | 2143864 | 142924.27 | 4.3021E+10 |
| 2019-2020 | 15 | 2312285 | 154152.33 | 5.105E+10 |
| 2020-2021 | 15 | 2592108 | 172807.23 | 6.2942E+10 |
| 2021-2022 | 15 | 2808563 | 187237.53 | 7.2618E+10 |

**ANOVA**

| Source of Variation | SS | D f | MS | F | P-value | F crit |
|---|---|---|---|---|---|---|
| Between Groups | 2.9294E+10 | 4 | 7.323E+09 | 0.13786686 | 0.96771 | 2.502656 |
| Within Groups | 3.7184E+12 | 70 | 5.312E+10 | | | |
| Total | 3.7477E+12 | 74 | | | | |

**Interpretation:** ANOVA Test result shows that the variance of 2017-18 to 2021-22 is continuously increased (3.5967E+10 and 7.2618E+10). And the P value of ANOVA table is 0.96771 it is more than to the 0.05 level of significance. F value is 0.13786686 is less than as compared to F critical value 2.502656. The mean square value of within group is 7.323E+09 and within group is 5.312E+10. The total degrees of freedom of ANOVA table are 74. The result concluded that accepting H0 because there is no difference in between groups and within groups of financial performance indicator for the selected period.

**4.2 Financial Performance: -**

The assets and liabilities, profit and losses, return on assets (%), expenses, incomes, cost of funds, and GNPA (%) and NNPA (%) yield on assets (%) for the years from 2017–18 to 2021–22 are all displayed in RRB's annual report.

**Table 2:**

| SI.NO | Parameter | 2017-2018 | 2018-2019 | 2019-2020 | 2020-2021 | 2021-2022 |
|---|---|---|---|---|---|---|
| 1 | Total Assets/ Liabilities | 504864 | 537989 | 588021 | 651585 | 705400 |
| 2 | GNPA (%) | 9.47 | 10.8 | 10.43 | 9.4 | 9.1 |
| 3 | NNPA (%) | 5.9 | 6.81 | 5.83 | 4.8 | 4.7 |
| 4 | Yield on Assets (%) | 8.04 | 7.51 | 7.86 | 10.8 | 8.3 |
| 5 | Cost of Funds (%) | 5.01 | 4.58 | 4.68 | | |
| 6 | Net Interest Margin (%) | 3.03 | 2.94 | 3.19 | 3.44 | 3.49 |
| 7 | Cost of Management (%) | 2.29 | 2.66 | 3.62 | 3.27 | 3.19 |
| 8 | Risk Cost (%) | 1.14 | 1.18 | 1.01 | 1.1 | |
| 9 | Miscellaneous Income (%) | 0.72 | 0.77 | 1.04 | 1.1 | 0.48 |
| 10 | Return on Assets (%) | 0.32 | -0.13 | -0.4 | 0.27 | 0.48 |
| 11 | No of RRBs in Profit | 45 | 39 | 26 | 30 | 34 |
| 12 | Profit of RRBs in Profit | 2530 | 1759 | 2203 | 3550 | 4116 |
| 13 | No of RRBs in Loss | 11 | 14 | 19 | 13 | 9 |
| 14 | Loss of RRBs in Loss | 1005 | 2411 | 4411 | 1867 | 897 |
| 15 | Net Profit/Loss | 1525 | -652 | -2208 | 1682 | 3219 |

Source: NABARD annual report from 2017-18 to 2021-22

**T-Test: Two-Sample Assuming Unequal Variances**

**Hypothesis:**

H0: - There is no significant difference in financial performance key indicators of RRBs for the selected period.

H1: - There is a significance difference in financial performance key indicators of RRBs for the selected period.

| t-Test: Two-Sample Assuming Unequal Variances | | |
|---|---|---|
| | *2017-2018* | *705400* |
| Mean | 34001.06133 | 692.0616667 |
| Variance | 16968308203 | 2032915.218 |
| Observations | 15 | 12 |
| Hypothesized Mean Difference | 0 | |
| D f | 14 | |
| t Stat | 0.990274123 | |
| P(T<=t) one-tail | 0.169423802 | |
| t Critical one-tail | 1.761310136 | |
| P(T<=t) two-tail | 0.338847604 | |
| t Critical two-tail | 2.144786688 | |

**Interpretation:** In the above table 4.2.1 and result of t-test: two-sample assuming unequal variance, the P (T less than equals to t) one-tail is 0.169423802, P value is more than the significance level (0.169423802 is more than 0.05 level of significance), so that the result conclude that accepting H0 because there is no significance difference in financial performance key indicators of RRBs for the selected period.

**ANOVA: Single Factor**

**Hypothesis:**

H0: - There is no significant difference in between groups and within groups of financial key indicators of RRBs for the selected period.

H1: - There is a significance difference in between groups and within groups of financial key indicators of RRBs for the selected period.

**ANOVA: Single Factor**
**SUMMARY**

| Groups | Count | Sum | Average | Variance |
|---|---|---|---|---|
| 2017-2018 | 15 | 510015.92 | 34001.06133 | 16968308203 |
| 2018-2019 | 15 | 541597.12 | 36106.47467 | 19277595394 |
| 2019-2020 | 15 | 592509.26 | 39500.61733 | 23028100113 |
| 2020-2021 | 14 | 658761.18 | 47054.37 | 30275718350 |
| 2021-2022 | 13 | 713704.74 | 54900.36462 | 38202884917 |

**ANOVA**

| Source of Variation | SS | D f | MS | F | P-value | F crit |
|---|---|---|---|---|---|---|
| Between Groups | 4094796116 | 4 | 1023699029 | 0.040781063 | 0.99676548 | 2.50869484 |
| Within Groups | 1.68186E+12 | 67 | 25102313575 | | | |
| Total | 1.68595E+12 | 71 | | | | |

**Interpretation:**

ANOVA test result shows that the variance of 2017-18 to 2021-22 is continuously increased (16968308203 and 38202884917). And the P value of ANOVA table is 0.99676548 it is more than the 0.05 level of significance. And in F value is 0.040781063 is less than as compared to the F critical value 2.509869484. The mean square of between groups is 1023699029 and within group is 25102313575. The total degree of freedom is 71. The result concludes that accepting H0 because there is no significant difference in between groups and within groups of financial key indicators of RRBs for the selected period.

### 4.3 Capital to Risk Weighted Asset Ratio (CRAR): -

The Reserve Bank of India has set a minimum capital-to-risk-weighted asset ratio (CRAR) requirement of less than 9% for RRBs as well as an overall average CRAR (%) and a minimum number of RRBs with CRAR below 9%.

**Table 3:**

| CRAR (%) of RRBs | | | |
|---|---|---|---|
| As on 31st March | CRAR (%) all India Average | Total No. of RRBs | No. of RRBs With CRAR Less than 9% |
| 2018 | 12.4 | 56 | 10 |
| 2019 | 11.5 | 53 | 13 |
| 2020 | 10.3 | 45 | 17 |
| 2021 | 10.2 | 43 | 16 |
| 2022 | 12.7 | 43 | 13 |

Source: NABARD annual report from 2017-18 to 2021-22

**T-Test: Two-Sample Assuming Unequal Variances**

**Hypothesis:**

H0: - There is no significant difference between no. of RRBs have average CRAR in India and no. of RRBs with CRAR less than 9%.

H1: - There is a significant difference between no. of RRBs have average CRAR in India and no. of RRBs with CRAR less than 9%.

**Result:**

| t-Test: Two-Sample Assuming Unequal Variances | | |
|---|---|---|
| | CRAR (%) all India Average | No. of RRBs With CRAR Less than 9% |
| Mean | 11.42 | 13.8 |
| Variance | 1.337 | 7.7 |
| Observations | 5 | 5 |
| Hypothesized Mean Difference | 0 | |
| D f | 5 | |
| t Stat | -1.77031202 | |
| P(T<=t) one-tail | 0.068446286 | |
| t Critical one-tail | 2.015048373 | |
| P(T<=t) two-tail | 0.136892573 | |
| t Critical two-tail | 2.570581836 | |

**Interpretation:**

In the table 3 and result of t-test: two-sample assuming unequal variance, the P (T less than equals to t) one-tail value is 0.068446268, P value is more than 0.05 level of significance, so that the result concludes that accepting of H0, because of there is no significant difference between no. of RRBs have average CRAR in India and no. of RRBs with CRAR less than 9%.

**ANOVA: Single Factor**

**Hypothesis:**

H0: -There in no significant difference between, between group and with in group of RRBs in average CRAR (%) and CRAR less than 9%.

H1: - There is a significant difference between, between group and within group of RRBs in average CRAR (%) and CRAR less than 9%.

**Result:**

**ANOVA: Single Factor**
**SUMMARY**

| Groups | Count | Sum | Average | Variance |
|---|---|---|---|---|
| As on 31st March | 5 | 10100 | 2020 | 2.5 |
| CRAR (%) all India Average | 5 | 57.1 | 11.42 | 1.337 |
| Total No. of RRBs | 5 | 240 | 48 | 37 |
| No. of RRBs With CRAR Less than 9% | 5 | 69 | 13.8 | 7.7 |

**ANOVA**

| Source of Variation | SS | D f | MS | F | P-value | F crit |
|---|---|---|---|---|---|---|
| **Between Groups** | 14938162 | 3 | 4979387 | 410358.1 | 2.72E-39 | 3.238872 |
| **Within Groups** | 194.148 | 16 | 12.13425 | | | |
| **Total** | 14938356 | 19 | | | | |

**Interpretation:**

ANOVA test result shows that the variance as on $31^{st}$ march is 2.5 as compared to the no. of RRBs with CRAR less than 9% is 7.7. And P value in ANOVA table is 2.72E- 39 it is more than 0.05 level of significance. And the F value is 410358.1 is more than as compared to the F crit value is 3.238872. And the mean square value of between group is higher than within group (4979387 is more than 12.13425). And the total degrees of freedom 19. Lastly the result concludes that accepting H0 because there is no significant difference in between group and within groups of RRBs in average CRAR (%) and CRAR less than 9%.

**V. CONCLUSION**

The research paper on the functioning evaluation of Regional Rural Banks in India draws conclusions regarding the RRBs' operational and financial performance. RRBs successfully accomplishes its primary objective, which is to make banking tasks easier, particularly in rural areas. RRB's efforts in branch creation and growth, deposits, capital mobilization, credit approval for underserved groups, and rural development. The rural population relies heavily on local private lenders, however since the Narasimhan committee's recommendations to the RBI, the majority of RRBs have opened with the goal of distributing credits to the rural population and boosting the rural sector.

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## A STUDY ON A COMPARATIVE ANALYSIS OF SELECTED EQUITY DIVERSIFIED MUTUAL FUNDS

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*ABSTRACT*

   *A trust known as a mutual fund pools the funds of numerous investors with comparable financial goals. This money is then put to use by purchasing shares, debentures, and other assets found in the capital markets. According to the number of units they own, each investor in these ventures receives a share of the revenue generated. As a result, a mutual fund is the best investment choice for average investors because it enables them to purchase a variety of professionally managed securities at a reasonable price.Investors strive to diversify their portfolios, increase liquidity, reduce risks, and generate abnormal returns. The theory of capital asset pricing under risky conditions forms the foundation of early studies on mutual fund performance. It might be a key component of someone's investment plan. Mutual funds have seen an increase in popularity among investors over the past ten years as opposed to other long-term investment vehicles. Mutual funds, equity, diversification, and securities are important terms.*

***Key words:*** *Mutual funds, Equity, Diversified, Securities,* Sharpe's ratio, Benchmark index.

## I. INTRODUCTION

The Indian government launched the Unit Trust of India (UTI) in 1964, marking the beginning of the mutual fund industry in the Nation. has been one of India's top mutual fund investment companies for the past 36 years. In 163, UTI was confirmed (established) by an act of parliament. Additionally, the Reserve Bank of India established it, and it operated under its administrative and regulatory control. Since public sector banks and insurance companies started establishing mutual funds in 1987, six public sector banks have done the same. The two insurance firms LIC (Life Insurance Corporation) and GIC also founded mutual funds (Guaranteed Investment Certificate). The Securities Exchange Board.

To invest in the securities market and build wealth for investors, mutual fund companies pool investor investments into a single investment vehicle. Investors strive to diversify their portfolios, increase liquidity, reduce risks, and generate abnormal returns. The theory of capital asset pricing under risky conditions forms the foundation of early studies on mutual fund performance.

**Objectives of the study:**

Analysis of selected equities diversified mutual funds' NSE fluctuations is one of the study's main objectives.

1. To assess the return and risk of equity-diversified mutual funds.

2. To compare the performance of selected Equity Diversified Mutual Funds.

## II. REVIEW OF LITERATURE

(BHADRAPPA HARALAYYA, 2022) Comparative Study on Performance Evaluation of Mutual Funds with Reference to Banking Funds: In this paper, one of the world's most lucrative venture options is discussed, and how it affects a nation's financial development. investigating the financial results of the chosen mutual fund schemes and evaluating the performance of the chosen mutual fund schemes with risk adjustments.

(Mahardika Agustinus, 2021) Comparative Analysis of the Performance between Sharia and Conventional Equity Mutual Funds Using Sharpe and Treynor Method: To determine performance is the goal of this study. Sharia and conventional equity compared for the 2016–2020 period, Sharpe and Company mutual funds were used. Techniques of Treynor The equity mutual funds used in this study's samples are traditional and sharia-compliant, and they are both managed by the same investment manager.

(Pandey, An Analysis of Investment Avenues in India: A Comparative Analysis of, 2021)Government Benchmark Returns and Equity Mutual Funds in India: This paper offers an analytical perspective on comparing the returns of various investment avenues in India. The researcher also uses

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government benchmark returns to compare the various avenues. The researcher considers mutual funds to be a dominant industry for investment.

(Sharma, 2020) Performance Analysis of Mutual Fund: A Comparative Study of the Selected Debt Mutual Fund Scheme in India: The best investments for the average investor are mutual fund schemes because they provide access to a professionally managed stock market with minimal risk and maximum returns. the foundation. The goals of this study are to examine the risk and return ratios of specific debt mutual fund schemes in India as well as their performance.

( Prof. Indrajeet Kole & Ms. Pooja Kiran Deshpande, 2020) Study of Comparative Analysis on The Performance of Sectorial, Multi Sectorial and Equity Diversified Mutual Funds: To analyse and evaluate mutual funds' Net Asset Value and individual returns on live investment avenues, this study will calculate how mutual funds' performance is graded and evaluated Twelve mutual fund schemes were chosen from a variety of equity mutual funds over a three-year period, from August 2017 to August 2020, to represent the pharmaceuticals, technology, banking, and financial services, as well as the FMCG sector.

## III. RESEARCH METHODOLOGY

The current study is post hoc analytical in nature. Data is collected from secondary source. The research is based on the comparative analysis of selected company's mutual funds. Which has the financial information of the selected company's mutual funds over five years. Financial information was gathered for the study from secondary sources including the money control. Formula used for the analysis is

**Sharpe Ratio = (Expected Return Portfolio - Risk-Free Rate) /Standard Deviation Portfolio**

**(or)**

$$\frac{R_p - R_f}{\sigma_p}$$

Where,

$R_p$ = Expected Return Portfolio
$R_f$ = Risk-Free Rate of returns (Nifty 50)
$\sigma_P$ = Standard Deviation of portfolio

**Expected Returns Portfolio =** $\dfrac{\text{Future value – Present value}}{\text{Present value}}$ OR $\dfrac{P_1 - P_0}{P_0}$

**Standard Deviation Portfolio =** $\sqrt{\dfrac{\Sigma f(x-\bar{x})^2}{\Sigma f}}$

$R_p$ = Average returns

$R_f$ = Index value of Nifty 50
$\sigma_P$ = Rate of Returns

### Hypothesis of the study:

$H_0$: There is no significant difference among the performance of selected mutual funds.

$H_1$: There is a significant differents among the performance of selected mutual funds.

## IV. DATA ANALYSIS AND FINDINGS

### Table No. 1: Sharpe Ratio of selected companies from 2018 - 2022

| Fund Name | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|
| Franklin India High Growth Cos fund | -30.9545 | -54.7143 | -4.90119 | -117.222 | -18.375 |
| HDFC Capital Builder Fund | -24.0733 | -40.1379 | 6.24873 | -117.444 | 0.709677 |
| Tata Ethical fund | -32.8889 | -118.3 | -14.2778 | -146.2 | -36.6 |
| Birla Sun Life Equity fund | -7110.5 | -223 | -33.7949 | -7.02848 | -107.25 |
| DSP Blackrock Focus 25 fund. | -77.75 | -92.1667 | -23.2807 | -1149 | -199.5 |

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Risk and Returns for five years
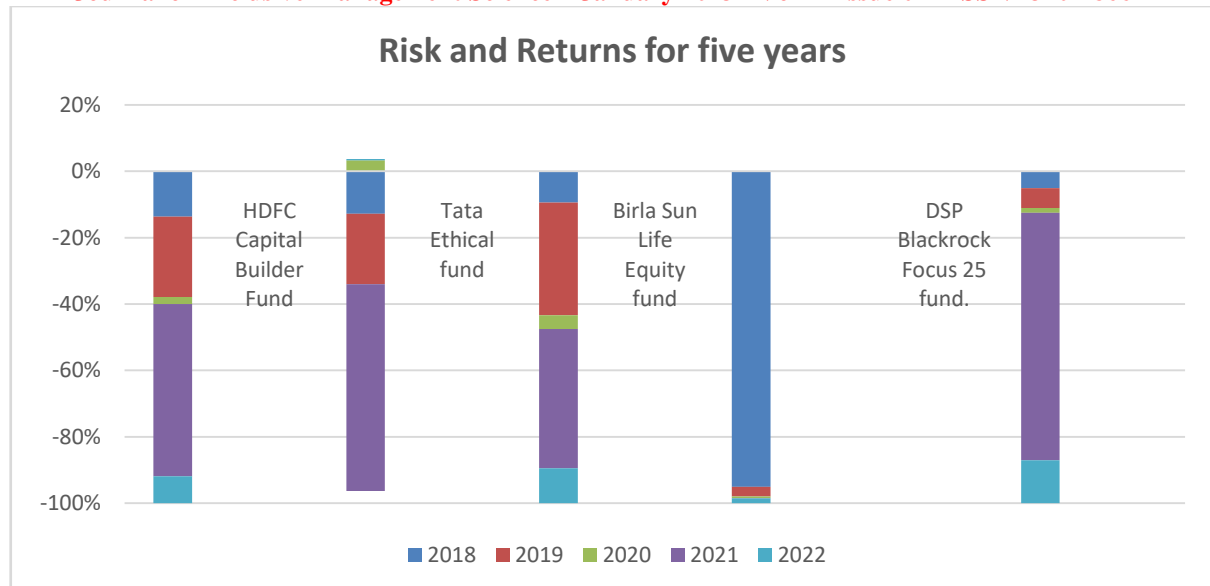
**Interpretation:** According to the graph above, HDFC had the highest risk and return percentage (6.24873%) in 2020. The difference between Birla Sun Life and the other four equity mutual fund shares in 2022 is at least -7110.5%. Only HDFC experienced the second-highest risk and return in 2022, by 0.709677%. If a trader purchases HDFC funds, he will only make money when the share price of Birla Sun Life rises; otherwise, he will lose money. However, if he invests in a variety of funds, there is a chance that his risk in mutual funds will be reduced.

## V. CONCLUSION

Mutual funds are becoming more popular, according to this report, because they reduce risk for individual investors. This equity diversified mutual fund assists investors in mutual funds in reducing risk and maximizing returns. Companies that offer mutual funds provide various schemes based on market trends. A mutual fund is the best investment option for average investors because it allows them to invest in a diverse, professionally managed portfolio of securities at a low cost.

In this study we conclude that when the trader buys HDFC funds that time he gets profits if only if share price of Birla Sun Life rises. If he invests in a variety of funds, he may be able to reduce his risk in mutual funds. In this research null hypothesis is rejected.

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## COMPARATIVE ANALYSIS OF PROFITABILITY OF SELECTED PUBLIC SECTOR AND PRIVATE SECTOR BANKS BY USING CAMEL MODEL

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**ABSTRACT**

*Banking sector helps in stimulation of capital formation, Innovation and monetization in addition to facilitation of monetary policy. For an efficient and healthy financial system and economy, it is essential to carefully evaluate and analyse the performance of banks. The profitability depends on the effective utilization of funds to procure maximum profit for growth. It is discussed how banks relate to their clients, how they operate, which banks fall under which categories, and other relevant information. There are various models of evaluating the performance of banks, but in this study discusses about the CAMEL Model to evaluate the performance of banks. The research has been done on the performance of 4 banks selected on the basis of market capitalisation (i.e., Canara Bank, Bank of Baroda and Axis Bank, HDFC bank).*

**KEYWORDS:** *Capital Adequacy, Asset Quality, Banking System, Earning Quality, Liquidity and Management Efficiency.*

**I. INTRODUCTION:** The banking industry in India has seen a number of changes as a result of globalisation and deregulation. Currently, the banking sector employs about 11,75,150 people, has 1,09,811 branches throughout India and 171 branches abroad, and manages deposits of Rs. 67504.54 billion and bank credit worth Rs. 52604.59 billion. The amount of the profit indicates the efficiency of the organization the larger the profit higher the growth rate. The profitability depends on the effective utilization of funds to procure maximum profit for growth. . For an efficient and healthy financial system and economy, it is essential to carefully evaluate and analyse the performance of banks. Since nationalization, the Indian banking system has grown significantly, with an extensive network of branches and a wide range of financial instruments. The CAMEL rating is a supervisory rating system that was developed in the United States to categorise a bank's overall position. One of the best terms to measure the financial performance is CAMEL model which measures the performance in terms of five features i.e, Capital Adequacy, Assets Quality, Management, Earning Quality and Liquidity. For each CAMEL component, the banks were given a score ranging from "1" to "5"

**OBJECTIVES:**

1. To investigate the financial performance of selected public and private sector bank.
2. To compare the performances of selected banks.

**II. REVIEW OF LITERATURE**

1) **(Rao & Ch. Srinivasa Rao , 2022): "Performance and Efficiency Analysis of Selected Private Sector banks in India."-**This study examines the effectiveness and performance of a few private sector banks in relation to various important metrics, including total deposits, total advances, total assets, net profit, and total assets and Ten-year non-performing asset list. Each indicator's absolute values and average annual growth rates (AAGR) during a ten-year period were calculated, and the rankings were determined as a result.

2) **(Mohanty, 2021): "A Comparative Financial Performance of Selected Public and Private Sector Banks in India."-** The researcher compares the performances of two banks using a few chosen ratios. It is evident from the analysis that, with the exception of CD% and CAR%, IOB has solid liquidity position during the last five years compared to liquidity ratio. As a result, it can be shown from the total comparison analysis of the two selected banks' performances that ICICI Bank has performed better than IOB during the research period.

3)  **(Pandey & Tamanna Joshi, 2021): "Assessing Financial Strength of Selected Public and Private Sector Banks Using Camel Model"-** This research aims to evaluate the relative performance of banks in public and private sectors. Based on their revenue earnings, banks are chosen. The data is compiled from annual reports of a few chosen banks between 2015 and 2019. To compare their respective financial strength, 13 CAMEL model parameters are taken into consideration. The findings show that public sector banks were operating at a higher level than private sector banks. Overall, public sector banks demonstrated a higher performance compared to their private counterparts, perform better.

4)  **(Dubey & Yogesh Puri, 2021): "A Study on Financial Performance of Selected Public and Private Sector Banks – A Comparative Analysis"-** . According to the study, Kotak Mahindra performed better and ranked first among all banks, while Punjab National Bank ranked last. The top five positions are held by private sector banks, with Bank of Baroda, a public sector bank, ranking third with HDFC bank. Private sector banks have a much higher profit per employee ratio than public sector banks. To stay in business, every bank must be profitable in the market and at the top of the competition graph Bank performance is also heavily influenced by its ability to earn money. Yes Bank tops the list in terms of earnings performance when compared to all other selected banks.

5)  **(Mrs.CT.SANTHI & Dr.G.KARUNANITHI, 2021): "PERFORMANCE EVALUATION OF PUBLIC SECTOR AND PRIVATE SECTOR BANKS- A COMPARATIVE STUDY."-** This study uses the CAMEL technique in an effort to assess the financial soundness and performance of various public and private sector banks. When public sector banks concentrate on upholding criteria for dividend payout ratio and debt equity ratio, they will have sparkling opportunities. When private sector lenders focus on the ratio of government securities to total investments, the gross non-performing assets ratio, and the dividend payout ratio, they will be in a fantastic position.

## IV.  DATA AND METHODOLOGY:

The present research study is a cross sectional as well as longitudinal study. As it is concerned about the comparison of performance of the selected banks for a period of 5 years. The tool used to analyse the data is the ratio analysis. All the calculation is performed in excel

**Hypothesis of the study:**

$H_0$ – The performance of selected banks are same over a period of 5 years.

$H_A$ - The performance of selected banks are not same over a period of 5 years.

**DATA ANALYSIS AND FINDINGS:**

**1. Capital Adequacy Ratio (CAR) -**

The capital adequacy ratio is used by banks to assess the strength of their capital while taking their exposures into consideration. The amount of core capital held by a bank is stated as a proportion of its risk-weighted assets in capital adequacy ratios.

Capital Adequacy Ratio = (Tier 1 Capital + tier 2 Capital) / Risk Weighted Assets.

### Table: 1 Capital Adequacy Ratio

| Year | SBI | CANARA | HDFC | AXIS |
|------|-----|--------|------|------|
| **2018** | 12.6 | 13.22 | 14.82 | 16.57 |
| **2019** | 12.72 | 11.9 | 17.11 | 15.84 |
| **2020** | 13.13 | 13.65 | 18.52 | 17.53 |
| **2021** | 13.74 | 13.18 | 18.79 | 19.12 |
| **2022** | 13.85 | 14.9 | 18.9 | 18.54 |
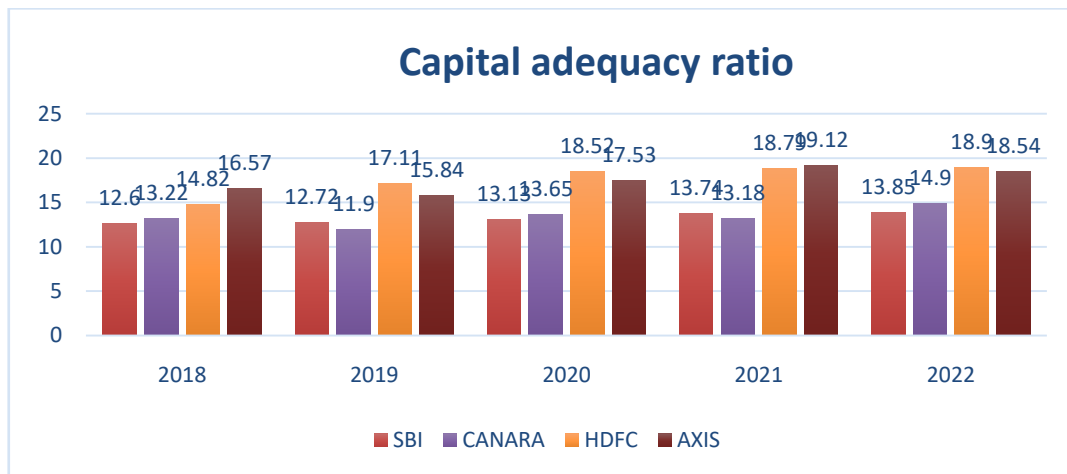
*Interpretation:* The minimum ratio indicates that the bank does not have sufficient capitalisation compared to other banks. The maximum ratio indicates the enough capital compared to other banks. From the values depicted in the table above it is clear that values of capital adequacy is not same among the selected banks. Therefore, the null hypothesis get rejected.

**Asset Quality Gross NPA ratio:**

The primary goal of asset quality measurement is to determine the percentage of non-performing assets in total assets. It is computed from the formula below.

Asset Quality Gross NPA ratio = Gross NPA/ Gross Advances

**Table: 2 -Asset Quality Gross NPA ratio**

| Year | SBI | CANARA | HDFC | AXIS |
|------|-----|--------|------|------|
| **2018** | 0.05 | 0.12 | 0.01 | 0.08 |
| **2019** | 0.05 | 0.09 | 0.01 | 0.06 |
| **2020** | 0.05 | 0.09 | 0.01 | 0.05 |
| **2021** | 0.05 | 0.09 | 0.01 | 0.04 |
| **2022** | 0.06 | 0.08 | 0.01 | 0.03 |
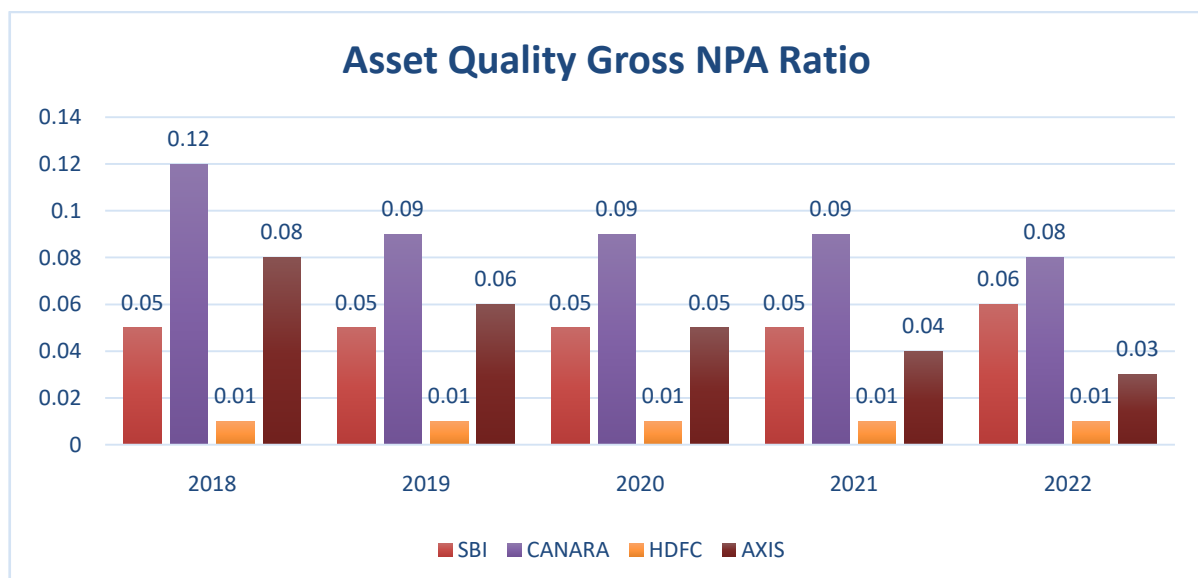


*Interpretation:* It is observed from the table and the graph that the ratio of each bank is similar for the selected period. Very little deviation is found when it is comparted within the bank for the different periods. But when the comparison is made between the different banks the difference is found. It says that the banks performance when it comes to Asset quality is stable.

**Management Quality:**

CAMEL's rating system for management is based on a few areas such as business strategy and financial performance, internal controls, loan to share ratio and so on. The other internal factors which speaks about the quality of management is its profitability, assets and liabilities and etc. the below table shows how the assets is related to the deposits.

Total assets to total deposits ratio = Total assets/ Total deposits

**Table: 3 -Management Quality Total assets to total deposits ratio**

| Year | SBI | CANARA | HDFC | AXIS |
|------|-----|--------|------|------|
| 2018 | 1.34 | 0.99 | 1.35 | 1.52 |
| 2019 | 1.34 | 0.69 | 1.35 | 1.46 |
| 2020 | 1.29 | 0.72 | 1.33 | 1.43 |
| 2021 | 1.32 | 1.06 | 1.31 | 1.41 |
| 2022 | 1.32 | 1.13 | 1.33 | 1.43 |
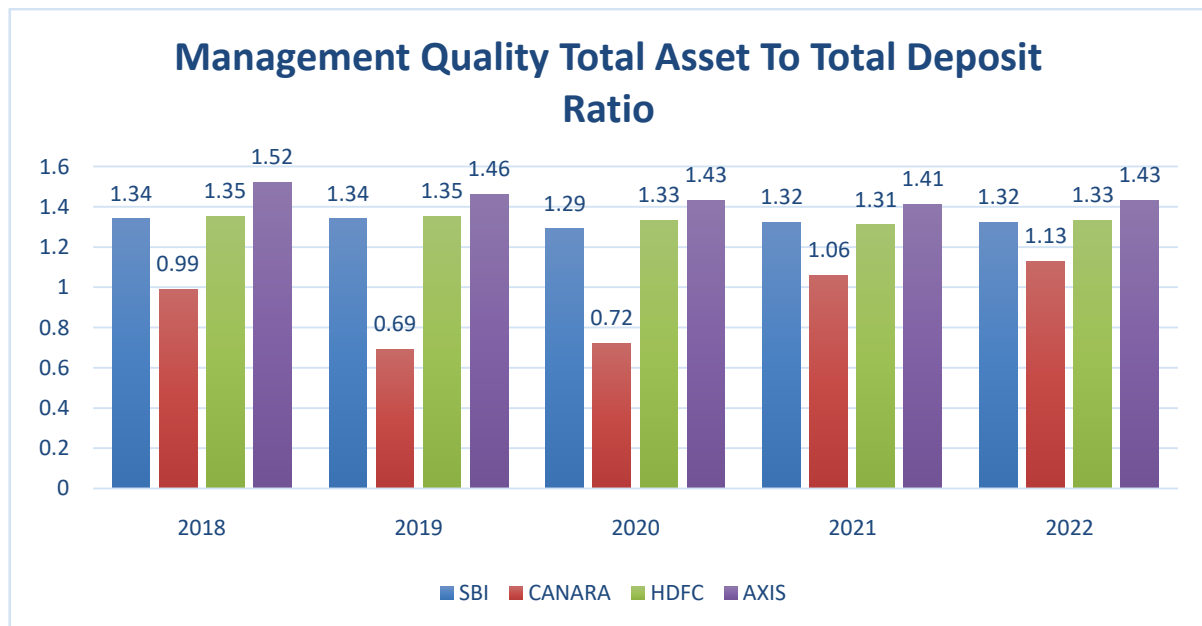


*Interpretation:* from the value depicted in table and graph it could be observed that SBI (public sector bank), HDFC (Private sector bank) and AXIS (Private sector bank) are having similar ratio though little variation is there. But the Canara bank is not in the same line as the other three banks.

**RETURN ON ASSETS (ROA):**

One more ratio which speaks about the Management efficiency of the bank is rate of return for the assets. ROA is computed with the formula below.

Return on Assets = Net Income /Average Total Assets

**Table: 4 - Return on Assets (%)**

| Year | SBI | CANARA | HDFC | AXIS |
|------|-----|--------|------|------|
| 2018 | 0.06 | 0.05 | 0.06 | 0.06 |
| 2019 | 0.05 | 0.05 | 0.07 | 0.06 |
| 2020 | 0.05 | 0.05 | 0.06 | 0.06 |
| 2021 | 0.05 | 0.06 | 0.06 | 0.05 |
| 2022 | 0.04 | 0.05 | 0.05 | 0.05 |
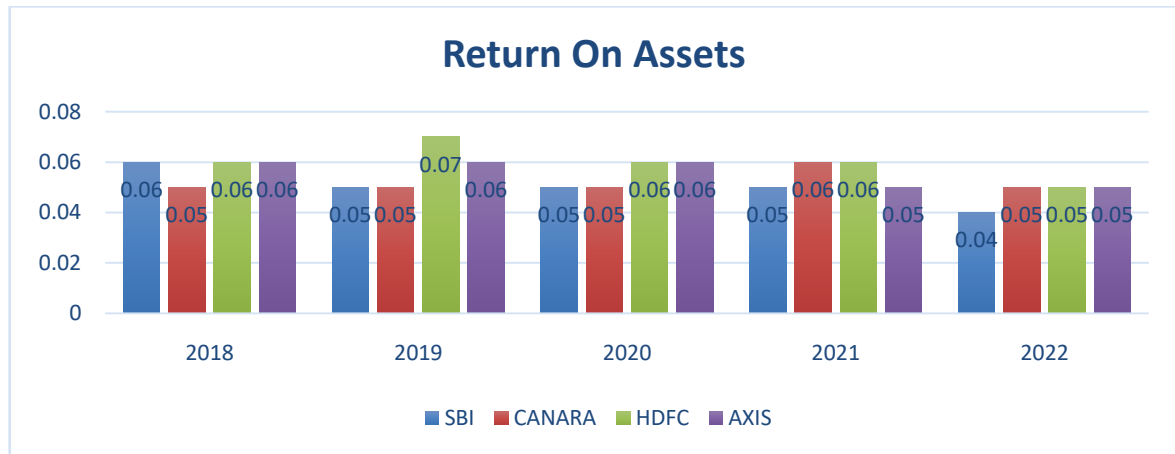
*Interpretation:* The observation of table value and graph shows that the values for selected banks over a period of 5 years is almost similar. Therefore, the null hypothesis in relation with ROA is proved to be true.

**Liquidity Position:**

Liquidity refers to the ability of the banks to meet their short-term obligations. An adequate liquidity position means a situation, where the bank can get sufficient liquid funds. It may be in the form of increasing the liability or converting the assets into cash. The below ratio is used to test the liquid position of the bank.

Current ratio = Current assets/ Current liabilities

**Table: 5 - Liquidity Current ratio**

| Year | SBI | CANARA | HDFC | AXIS |
|------|-----|--------|------|------|
| **2018** | 0.13 | 0.14 | 0.09 | 0.15 |
| **2019** | 0.14 | 0.16 | 0.87 | 0.17 |
| **2020** | 0.15 | 0.16 | 0.83 | 0.22 |
| **2021** | 0.16 | 0.22 | 0.84 | 0.16 |
| **2022** | 0.16 | 0.20 | 0.88 | 0.18 |
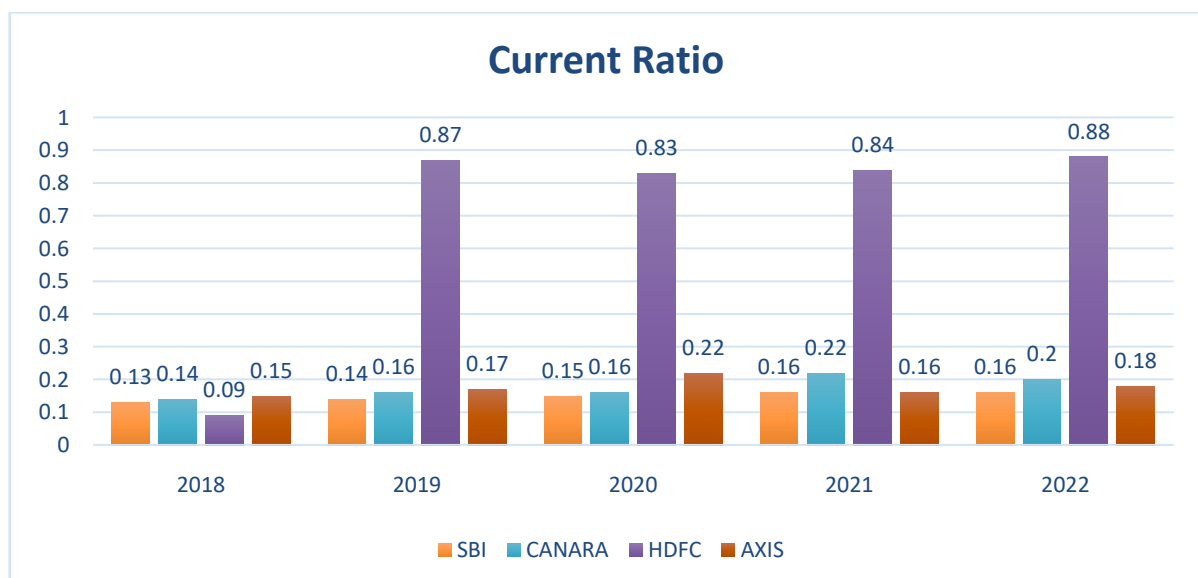


*Interpretation:* The result which is represented in the table gives the clear picture of liquidity position of the selected banks. HDFC bank which is in the private sector has high liquid position when compared to the other three banks.

Finally it could be concluded about the analysis that the null hypothesis gets rejected in all the performance ratio except for ROA where similarity is found.

## V. CONCLUSION:

The CAMEL technique is a key instrument for evaluating the financial condition of institutions. The purpose of this study was to compare the performance of two public sector banks and two private sector banks operating in India. It was calculated by using the five parameters of the CAMEL framework. The findings of this study are based on the size, liquidity, and profitability ratios of the banks. In accordance with the data, Private Bank has demonstrated a reasonable level of profitability and liquidity when compared to Public Bank. Reject the null hypothesis, as the performance of selected private bank and public bank are not same.

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4)   Dubey, S., & Yogesh Puri. (2021). A Study On Financial Performance of Selected Public and Private Sector Banks – A Comparative Analysis. *International Journal of Research in Engineering, Science and Management, 4*(1), 162-164.

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## A STUDY ON IMPACT OF FOREIGN EXCHANGE RATE FLUCTUATION ON INDIAN FOREIGN TRADE

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*ABSTRACT*

*Foreign exchange plays a vital role in the country's foreign trade. Foreign Exchange Rates and Foreign Trade are interrelated with each other and thus one variable has an impact on another in one way or other. The present paper studies impact of Exchange Rate fluctuations on India's Foreign Trade. The study used monthly time series data of Exchange Rates and India's Foreign trade for the period of 5years. It was analyzed with the aid of econometric tools like Unit-root test, co-integration, Granger-Causality. The result stated that there is a long run co-integration between Exchange rate and India's foreign trade, and there is a unilateral causality between the Exchange Rate and India's Foreign Trade. The study concludes that the past values of India's Foreign trade are more likely to forecast future value of the Exchange rates for the short term. From the study undertaken it very evident that, there exists a long run relationship between the exchange rates and India's Foreign Trade.*

*KEY WORDS: Exchange Rate, Foreign Trade, long run, short run, Cointegration.*

**INTRODUCTION:**

Foreign exchange has been widespread throughout the world. Any country's growth rate performance is evaluated based on its ability to generate foreign exchange as well as the goods it can produce. It has also been argued that the nation's growth and performance are driven by its overseas trade. The development and moulding of the nation's economy rely heavily on international trade, which enables the nation to buy goods and services from other nations that would otherwise be expensive to manufacture. The world has become a single market thanks to international commerce, which allows any country with excess domestic output to conduct business there. It makes it possible for one country to trade domestically produced items with other nations around the globe.

The nation's foreign trade depends heavily on foreign exchange. Since 2009, the Indian Rupee has lost value. The profit margins of the nation's importers have decreased as a result. The burden of higher import costs has been transferred to the final consumer as the value of the Rupee has fallen versus the US Dollar. Since a weak currency increases the cost of imports for the domestic economy, the trade imbalance may become more strained. Before commercial transactions are conducted in local currency, a person is not concerned about changes in foreign exchange rates. Only when a person makes arrangements for international travel, import payments, and international transactions does the focus shift

**REVIEW OF LITERATURE**

**Shelly Singala , Sanghita Chaudhary B, (2019).** The study's conclusions imply that while the price of oil has a negative impact on Mexican stock prices, the price of international gold has a favorable impact. Long-term exchange rates are negatively impacted by oil prices, but the price of gold has no discernible effect

**Rashid Latief and Lin Lefen, (2018).** The results of this research revealed that exchange rate volatility has a major impact on both foreign direct investment and global trade, but adversely in OBOR-affiliated nations, which is consistent with the economic theory contending that exchange rate fluctuation may harm foreign direct investment.

**Loice Koskei, (2020).** The study looked into how performance was affected by changes in currency rates. The findings suggested that the inflation rate had an impact on the Nairobi Securities Exchange Market's performance as evaluated by NASI. Investors should be aware of the macroeconomic factors that affect the price of securities, especially during pandemics like the Coronavirus.

**Saleh Sitompul , Reza Nurul Ichsan , Lukman Nasution, (2021).** This study try to find out ascertain the degree to which the currency rate and inflation have a partial and simultaneously affect the increase in assets of Indonesian Islamic banks. The results showed that while the partial variable exchange rate and inflation have a positive, but not statistically significant, impact on the increase of assets held by Islamic banks,

**Ashis Kr Mukherjee, (2022).** The fundamental conclusion of this study is that as the rupee-to-dollar exchange rate increases, gold price lowers and vice versa, having a on the rise of the gold price, a negative and significant influence. The analysis also demonstrates that while the rupee-dollar exchange rate causes the gold price in the Indian economy, the growth rate of the gold price does not.

**Rakesh Kumar Sharma, David Annan, (2019).** The results of the investigation demonstrate how majority approaches based on deep learning were used to find the non-linear feature affecting the Indian IT stock market.

**Sandamini, K. L. A., Jeewanthi, H. A. C., and Indrani, M. W, (2019).** The results of this study will therefore be helpful for decision-makers in making decisions for developing the country's foreign commerce while managing exchange rate and monetary policies.

**Oleksandra Ivanievna Stoykova, (2021).** The aim of the piece is to investigate if fixed rate or currency union exchange rate regimes promote more bilateral commerce. Despite the fact that the index looked to be higher in nations with currency unions, the findings show that a fixed exchange rate system is preferable than a currency union in terms of the value of bilateral commerce.

**Alaba David Alori , Adebayo Augustine Kutu, (2019).** The export role of cocoa production was examined in this study, and the impact of changing exchange rates and export prices was noted. The outcome also showed that, in comparison to other factors in the model, exchange rate shocks were responsible for the value of exported cocoa experiencing greater volatility (positively significant for the entire time). Based on those conclusions, the report suggests in order to increase export growth and increase cocoa production, that a free exchange rate market determination be put into place in Nigeria.

**Abdallah Mumuni, (2016).** The performance of Ghana's manufacturing sector in response to exchange rate volatility was examined in this study. In light of this, it is advised that legislation be passed to control the importation of goods that could be made locally in order to enhance the manufacturing sector's performance.

**Mochammad Fahlevi, (2019).** This research study will concentrate on analyzing how interest rates, inflation rates, and foreign currency rates affect stock values. The study found that dependent and independent variables were found to be correlated. The study also found that interest rates and foreign exchange rates had a substantial impact on stock price. Inflation rates, on the other hand, do not significantly affect stock price.

**Levi, Sriyank, (2020)** & **Guntur Anjana Raju , Sanjeeta Shirodkar, (2021).** The current study looks at how exchange rates, the price of crude oil, and stock market returns are related. The study's overall conclusions show that crude oil significantly affects the USD/INR exchange rate. The decline in crude prices might theoretically drive down domestic prices of non-traded goods, which would then drive down the real exchange rate and stock market returns, perhaps causing an oil price shock.

**Hamid Sepehrdoust , Morteza Ghorbanseresht, ( 2019).** Study the implications of financial growth and information and communication technology (ICT) on the developing economies of the countries exporting petroleum (OPEC) The outcomes of the econometric model showed that an increase of 1% in the financial development index and 1% in the ICT variables, respectively, resulted in an increase in economic growth.

**Ojonugwa Usman and Osama Mohammed Elsalih, (2018).** Research the impacts of financial development and information and communication technology (ICT) on the emerging economies of the nations that export petroleum (OPEC). This study examine if the real exchange rate can accurately predict Brazilian unemployment. The long-run analysis of the nonlinear ARDL reveals a difference in how the unemployment rate reacts to RERT appreciations and depreciations, with depreciations having a significant impact. However, both in the short and long terms, the RERT's pass-through to unemployment is insufficient. The real exchange rate would have a considerable impact on monetary policy in reaction to an increase in unemployment brought on by the change.

**Kizito Uyi Ehigiamusoe and Hooi Hooi Lean, (2019).** The study tells us that, finance-growth nexus in West Africa is examined in relation to the volatility and moderating impacts of the real exchange rate. The intended economic benefits would not be obtained through the financial sector. In light of its results, the paper makes some recommendations for public policy.

**Samuel E. Isaac, (2022).** The study crucially examines how to demonstrate the interconnections between variables should affect monetary policy decisions, this study looked at the relationships between GDP, money supply, interest rate, and exchange rate. According to this study, The inflation, interest rate, money supply, and GDP of Nigeria are all significantly impacted by the exchange.

**Musa, Nuhu, (2021).** Inflation in Nigeria was explored in this study in relation to the impact of currency rate volatility. The nominal exchange rate, money supply, imports, and exports were utilized as the independent variables in the study, while the consumer price index was employed as a stand-in for inflation as the dependent variable. The results of the stationarity test showed The co-integration boundaries test confirmed that the variables have a lasting link and that the variables had mixed order of integration. Findings showed a substantial and positive association between the money supply, nominal exchange rate, and consumer price index, proving that both elements contribute to inflation in Nigeria.

**Georgios Georgiadis , Johannes Gräb, (2020).** This study establishes a link between the reduction in the impact of currency rates on import prices and an increase in global value chain participation. We calculate instrumental variable regressions using adopted trade agreements as instruments for economies' GVCP using a cross-country panel dataset for the years 1995 to 2014. We find that ERPT to import prices have been lower in nations whose trade partners exhibit stronger GVCP and higher in economies that display larger GVCP, which is consistent with the mechanism described in the theoretical model.

**Joscha Beckmann and Mariarosaria Comunale, (2021).** In this study, the financial channel of exchange rate variations for developing nations is evaluated together with its relationship to the traditional commerce channel. This is true only in the short term; an increase in foreign currency debt (due, for instance, to appreciation) reduces GDP in the medium and long terms.

**Aleksaei Oskolokov, (2021).** This study examines the role that exchange rate regimes play in predicting how monetary shocks from outside would affect distribution. Stabilizing the exchange rate would necessitate boosting domestic interest rates because the decline in wages disproportionately affects the poor rather than lowering them, which would produce a recession and expand the gap between consumers. A foreign tightening often widens the pro-tradeable wage differential, which is magnified when the currency rate is less flexible, according to my study on intermediate regimes between float and peg. To achieve parity in wage growth between tradable and non-tradable products, it is necessary to counteract a foreign constraint with a local real interest rate that generates a greater currency depreciation and may be linked to a preference for floating.

**Mariana Hatmaanu , Cristina Cautisaanu and Mihaaela Ifrim, (2020).** This study investigates the impact of the interest rate used for monetary policy, the impact of Romania's economic growth on the real exchange rate and the business climate in the Euro region. The results show that while the exchange rate has a favorable short-term influence on economic growth, the interest rate has a short-term impact that is negative. We also note that the Euro area's business environment has mixed results for economic expansion. Lastly, given the growing connectivity between the internal and external (European) business environments, the findings are particularly important for controlling interest and exchange rates in order to ensure economic growth.

**Deepak Adhikari, (2018).** This study investigates how Nepal's currency rate affects its trade imbalance and foreign exchange reserves. According to empirical findings, the Nepalese rupee's (NPR) one percentage point devaluation against the US dollar causes a 0.82 reserves rose by a percentage point, and the trade deficit shrank by 6.75 points. The government and central bank might, to some extent, correct the trade deficit and keep enough foreign exchange reserves to boost the external sector through the use of exchange rate regulation given the volatility and fragility of the Nepalese external sector.

**Korhan Gokmenoglu, Baris Memduh Eren, and Siamand Hesami, (2021).** This study's goal is to reevaluate how an assortment of emerging economies' stock market performance and exchange rates are related. The empirical results show that exchange rate flexibility is an important determinant of the bullish or bearishness of market returns. As a result of the asymmetrical nature of the relationship between the exchange rate and the stock market, the conclusions

**Vinh Nguyen Thi Thuy and Duong Trinh Thi Thuy, (2020)** This study examines how the fluctuation of exchange rates has an impact on Vietnamese exports. The results show that, as anticipated, exchange rate volatility has a long-term negative effect on export volume. According to the J curve effect, a depreciation of the home currency has a short-term negative impact on exports but a long-term favorable one. Surprisingly, the volume of a foreign country's real wealth increases, Vietnamese exports fall. These results suggest some possible policy implications for managing the exchange rate system and promoting Vietnam's exports.

**Pournima Dhume, Ms Vitiksha Venji, (2019).** The essay examines the effect of exchange rate fluctuations on India's international trade. According to the findings, The exchange rate and India's overseas commerce are causally related in a single direction, as well as a long-term co-integration between the two. The study comes to the conclusion that the short-term forecasting accuracy of India's foreign trade previous values is higher. India's overseas trade and exchange rates are closely related over time.

**HYPOTHESIS**

HO: There is no significant impact of currency fluctuation on India's foreign trade
H1 : There is significant impact of currency fluctuation on India's foreign trade

**RESEARCH METHODOLOGY**
Study Type : Descriptive Study
Data: Secondary information was gathered from. The monthly values for exchange rates and international trade were obtained from the Reserve Bank of India website.
Source of the data: Reserve Bank of India website
Period of the study January 2018 to December 2022

Tools and Techniques : Unit root test , Granger Causality Test , Johansen Co-integration Test

**DATA ANALYSIS AND INTERPRETATION**

UNIT ROOT TEST

| Unit root | At level | | At 1st differnce | |
|---|---|---|---|---|
| NULL HYPOTHESIS | T-statistic | Prob | T-statistic | Prob |
| Exchange rate has a unit root | 0.466364 | 0.9838 | -7.779284 | 0 |
| India's Export trade has a unit root | -2.706419 | 0.0076 | -9.007777 | 0 |
| India's Import trade has a unit root | -4.181206 | 0.0016 | -10.59543 | 0 |

Analysis : The data was initially run on its initial value at the level, and because the data was non-stationary at that level based on probability values greater than 0.05, the data was then performed once again on the first difference when the p-values were under 0.05

**Granger Causality Test**

| NULL HYPOTHESIS | Obs | F-Statistic | Prob. | Decision | Nature of Causality |
|---|---|---|---|---|---|
| EXPORT does not Granger Cause EXCHANGE_RATE | 58 | 0.27045 | 0.7641 | Accepted | No Causality |
| EXCHANGE_RATE does not Granger Cause EXPORT | 58 | 0.02448 | 0.9758 | Accepted | No Causality |
| IMPORT does not Granger Cause EXCHANGE_RATE | 58 | 0.81019 | 0.4502 | Accepted | No Causality |
| EXCHANGE_RATE does not Granger Cause IMPORT | 58 | 3.49600 | 0.0375 | Rejected | Causality |

Analysis : The null hypothesis, which states that there is no causal relationship between the variables, is also rejected if the probability value is less than 0.5%. Because the p-value is less than 0.05 and the null hypothesis is rejected by this test, it is evident that the exchange rate has no bearing on export trade. Export trade will occur if the p-value exceeds 0.05

**Johansen Co-integration Test**

| Null hypothesis Trace rank test | Alternative Hypothesis | Eigenvalue | Trace Statistic | Critical values (0.05%) | P-values |
|---|---|---|---|---|---|
| Exchange Rate With India's Foreign Trade | | | | | |
| H0:r=0 | H1:r=0 | 0.399093 | 36.58386 | 29.79707 | 0.0071 |
| H0:r ≤ 1 | H1:r >1 | 0.113978 | 7.043576 | 15.49471 | 0.5726 |
| H0: r ≤ 2 | H1: r > 2 | 0.000427 | 0.024765 | 3.841466 | 0.8749 |
| Max-Eigen Stastic | Alternative Hypothesis | Eigenvalue | Trace Statistic | Critical values (0.05%) | P-values |
| Exchange Rate With India's Foreign Trade | | | | | |
| H0:r=0 | H1:r=0 | 0.399093 | 29.54029 | 21.13162 | 0.0026 |
| H0:r ≤ 1 | H1:r >1 | 0.113978 | 7.018811 | 14.2646 | 0.4869 |
| H0: r ≤ 2 | H1: r > 2 | 0.000427 | 0.024765 | 3.841466 | 0.8749 |

**Analysis :** Both test show that one cointegrating equation is the initial null hypothesis at a 5% significance level  Following that the Trace and Maximum Eigen value tests were used to test Johansen's cointegration test for the specified variables. The result indicates that the cointegration equation which is represented by trace statistics and maximal Eigen statistic

FINDINGS

Null hypothesis is rejected in unit root test because the data was nonstationary at that level based on p value greater than 0.05, so null hypothesis is rejected because the p-value is higher than 0.05 and the exchange rate has no impact on India's import trade. As a result, there is no reciprocal relationship between currency rates and import-related trade. The result indicates that the co integration equation which is represented by trace statistics and maximal Eigen statistics, the test show that one co integrating equation is the initial null hypothesis at a 5% significance level

**CONCLUSION**

By examining how exchange rates affect international trade with India, this study adds to the body of literature. Cointegration, the unit root test, and the Granger causality model were all employed in this work. The nation's foreign trade depends heavily on foreign exchange. Because foreign trade and foreign exchange rates are tied to one another, one variable can have an effect on the other in different ways. The fact that the exchange rate and foreign trade have been found to be co-integrating suggests a long-term relationship between the two. This could be because whenever the value of a foreign currency increases, imports tend to decline by a certain percentage, which in turn affects how the exchange rate affects foreign trade. The study's findings support the notion that, for the short term, the exchange rate may be predicted using historical data on foreign trade. The primary focus of this article was the fluctuation in exchange rates and how it affected India's international trade. It also focuses on the question of whether currency rates and India's foreign commerce have a short- or long-term relationship.

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## AN EMPIRICAL STUDY ON BRICS NATION WITH REFERENCE TO STOCK MARKET MOVEMENTS

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### ABSTRACT

*This empirical study aims to investigate the relationship between stock market movements and the economic growth of BRICS nations, namely Brazil, Russia, India, China, and South Africa. The study uses yearly stock market index data of each country over a period of fifteen years (2007-2022) and applies statistical methods to identify the extent of interdependence between the stock market and economic growth. The findings suggest that there is a positive relationship between the stock market movements and economic growth in BRICS nations. However, the extent of this relationship varies across countries, with China and India demonstrating the strongest relationship between the stock market and economic growth. The study also finds that external shocks such as changes in global commodity prices and political events can impact the stock market movements in BRICS nations. Overall, this study provides valuable insights into the relationship between the stock market and economic growth in BRICS nations, which can assist investors and policymakers in making informed decisions regarding their investment strategies and economic policies.*

**Keywords:** BRICS, stock market, economic growth, correlation, cointegration, causality.

### INTRODUCTION

The BRICS nations, which include Brazil, Russia, India, China, and South Africa, are some of the fastest-growing emerging economies in the world. In recent years, there has been a growing interest in studying the stock market movements of these countries. This empirical study aims to analyze the stock market movements of the BRICS nations and identify the factors that contribute to these movements.

The study will utilize various statistical methods to examine the relationships between the stock market movements and macroeconomic variables such as GDP, inflation, exchange rates, and interest rates. The study will also explore the impact of global events such as the COVID-19 pandemic on the stock markets of the BRICS nations.

The findings of this study are expected to contribute to a better understanding of the stock market movements in the BRICS nations and provide insights for investors and policymakers. The study could also help in identifying potential investment opportunities and risks in the stock markets of these emerging economies.

### STATEMENT OF PROBLEM

In the current study focus primarily to investigate how dependent the stock markets of BRICS countries. If the BRICS stock markets are dependent on one another, portfolio diversification among these nations is impossible. Investors can diversify their portfolios and invest in various nations' stock markets only if there is no causal relationship. If there is no causal relationship between these stock markets, investors can diversify their portfolio by investing in the stock markets of these nations. The questions addressed in this study are as follows:

• Are there any connections between the BRICS nations' stock exchanges?
• Does any BRICS country's stock market aid in the forecasting of the behaviour of the other stock exchanges in the group?

### OBJECTIVES

1. To access the accomplishment of BRICS indices and stock markets.

2. To look into the connection between the indices of the BRICS stock market

## REVIEW OF LITERATURE

Dr. Vijay Kumar (2017) the main objective of the study is to analyze the performance of various stock markets and their indices of BRICS nations. To find out the correlation among stock market indices of BRICS nations. The correlation clearly shows that the Indian stock market is highly correlated with the South African stock market, whereas the Chinese stock market is least correlated with the South African stock market.

Yu Hsing (2011). The major goal is to keep a healthy stock market, and the government is expected to pursue economic expansion, fiscal responsibility, a greater money supply to GDP ratio, a lower real interest rate, rand depreciation, and/or reduced inflation rates. The South African stock market index is positively influenced by real GDP growth.

Jitin Gambhir and Jitender Bhandari (2011). The aim of this study is to investigate the stock market Integration in the context of BRIC stock markets. It can be concluded that global stock market interdependence has increased, and there is no clear direction of relationships in the sense of Granger Causality, indicating that the influence of a few markets has eroded over time.

Levi Sriyank, Garag G AnilKumar, Merlyn Sarah, (2016). the goal is to assess whether there is any return and relationship exists in Indian stock markets when compare to international developed and developing stock markets. The results show that the majority of the indices have a positive correlation with each other, with only a few having a negative correlation.

Somar Al-Mohamad, Audil Rashid, Walid Bakry, Ammar Jreisat & Xuan Vinh Vo, (2020). This shows understanding present financial market difficulties and trends in the aftermath of the expansion of financial and economic amalgamations such as the establishment of the BRIC bloc, According to the findings of this study, the degree of financial integration among the BRICS stock markets has moderately increased in the post-BRICS formation period as compared to the pre BRICS formation period. Except for China, all BRICS stock markets now contribute to the cointegration relationship, compared to only three markets prior to the foundation of the BRICS (China, Russia and South Africa).

Mourad Mroua, (2020), The objective is to analyze the impact exchange rates changes on stock market returns. This research investigates the causation and dynamic dependency between exchange rate fluctuations and the volatility of BRICS stock market indexes. The findings show that exchange rate variations have a considerable impact on all BRICS nations' short- and long-term market index performance.

Sarfaraz A. BHUTTO, Rizwan Raheem AHMED, Dalia STREIMIKIENE, Saifullah SHAIKH and Justas STREIMIKIS, (2020). This study aims to investigate the short and long-run investment relationship between the BRICS-(P) Group. The findings show that foreign and domestic investors combine their investment proposals across these economies and build a well-diversified portfolio since a shared risk value protects investors.

G. Naresha, Gopala Vasudevanb, S. Mahalakshmic, S. Thiyagarajan, (2018). This study aims to explore whether there is any presence of spillover effects of exchange rate on the stock indices of BRICS. According to the findings, the strengthening of the BRICS currencies versus the US dollar has improved the value of the respective nation's stock index

Vanita Tripathi, Arnav Kumar, (2014). This paper aims at establishing long term relationship between stock returns and inflation for emerging BRICS economies. Cointegration results for specific markets show that Russia, India, and South Africa have no long-term equilibrium relationship, but Brazil and China have contradictory results demonstrating a long-term equilibrium link.

Rajneesh Prakash Verma and Poonam Ran, (2015). To find the causality among the Indian stock market and other BRIC nation's stock markets. The data also indicate that the return on the Indian stock market (NIFTY) is heavily influenced by its own invention, but innovations in other BRIC stock markets do not dominate in the case of the Indian stock market.

Ranjan Dasgupta, (2014). This study aims at finding the short and long-run relationships in between the BRIC stock markets. According to this report, the BRIC stock markets would be the most appealing to global investors in the next years, with the Indian stock market dominating the group.

Godfrey Osaseri1 & Ifuero Osad Osamwonyi, (2019). To study the examined relationship between the stock market development and economic growth of the BRICS, the findings show that the development of the stock market has a major influence on economic growth. According to the study, there is a favourable relationship between stock market development indices and BRICS economic growth. The report advises that the weaknesses of each BRICS member countries be used as a policy focus, and that governments implement the required policies to address them as soon as possible.

Ankita Bhatia, Professor Nawal Kishor, (2015). To find out whether FPI/FII investments always have an impact om the stock indices, studied separately for all individual BRICS nations, viz.- Brazil, Russia, India, China and South Africa. To find out the extent, direction and degree of linkage shared by FPI/FII and stock markets for all BRICS countries. The findings may have policy consequences for FII/FPIs and other investors looking for alternative investment options in BRICS nations.

Ramaprasad Bhar, Biljana Nikolova, (2008). The objective is to examines the level of integration and the dynamic relationship between the BRIC countries, their respective regions and the world. According to the data, India has the highest level of regional and global integration among the BRIC countries, followed by Brazil and Russia, and finally by China. There is a negative association between India's conditional volatility and that of the Asia-Pacific region, which can be attributed to the South Asian crisis's low impact on India.

Dr. Vanita Tripathi, Mr. Arnav Kumar, (2015). To examines short run causal relationship between inflation and stock return in emerging BRICS markets. Only in the instance of Brazil do the regression findings show a substantial positive association between changes in inflation and stock gains. The findings are relevant in today's climate, when developing markets are dealing with growing inflation and fluctuating stock returns.

Collins Ngwakwe, (2020). objectives of the study are to analyze the causal relationship between the BRICS stock markets during the covid-19 and to identify which BRICS market trigger a change in other BRICS countries' stock market performance during this current COVID-19 disease pandemic. The outcomes of this study add to investors' discernment and stock investing decisions amid a moment of unparalleled risk and uncertainty caused by a rapid illness pandemic. Understanding how stock market performance may relate during this era is critical for making risk-adjusted investing decisions in the BRICS markets. As a result of the above findings, India and China's stock market performance during the COVID-19 era can give a predictive insignia for understanding stock market behavior in Brazil during the COVID-19 period.

Pradiptarathi Panda, M. Thiripalraju, (2018). The aim is to find the presence of bidirectional and unidirectional return spillover and negative news impacts more on volatility of these countries' stock markets. Return and volatility can represent the transformation impact across markets. We found that the occurrence of bidirectional and unidirectional return spillover implies a close interaction between the stock markets of the BRICS nations. The presence of considerable volatility spillovers across stock markets demonstrates that markets are informationally inefficient, and that one market may be predicted using information from other markets. This demonstrates that investors can make a lot of money.

BK Surya Prakasha, P. Raja Babu Lien, Dr. A. Suresh Kumar, (2021). The objective is to investigate the impact of socioeconomic and hospital resources due to the effect of Covid-19 on BRICS Nations. According to the findings of this study, India had the largest number of afflicted people (18.76 million), followed by Brazil (14.45 million), Russia (4.81 million), and South Africa (1.58 million), with China having the lowest figure (0.10 million). South Africa, a BRICS country, had a low vaccine dosage of 0.18 million as of April 30, 2021. The current analysis focuses on socioeconomic concerns and pandemic circumstances that influence BRICS stock market

Anubha Srivastava, Dr. Manjula Shastri, (2018). To analyze the effect of volume of trade due to volatility in BRICS nations. To investigate the impact of exchange rate variations on the market movements of the BRIC countries. This research focuses on determining the link between the BRIC nations and examining each country's volatility, risk, closing prices, and interdependence. The study's findings demonstrate that there is no reliability among the stock exchanges of any country.

Tom Jacob, Rincy Raphael, (2020). "Financial Integration of BRICS Equity Markets: An Empirical Analysis", To analyze the growth and trend of BRICS countries stock market return. The analysis demonstrates that there is a dynamic relationship between the stock markets of the BRICS countries. The association between India, Russia, China, and South Africa's economy is favourable and quite high. India and Brazil have a strong link.

The regression model is sound, and it indicates that India's stock market returns are heavily impacted by the returns of the other two economies, Brazil and Russia. Knowledge of information transition from one market to another market aids in the development of hedging strategies, the identification of diversification possibilities, and the capture of market efficiency.

Nikunj Patel, Dr. Pankajray Patel, (2014). To determine the direction and degree of the exerted effect on the stock markets of the BRIC countries. This research investigates the BRIC nations' spillover effects. Data has been discovered to be stagnant. According to the data, all markets exhibited positive returns, with the Russian market providing the largest return and moving to the positive side of the average return. The Russian market fluctuated the most, whereas the Chinese market fluctuated the least.

Isha Narula, (2018). To study the impact of international alliances on stock prices of respective stock markets. The study's overall findings demonstrate the inefficiencies of stock markets throughout history. Markets show evidence of overreaction at various times in time, whereas equilibrium is regained in a short amount of time. Markets exhibit mean reversion tendencies throughout history. The results also showed that the moving average and channel trading rules do not yield large, positive gains in general.

Dharmendra Singh, M. Theivanayaki and M. Ganeshwari, (2021). to investigate the volatility spillover impact between the foreign exchange market and the stock markets of Brazil, Russia, India, China, and South Africa (BRICS) nations. The study concluded that there is two-way asymmetric volatility spillover between the Indian and Japanese stock markets, but only one-way volatility transmission from the US to the Indian stock markets. Asymmetric volatility spillover was also seen between the Indian stock market and the foreign currency market.

Dirceu PEREIRA, (2018). The study was designed to test for contagion during the last two international financial crises. The findings show that both long-run and short-run connection patterns exist across BRICS stock markets, and that they have altered dramatically during tumultuous periods compared to calm ones, indicating the prevalence of contagion phenomena among BRICS markets over the previous two crises. These findings also suggest that changes in the indices of the United States and the European Union have a short-term impact on BRICS stock markets, functioning as a leading indication for investing in BRICS markets.

M Jegadeeshwaran, VM Sangeetha, (2018). The aim is to assess the stock market returns of BRICS economies. To summarize, the findings of this study would be especially beneficial to overseas investors, as there is an opportunity to diversify their portfolio. However, investors must exercise caution while investing in many overseas markets at the same time.

**RESEARCH METHODOLOGY**

The analysis is based on information from the BRICS nations' stock market indexes. The BRICS alliance consists of Brazil, Russia, India, China, and South Africa. In 2015, it made up around 43% of the total population of the planet. BRICS is a group of growing, economically linked nations that is important for the growth of developing nations. The analysis that follows looks at the performance of a particular stock market as well as index volatility and stock market movement. This essay makes the assumption that the reputable stock markets in five nations are the top stock market exchanges. The information used in this study was acquired from a number of government organizations, stock exchange websites, and investing.com. The sample of the time period spans is from 2007 to 2022. The study tested the association between chosen variables using a number of different statistical and econometric methodologies. Across the sample period, many tests were used, including the Unit Root Test, Correlation Analysis, Cointegration Test, and Granger Causality Test.

**Stock Market Movement in BRICS nations :** Brazilian Stock Market, Russian Stock Market, Indian Stock Market, Chinese Stock Market, South African Stock Market are considered for the study

**DATA ANALYSIS AND INTERPRETATION**

**4.1 Descriptive Statistics**

**Table 4.1.1 Descriptive statistics analysis findings**

| Descriptive statistics | Brazil | Russia | India | China | South Africa |
|---|---|---|---|---|---|
| Mean | 71064.8 | 1333.601 | 28291.89 | 2980.304 | 40908 |
| Median | 63489 | 1287.09 | 26145.67 | 2959.36 | 44160.31 |
| Standard Deviation | 23103.85 | 372.1966 | 13428.64 | 684.5338 | 13222.04 |
| Coefficient of Variation | 32.510965 | 27.90915 | 47.46460 | 22.96859 | 32.321410 |
| Minimum | 36596 | 535.04 | 8891.61 | 1728.79 | 16514.3 |
| Maximum | 126802 | 2459.88 | 63099.65 | 5954.77 | 69675.69 |

The descriptive data for the BRICS stock markets are shown in table above. Brazil has the highest average stock value (71064.8), followed by South Africa (40908), and Russia has the lowest average stock value (1333.601). The Standard Deviation serves as a surrogate for raw data in this case, the statistic also explains that Brazil (23103.85) is the most unstable market, followed by India (13428.64), while Russia is the least volatile (372.1966) market. The variance in the chosen stock markets revealed that India (47.46%) remained a very variable market, followed by Brazil (32.51%), South Africa (32.32%), Russia (27.90%), and China (22.96%). Brazil had the highest stock index value (126802), while Russia had the lowest (535.04).

**4.2 Correlation Test**

**Table 4.2.1 Findings from the Correlation Analysis**

| Countries | Brazil | Russia | India | China | South Africa |
|---|---|---|---|---|---|
| Brazil | 1 | | | | |
| Russia | 0.483762 | 1 | | | |
| India | 0.671716 | 0.840726 | 1 | | |
| China | 0.418955 | 0.710602 | 0.784419 | 1 | |
| South Africa | 0.367443 | 0.334147 | 0.319597 | 0.232809 | 1 |

Pearson correlation coefficient was used to calculate the BRICS countries' stock market indices have a symmetrical and linear link, whereby is shown in the accompanying table. The association between a number of chosen criteria from 2007 to 2022 is shown in the table. The correlation table unmistakably demonstrates that the South African and Chinese stock market have the lowest correlations, while the Russian and Indian stock market have significant to high correlations.

**4.3 Unit Root Test**

**Table 4.3.1 Results of Unit Root Test**

| Variable Name | Test Statistic | Critical Value at 5 % | P-value | Decision |
|---|---|---|---|---|
| Brazil | -11.83155 | -2.876677 | 0.0000 | Accepted |
| Russia | -10.85854 | -2.876677 | 0.0000 | Accepted |
| India | -12.98201 | -2.876677 | 0.0000 | Accepted |
| China | -12.58163 | -2.876677 | 0.0000 | Accepted |
| South Africa | -14.17193 | -2.876677 | 0.0000 | Accepted |

Validating the data's stationary state has always been necessary for time series modelling. In order to ensuring the stationary nature of the underlying data series, the study ran the ADF test. The result showed that every variable is stationary at its current level. The data are stationary because the level of each underlying series hypothesis is accepted.

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**4.4 Cointegration Test**

### Table 4.4.1 Johansen's Cointegration Test Findings

| Hypothesized No. of Cointegrating equations | Eigen Value | Trace Statistics | Critical Value at 5 % (p-value) | Max Eigen statistics | Critical Value at 5 % (p-value) | Results |
|---|---|---|---|---|---|---|
| None | 0.343788 | 229.1424 | 69.81889 (0.0000) | 77.93534 | 33.87687 (0.0000) | Rejected |
| At most 1 | 0.242988 | 151.2070 | 47.85613 (0.0000) | 51.49966 | 27.58434 (0.0000) | Rejected |
| At most 2 | 0.196323 | 99.70739 | 29.79707 (0.0000) | 40.43330 | 21.13162 (0.0000) | Rejected |
| At most 3 | 0.183098 | 59.27409 | 15.49471 (0.0000) | 37.41367 | 14.26460 (0.0000) | Rejected |
| At most 4 | 0.111450 | 21.86042 | 3.841466 (0.0000) | 21.86042 | 3.841466 (0.0000) | Rejected |

Two criteria are proposed by the Johansen cointegration technique. The maximum Eigen value test and the trace test are both used to ascertain the number of cointegrating vectors. At a 5% significance level, both tests reveal that one cointegrating equation is the original null hypothesis. These tests were then utilized to evaluate test for the supplied variables. As a result, equations are all cointegrated.

**4.5 Granger Causality Test**

### Table 4.5.1 Granger Causality Test Results

| Null Hypothesis | Observation | F-Statistics | Probability | Decision |
|---|---|---|---|---|
| China is not Granger Caused by Brazil | 188 | 1.71202 | 0.1834 | Accepted |
| Brazil does not Granger Cause China | | 0.47907 | 0.6201 | Accepted |
| India doesn't Granger Cause Brazil | 188 | 0.61093 | 0.5440 | Accepted |
| Brazil is not the cause of India's granger | | 1.86700 | 0.1575 | Accepted |
| Russia does not Granger Cause Brazil | 188 | 1.85645 | 0.1592 | Accepted |
| Brazil doesn't Granger Cause Brazil | | 0.27181 | 0.7623 | Accepted |
| South Africa is not Granger Cause Brazil | 188 | 0.87540 | 0.4184 | Accepted |
| Brazil does not Granger Cause South Africa | | 0.06355 | 0.9384 | Accepted |
| India doesn't Granger Cause by China | 188 | 0.04779 | 0.9533 | Accepted |
| China fails to Granger Cause India | | 7.28802 | 0.0009 | Rejected |
| Russia do not Granger Cause China | 188 | 1.46669 | 0.2334 | Accepted |
| China fails to Granger Cause Russia | | 0.81818 | 0.4428 | Accepted |
| South Africa does not Granger Cause China | 188 | 0.07871 | 0.9243 | Accepted |
| China doesn't Granger Cause South Africa | | 0.76861 | 0.4651 | Accepted |
| Russia do not Granger Cause India | 188 | 4.90766 | 0.0084 | Rejected |
| India does not Granger Cause Russia | | 2.12655 | 0.1222 | Accepted |
| South Africa fails to Granger Cause India | 188 | 2.57743 | 0.0787 | Accepted |
| India is not cause of South Africa granger | | 1.11098 | 0.3314 | Accepted |
| South Africa doesn't Granger Cause Russia | 188 | 1.43876 | 0.2399 | Accepted |
| Russia fails to Granger Cause South Africa | | 0.40229 | 0.6694 | Accepted |

The effect of the granger causality test is displayed in above table, suggesting that the null hypothesis is accepted someplace and rejected somewhere else based on their F-statistics. China does not Granger Cause India and Russia does not Granger Cause India has been rejected and another null hypothesis has been accepted.

**FINDINGS**

• This article examines the long-run development of a particular stock market from 2007 to 2022.

• According to the descriptive statistic test results Brazil has the greatest average stock index price, while Russia has the lowest the average value of the stock index. Brazil (23103.85) has the most volatility, followed by India (13428.64), while China has the lowest volatility (684.5338).

• According to the Coefficient of Variation results, India (47.4646) remained a highly diverse market, followed by Brazil (32.5109), South Africa (32.3214), Russia (27.9091), and China (22.9685). The BRICS stock market indices are symmetrically and linearly linked.

• The outcomes of the correlation analysis reveal that the Russian stock market is strongly correlated with stock market of India, whereas the Chinese stock market is inversely related to the South African stock market.

• All cointegrating equations have a 5% significance threshold as the initial null hypothesis, according to the Johansen's cointegration test. The outcome shows that the system has all cointegration equations, as shown by trace statistics and maximal Eigen statistics.

• The ADF test result shows that all the data are steady since the assumptions at each level of the series hypothesis are agreed.

• Results of the causality test shows other null hypotheses are accepted whereas the null hypothesis that China and Russia do not cause India is rejected.

• From the test conducted, we come to know that there is a **long-term relationship between India and other selected countries, so we accept the null hypothesis** suggesting that there is the positive correlation with India and other countries.

**CONCLUSION**

Based on the empirical study on BRICS nations and their stock market movements, it can be concluded that the stock markets of these countries are influenced by various factors, including global economic conditions, political instability, and investor sentiments. The study found that there is a high degree of co-movement between the BRICS stock markets, which suggests that these markets are integrated and can be considered as a single entity to some extent. Additionally, the study highlights the importance of diversification for investors looking to invest in BRICS stock markets, as different sectors and industries perform differently in these markets. Overall, the study provides valuable insights into the behavior and performance of the BRICS stock markets and can be useful for investors, policymakers, and researchers.

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## A STUDY ON PERFORMANCE EVALUATION OF IPOS IN INDIAN STOCK MARKET WITH RESPECT TO NSE

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**ABSTRACT**

*The capital market brings up economic growth by stimulating savings for capital formation and enhances productivity of investment by enhancing allocation of investible funds. IPOs in terms of first-day of listing in various markets across the world have been done, as can be seen from the review of literature, in the Indian context a comprehensive study on the various financial and non- financial factors affecting the under-pricing of Indian IPOs has not been done. One major source of business financing is through Initial Public Offerings (IPOs). Historically, IPOs received high initial first day gains compared to the market performance. The study was undertaken to analyze the financial performance of IPO companies.*

**KEYWORDS: IPO, listing gain, current market price gain, over-subscription, over-price underprice.**

**INTRODUCTION:** Initial Public Offering refers to the fresh offer of shares from a business that was previously unlisted. To do this, shares that the promoters or private investors owned previous to the IPO are made available to the general public.

The first public offering of stock by a corporation is known as an IPO. A business can raise capital by issuing debt or stock. An IPO is referred to as such if the firm has never sold shares to the general public. In this research, it is to study and analyse the performance of IPO's0020debuted during the financial year 2020-2021 which in times of pandemic, and measure their performance by comparing with past year.

The primary market, including IPOs, began to emerge as one of the key sources of funding for Indian firms as well as an essential method for ordinary investors to deploy their assets for greater return.

**OBJECTIVES OF THE STUDY**

- To study about the performance of IPOs from issue price to last trading price.

- To study the percentage change of IPOs from issue price to last trading price.

- To find out factors if they influence the under-pricing of IPOs.

**LIMITATIONS OF THE STUDY:**

- Only companies that are listed on the NSE are included in the study, although data for some of them isn't available.
- Because some corporations have been delisted, they are not conducting their analysis.

**REVIEW OF LITERATURE:**

**1. A Comparative Study on the Performance of Initial Public Offerings IPOs in Indian Stock Market during pre-coved and post coved period (Dr Banes war Kaposi) 2022**

Assessed how well the IPOs registered on the Indian stock exchange will do in 2022. To determine if the chosen IPOs are performing well or not, the prices of all the selected IPOs were monitored for two months. Following that, the average run-on daily basis, 15 days, 30 days, and 60 days were all examined. According to the study, while some IPOs did well on the day of listing, the majority of them were overvalued, which led to dismal performance after 60 days. Based on the research, the author recommended that, in order to maximise returns, investors should pay close attention to a company's fundamentals and thoroughly research its history and past financial performance before making an investment.

**2. Initial Public Offerings' After-Market Pricing Performance IPO (Shoo and Praline) 2010**

The performance of 92 IPOs is examined in the research paper. According to the analysts, initial public offerings in India are often under-priced by 46.55% on average. Comparison of the listing day performance with the market index was used to identify the level of under-pricing.

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### 3. The pricing of IPOs on the NSE is examined in "Determinants of IPO Under-pricing in the National Stock Exchange of India. (Amok Paned and R. Vaidyanathan) 2007

The researchers attempt to understand empirically the first day under-pricing of initial public offerings in light of the demand that the IPO has generated among investors, the delay in listing the shares on the stock exchange, and the money that the company spends on marketing the initial public offering. The researchers are also attempting to determine whether there are any new patterns in the Indian IPO market. Additionally, the analysis looks for a month in the post-IPO returns.

### 4. An investigation into the effectiveness of first public offerings (JEELAN BASHA, V BHADRAPPA HARALAYYA) 2021

Initial Public Offerings (IPOs) are one of the most common methods used by expanding businesses to raise capital. Many IPOs are under-priced, which is a typical occurrence. These studies try to identify the variables that affect the under-pricing choice. Financial factors like ownership retention, issue size, firm age, debt-to-equity ratio, and NAV as well as non-financial elements like underwriter reputation and venture capital investment were found to have an impact. Investments in IPO in the Indian capital market (Madam, A. 2003)

### 5. DETERMINANTS OF IPO INITIAL RETURN: EXTREME ANALYSIS OF INDIAN MARKET (Banal & Hanna) 2012

The magnitudes of underpricing levels of IPOs priced through the book build compared to IPOs priced through the fixed price option is analyses and found to differ significantly, with IPOs priced through the book build being more underpriced than IPOs priced through the fixed price option.

### 6. IMPACTS OF COVID-19 ON PERFORMANCE OF IPO in INDIA (Sahel Goal) 2021

This study looks into how the COVID-19 pandemic affected newly listed businesses' daily market returns between January 1 and October 31, 2020, in order to provide insight into how the disease affected the IPO market. Through this study, we learned that IPO performance flourished in spite of the epidemic. The following queries are addressed in this study: What effect will the COVID-19 outbreak have on the yield of India's IPOs from 30 January 2020 to 30 October 2022?

### 7. Short-term IPO Performance Amidst Fear of COVID-19 Pandemic: Evidence from India (MADHU MAHESHWARI AND ANIL KUMAR) 2022

This paper examines the short-term performance of public issues that made their debut on the Indian stock exchanges at the time of the COVID-19 outbreak. The initial public offerings (IPOs) made in the Indian capital market before and after COVID are compared using a sample of 158 listings across nine years, from 2013 to 2021, on the main board segment of the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE)

### 8. A STUDY ON PERFORMANCEOF IPOs IN INDIA FOR THE PERIOD 2018-2021 (Dr Anal Nathan) 2022

The performance of IPOs which has fixed price falling on day of listing as well as their post-listing aftermarket performance in the Indian stock market is all examined in this study. In this study, the short- and long-term performance of initial public offers (IPOs) on the Indian capital market is examined. The sample is made up of 146 initial public offerings (IPOs) that were placed on the National Stock Exchange board between 2007 and 2008.

### 9. IPO Stock Performance amidst the COVID-19 Pandemic: Has it been Undervalued? (Randy Kuswant) 2021

Examined the effect of pandemic-related fear on IPO stocks listed on the NYSE, NASDAQ, and AMEX and are ADRs. They discovered that while the initial return average was higher than it had been for the previous 40 years, it drops off as pandemic anxiety grows.

### 10. HOT AND COLD IPO MARKETS EVIDENCE FROM INDIA (S Singh and S Dander) 2021

The studies reveal factors like market position (hot/cold market), types of industry, the nature of business etc. as a major influencer for the occurrence of hot and cold market periods. However, India is a developing economy and has its own inherited characteristic variants i.e., the concrete role of promoter's contribution and compulsory allotment to be qualified institutional investors The study overviews the inherited inefficiencies and fluctuations in the Indian Initial Public Offering (IPO) by observing the hot and cold market periods

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**11.  The greater the investor attention, the better the post-IPO performance? A view of pre-IPO and post-IPO coved attention (Nan Wang) 2022**

Indicates the emotional and irrational investor behaviour is the main cause of post-IPO underperformance. The short-term post-IPO performance and market timing are negatively connected. The impact is non-linear and grows over time as post-IPO investor interest rises.

**12.  IPOs in Indian Stock Market: Analysing Pricing and Performance of IPO Listed in 2021 (S. Raja Mohan) 2021**

How a developing country like India, having a booming corporate network, is focused on listing IPOs. IPOs are the extensively adopted method by companies to raise funds from the open market for a private company's initial sale of shares. This paper studies on the present literature on Indian capital markets is constricted to regression models with smaller data sets, limited variables, and more focused on long-term capital gains.

**13.  DETERMINANTS OF IPO UNDER PRICING IN THE NATIONAL STOCK EXCHANGE OF INDIA.  (ALOK PANDE, IIM BANGALORE) 2007**

It attempts to provide a rational justification for the first day under-pricing that takes into account the demand generated during the issue's book building, the time that passed between the book building's closing and the issue's first day listing, and the cost incurred on promoting the IPO by the firms. Using the findings of the earlier studies as a guide, it also aims to comprehend any new trends in the Indian IPO market. Also sought after are the one-month post-IPO returns in the NSE

**14.  A Study on Performance of Initial Public Offering (IPO) in Indian capital market during the pandemic. (Ajay R sept) 2022**

The study's primary focus is on how initial public offerings performed in the Indian capital market during the pandemic, using the measures of retail subscription, total subscription, and listing day return. The Initial Public Offerings (IPOs) that were launched and listed in the financial year 20-21 were taken into account. The average (mean) listing day returns for the year stood at 37.08%, which was higher when compared to past yearly Initial Public Offering returns.

**15.  INITIAL PUBLIC OFFERING AND ITS TREND IN INDIA (JAIN, SIDDARTH ) May 2022**

This study examines the rising trend of initial public offerings (IPOs) in India beginning in 2021, the reasons behind the timing of these IPOs in the wake of the pandemic, and the factors investors should consider before investing in IPO markets. The literature review focuses on four papers that discuss four distinct IPO-related topics, such as under-pricing/overpricing, the process used to determine the IPO price, investors' sentiments when investing in IPOs, etc. It aims to build familiarity with and understanding of current research in a much simpler manner. Barbeque Nation, Nykaa, Pat, and Adana Willmar are the other four IPOs that have been examined in the paper.

**16.  Investors Sentiments towards Initial Public Offer in the Pandemic (Sharia. K) 2021**

The survey is anticipated to show that investors in the 20- to 30-year-old age bracket, known as millennial, are substantially to blame for the market activity brought on by fresh issues and alluring premium on offers. The goal of the study and the proper statistical methods for data processing and interpretation

**17.  Performance of Academic Staff during COVID-19Pandemic-Induced Work Transformation an IPO Model for Stress Management Muhammad (Shoaib Ayesha Nawaz FEB) 2022**

The research paper revealed that task- and relation-oriented leadership behaviour, e-training, and employment security positively influence stress management and employee performance in virtual organizations. By suggesting leadership behaviour, e-training, and employment security as inputs in the stress management process to attain the performance output of teaching staff, it gives insightful contributions to the literature.

**18.   INITIAL PUBLIC OFFERINGS (IPO): AN INVESTOR HORIZON METHOD TO ANALYZE IPO VALUATION PROCESS LISTED IN NATIONAL STOC EXCHANGE NSE (ABILASH K M) 2022**

To explore the process of initial public offerings using simple share valuation process during pandemic situation in National Stock exchange (NSE) through Book building process Researcher has taken 65 IPO With share appreciation, firm age, and issue size as primary variables for the study, which covered listed companies on the NSE between 2020 and 2021, it is clear from the data that the metric of business age and issue size will raise the share value among investors and favourably accelerate the value of initial public offerings (IPOs).

**19.   Valuation of IPOs in India-An Empirical study (Mohammad Reza Lotfalipour) June 2013**

Using a panel data approach, this study investigates how changes in the exchange rate and investments in the manufacturing sector in Iran from 1995 to 2009 relate to one another. So, the effect of actual exchange rate variations on industrial investment is examined using the annual data of manufacturing sectors. As a major factor in the development process and economic policies evaluation, investment and its growth rate it is found a negative and statistically significant impact of real exchange rate movements on manufacturing investment

**20.   A RESEARCH STUDY ON FACTORS IMPACTING IPOS LISTING GAINS (Khatri Namrata) 2017**

The advice of brokers, the company's philosophy regarding where they see it going in the future, projections of future growth, and news regarding the company's financial performance and IPO all have an impact on investors' decisions to invest in initial public offerings. Mohammed Arshad Khan, Khudsiya Zeeshan, and colleagues (2021) find that investing in initial public offerings (IPOs) pays out better when held over a lengthy period of time compared to selling the allotted shares on the day of listing.

**21.   Pre IPO and Post Ipo Operating Performance Evaluation on Indian Select Companies (Ahmad Khan ) 2017**

This study looks into whether operating performance of companies changes after an IPO and how pre-IPO characteristics affect post-IPO operating performance. 25 firms listed between 2013 and 2015 on the BSE and NSE of the Indian stock exchanges are included in the study. Pre-IPO factors include dilution of ownership, profitability, and operating performance metrics like return on equity and net worth. The results showed that the companies' returns on assets, returns on net worth/equity, and asset turnover ratios did not significantly alter following their initial public offerings. Profitability prior to the initial public offering (IPO) had an effect on return on assets and return on equity, but not on asset turnover ratio.

**22.   Pre IPO and Post IPO Operating Performance Evaluation of IPO (Krishnamurthy C) 2022**

On the basis of two performance indicators (i) over-subscription ratio and (ii) listing day gains, the current study evaluates 107 initial public offerings (IPOs) that were launched on the Indian stock market between June 2017 and June 2022. This study compares the IPO performance for two time periods: January 2017–April 2020 and May 2020 –June 2022. The study's findings indicate that the performance of initial public offerings (IPOs) launched between January 2017 and April 2020 significantly differs from that of initial public offerings launched between May 2020 and June 2022. Additionally, it was looked at how the quantity of IPOs and the money collected via them varied greatly between the two periods.

**23.   Publishing Company Operating Performance Evaluation Before and After the IPO  (Rong Yang)  2015**

The three publishing companies listed in this paper's announcement of information Central South Media (601098), Publishing Media (601999), and Phoenix Media (601928) are used to study the aforementioned issue using enterprise economic value-added rate and performance evaluation methods in the financial sector. The management still takes some measures that are detrimental to stockholder interests and the economic value-added rate of publicly traded publishing company's needs to be further increased, according to a study on the operation and financial information of publishing organisations.

**24. Initial Public Offerings and Performance Evaluation: Evidence from the Indian Capital Market (Appala Raju Middi ) 2018**

This study aims to establish that Indian initial public offerings are under-priced (IPOs). Using a sample size of 25 IPOs released in 2015, we analyse the aftermarket performance for up to 12 months. At the conclusion of the first trading day, the sample displays a 3% raw initial return. The average outcomes are 6%, 17%, and 26%, respectively, when calculated in terms of market-adjusted initial returns for 30 days, 3 months, and 12 months, demonstrating an outperformance of IPOs.

**25. The Post-Issue Operating Performance of Indian IPO Firms (Shikha Bhatia Dr Balwinder Singh) 2017**

This study looks at how 300 Indian IPO enterprises' operating performance changed three years after their initial public offering (IPO) compared to how it was before. It also investigates if under-pricing at the time of issuance is a way for issuing enterprises to communicate their worth, as well as whether operating performance over the long term is indicative of stock price performance.

**RESEARCH METHODOLOGY**

**STUDY TYPE**: Research design used for this study is Descriptive Research because it is predicated on secondary data.

**PERIOD OF THE STUDY**: The period considered in this study is from 2018 to 2022. The study is conducted by taking the data of the various IPOs.

**SOURCE OF DATA:** The source of secondary data was collected from various published sources like text books, journals, articles

**TOOLS AND TECHNIQUES**: Percentages, ratios and Standard deviation and Descriptive analysis.

**DATA ANALYSIS AND INTERPRETATION**

| YEAR | NUMBER | UNDER PRICING | OVER PRICING |
|------|--------|---------------|--------------|
| 2018 | 17 | 8 | 9 |
| 2019 | 13 | 8 | 5 |
| 2020 | 13 | 9 | 4 |
| 2021 | 63 | 45 | 18 |
| 2022 | 16 | 11 | 5 |
| TOTAL | 122 | 81 | 41 |

**INFERENTIAL ANALYSIS 1**

Hypothesis

H0: There is no significant difference between Performance of IPO from Issue price to last day trading price.

H1: There is a significant difference between Performance of IPO from Issue price to last day trading price.

**LISTING GAIN = LISTING CLOSE - ISSUE PRICE / ISSUE PRICE*100**

| ISSUE DETAILS | | | PRICE | | | | |
|---------------|--------------------|-------------|------------------|-------------------|------------------|--------|------------------|
| COMPANY | ISSUE SIZE (CR) | ISSUE PRICE | LISTING OPEN | LISTING CLOSE | LISTING GAIN % | CMP | CURRENT GAIN % |
| XELPMOCDESIGN | 23 | 66 | 56 | 58.8 | -10.91 | 170.95 | 159.02 |
| CHALETHOTELS | 1628.84 | 280 | 291 | 290.4 | 3.71 | 323.35 | 15.48 |

**Inferential Analysis 3**

Statistical tool used is: **ONE WAY ANOVA**

Variable 1: Under-pricing

Variable 2: Overpricing

H0: There is no significant difference between under-pricing and over pricing of IPO

H1: There is a significant difference between under-pricing and over pricing of IPO

ANOVA: Single Factor

SUMMARY

| Groups | Count | Sum | Average | Variance | | |
|---|---|---|---|---|---|---|
| UNDER PRICING | 5 | 81 | 16.2 | 260.7 | | |
| OVER PRICING | 5 | 41 | 8.2 | 33.7 | | |

ANOVA

| Source of Variation | SS | df | MS | F | P-value | F crit |
|---|---|---|---|---|---|---|
| Between Groups | 160 | 1 | 160 | 1.08696 | 0.32763 | 5.31766 |
| Within Groups | 1177.6 | 8 | 147.2 | | | |
| Total | 1337.6 | 9 | | | | |

**INTERPRETATION**

Since the P value is 0.32 which is greater than 0.05 Hence H0 is accepted at 5% level of significance, hence we can conclude that there is no significant difference between the under-pricing of IPO and over pricing of IPO

**FINDINGS:**

- The huge over-subscription in most of the IPOs frequently leads to retail investors getting allotted only few shares.
- The companies with listing gains also saw increases in their stock prices. It was found that IPOs are overpriced an average of 27.2 present whereas 72.8 present are under-priced before and during Covid-19.
- Also found that all overpriced IPO are also having current market gain.
- All the huge over-subscribed stocks have listing and current gain.
- When the issue price and the most recent transaction price are compared, the majority of investors consistently choose to buy at a lower price. It is taken into account how well the offering has performed overall and in terms of pricing.

**CONCLUSIONS:**

The study is made to present the performance of IPOs before and during of January 2018 to June 2022. Under-pricing and overpricing are common phenomena in IPO. There is an extent of over subscription of an IPO, which will determine the First Day Gains. The oversubscribing causes the IPOs to make higher first day profits. Finding out whether the stocks are overvalued or underpriced is made possible by the analysis. The practice of "book building" is a very popular method for determining IPO pricing. The research enables determining whether the stocks are overvalued or underpriced. A very well-liked technique for figuring out IPO pricing is the practice of "book building." The massive IPO over-subscription produces price increases on both the listing day and the current market.

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## A STUDY ON TECHNICAL ANALYSIS WITH REGARDING TO THE PHARMACEUTICAL INDUSTRIES

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*Abstract*

*Technical analysis examines variables influencing the supply and demand of stocks on the stockmarket. helps determine whether shares are undervalued or overvalued by understanding theirintrinsic worth. The stock market indicators would help the investor to identify major market turning points. Financial Markets specially stock market being core of our day to day activitiesand having enormous potential to earn, and by applying technical analysis to what extent we can earn the making matters the most hence this study of Technical Analysis. The rationale behind technical analysis is that the share price behavior repeats itself over specified time and analysts attempt to derive methods to predict this repetition. The study looks at the past shareprices data to see if we can establish any trend or an entry can be made. The study is purely based on secondary sources which includes the historical data available from the website. Forthe purpose of analysis, techniques like Relative Strength Index, Simple Moving average, Exponential Moving Average and MACD is used for the analysis to know if the stock is technically strong.*

*KEYWORDS: Technical Analysis, EMA, Relative Strength Index, MACD*

## I. INTRODUCTION

Financial markets, particularly the stock market, are at the center of our daily activities and offer tremendous earning potential; therefore, this study of technical analysis focuses on how much we can earn by using technical analysis. Technical analysts do not attempt to measure a securities intrinsic value, but instead use charts and other tools to identify patterns that can suggest future activity. In fact, the decision made on the basis of technical analysis is done onlyafter inferring a trend and judging the future movement of the stock on the basis of the trend. Technical Analysis assumes that the market is efficient and the price has already taken into consideration the other factors related to the company and the industry. It is because of this assumption that many think technical analysis is a tool, which is effective for short-term investing. Companies from Pharmaceutical sector is selected on Stratified sampling technique is significant as it helps in understanding the intrinsic value of shares and to know whether theshares are undervalued or overvalued or correctly priced. It becomes essential to know the performance of the company so that the investment will be duly giving returns and ensure safety of the investment. Further it helps in understanding the price behavior of the shares, thesignals given by them and the major turning points of the market price.

**OBJECTIVES:**

**1.** To analyze price movements using Relative Strength Index, Moving Average & MACD.

**2.** To use technical analysis on selected Indian Pharmaceutical Companies stocks andinterpret on whether to buy or sell.

**3.** To analyze investment risk for pharmaceutical companies in India.

## II. REVIEW LITERATURE

**1. Dr. S. Umaprabha and M. Malavika (2015)** shows that technical analysis aids inunderstanding share price behavior and provides information to investors about market trends. Here, it has been employed to determine if the price of shares is overvalued or undervalued. prior to investing, consider the market and price risk.

**2. Isaac Kofi Nti, Adebayo Felix Adekoya and Benjamin Asubam Weyori (2019)** in their study according to the findings, machine learning algorithms such as ANN and SVM are typically utilized for stock prediction. However, the hybrid ensemble machine–learning approach is the subject of a great deal of ongoing research to enhance stock prediction accuracy. A more precise and accurate prediction could be made by taking into account internal and moreexternal factors.

**3. Chenjie Sang and Massimo Di Pierro (2017)** in this empirical study, they investigated whether they could improve trading algorithm performance. They demonstrated that deep learning in general and Tensor Flow can be beneficial to the financial sector, as well as positive outcomes. With remarkable success, Convolutional Neural Networks (CNN) and Recurrent Neural Networks (RNN) have been widely used in image recognition.

**4. Reshmi Manna and Saurav Pathak (2018)** here in this case they have utilized both technical and fundamental analysis in this instance to identify stocks that are good short-term investments and long-term investments. All of the companies' secondary data are gathered from the company website and NSE website.

**5. Senol Emir, Hasan Dincer, Umit Hacioglu and Serhat Yuksel (2016)** in this study they have used the importance scores of inputs are determined using the Random Forest method for eight banks in Borsa Istanbul. The BIST-100 index and bank closing prices are then predicted by two predictive models that make use of ANN and Random Forest (RF). Mean Absolute Error (MAE), Mean Square Error (MSE), and Median Absolute Error (MedAE) are the three metrics used to compare the models' outcomes.

**6. Dr. Kshitiz Maharshi, Pooja Chaudhary, Swati Vashisth and Neelam Shekhawat (2021)** in this article we can see that the fluctuations of price in stock price with a day can be predicted using technical indicators. Investors main aim is to maximize his profit by minimizing his risk for which the entry and exit in share is important. Tools and indicators used in this study are candle stick chart, price-volume trend, exponential moving average, moving average convergence divergence, and relative strength index.

**7. C. Boobalan (2014)** here they said that the technical analysis provides insight into the anticipated future share prices of specific businesses in which we invest. One can predict the best stock market investment based on their understanding of technical analysis. Investing opportunities in the future securities market could be identified using technical indicators.

**8. Massoud Metghalchi, Yung-Ho Chang and Xavier Garza-Gomez (2012)** here in this article they have tried to examine trading strategies for investors that can beat the buy and hold strategy. They have established 13 trading models based on one indicator, 25 models based on

two indicators, and 28 models based on three indicators. The empirical results show that 58 out of 66 models reject the null hypothesis of equality of the mean returns between buy days and sell days.

**9. Shahana Jabeen and Afshan Jabeen (2017)** they tried to determine how pharmaceutical stocks listed on the National Stock Exchange (NSE) perform, with risk involvement predicted using technical indicators. Technical analysis is based on the idea that the behavior of the share price repeats over a certain amount of time and that analysts try to find ways to predict this repetition. The study looks at data from previous share prices to see if we can find a trend or make an entry.

**10. Nikhil Kaushik and Dr. Madhur Raj Jain (2015)** here the author has tried to predict and guide the investors about the future trends of pharma stocks using MACD indicator. By using MACD and ROC curve it can be concluded that the analysis indicates downward trend currently, which means companies are moving downward in a low range, indicating towards correction in the prices.

**11. Seyed Hadi Mir Yazdi and Ziba Habibi Lashkari (2013**) here the author has focused on the MACD indicator for four currencies—EURUSD, GBPUSD, USDCHF, and USDJPY— individually to determine the indicator's effectiveness in terms of profit by using hourly market data from January 2001 to December 2010.

**12. Bernardo Quintanilla García, Jesus Cuauhtémoc Téllez Gaytán and Lawrence A. Wolfskill (2012)** in this paper the authors provide evidence that the currency spot prices are auto correlated. Here they used The Augmented Dickey-Fuller test to test the Random Walk Hypothesis on the USD/CHF exchange rate prices. The main contribution of this paper is that new evidence is generated providing reasonable basis to discard the Efficient Markets Hypothesis in its weak form. The findings lead to embracing the Dow Theory, rather than the Random Walk approach, and conclude that markets are not efficient in their weak form.

**13. Rajashree Dash and Dr. Pradipta Kishore Dash (2015)** in this article the authors created a novel decision support system using a Computational Efficient Functional Link Artificial Neural Network (CEFLANN) and a set of rules is proposed to generate the trading decisions more effectively. The performance of the model is also compared to some other machine learning methods, such as the K nearest neighbor model (KNN), Support Vector Machine (SVM), Naive Bayesian model, and Decision Tree (DT) model, in order to evaluate the potential application of the proposed method.

**14. Rodolfo Toríbio Farias Nazário, Jéssica Lima e Silva, Vinicius Amorim Sobreiro and Herbert Kimura (2017)** here in this paper the authors have included recent refeences and focused mainly on stocks and stock derivatives. The review made it possible to thoroughly examine the characteristics of papers, revealing numerous aspects of technical analysis research that are the subject of our study. It is vital that although risk changed execution of exchanging rules is a significant issue, if we were told to zero in our concentrate on a survey of specialized analysis and market productivity, an alternate methodology and technique wouldbe necessary.

**15. Mr. A. Sandeep and Mrs. S. Bhagya Lakshmi (2020)** from the study which is made by the authors we can observe that equality analysis is the right thing to do how to measure the relationship between market returns and the return of the telecom sector. Investors can use this study to determine the risk associated with each selected business and market return by demonstrating the stability and volatility of stock.

**16. Christopher J. Neely, David E. Rapach, Jun Tu and Guofu Zhou (2014)** the authors here in this article suggested that the equity risk premium is directly predicted using technical indicators, and their performance is compared to that of macroeconomic variables. According to their findings, technical indicators have the same level of statistically and economically significant predictive power for the monthly equity risk premium as well-known macroeconomic variables from the literature.

**17. Thiago Raymon Cruz Cacique da Costa, Rodolfo Tor´ıbio Naz´ario, Gabriel Soares Zica Bergo, Vinicius Amorim Sobreiro and Herbert Kimura (2015)** here in this article to study the technical analysis strategy in the Brazilian Market, they used indicators or tools suchas SMA, EMA, MACD, and Triple Screen tools by using a sample that consisted of closing prices of 198 stocks traded in the Brazilian stock market from January 2000 to February 2014.The experiment conducted herein, which uses the constructed trading system, is valuable for investors who seek not only to apply methods of TA but also to study investments in the Brazilian market while taking into account the considerable number of positive returns.

**18. SHU-YU KUO and YAO-HSIN CHOU (2021)** here in this paper the authors suggest that the Moving Average(MA) is a widely used technical indicator that plays an important role in the stock market since it directly reflects stocks fluctuation. The author intended to investigatethe ability of MA and proposed dynamic and intelligent trading strategies based on MA, GQTS, and 2-phase sliding window to assist investors to make trading decisions.

**19. Piyapas Tharavanij, Vasan Siraprapasiri and Kittichai Rajchamaha (2015)** in this article the authors tried to examine the profitability of technical trading rules in the five Southeast Asian stock markets. The data cover a period of 14 years from January 2000 to December 2013.The author suggests that when it comes to market timing, technical indicators aren't very helpful. In essence, traders cannot anticipate buying at a relative low price and selling at a relative high price by merely employing technical trading rules.

**20. AUDELIANO WOLIAN LI and GUILHERME SOUSA BASTOS (2020)** here the author has tried to use Deep learning model to predict stock prices using historical data and technical indicators. According to the findings of this study, the LSTM method is utilized extensively in this scenario (73.5%). This significant contribution highlights some limitations in the literature, such as the fact that only two articles implemented risk management and that only 35.3% of the studies examined probability.

**21. Andrea Picasso, Simone Merello, Yukun Ma, Luca Oneto and Erik Cambria (2019)** the authors here tried to combine the technical and fundamental analysis approaches to market trend forecasting through the use of machine learning techniques applied to time series prediction and sentiment analysis. They used two different approaches to extract sentiment embedding's from the news: The Loughran and McDonald dictionary and Affective Space.

**22. Naveen Kumar Baradi and Sanjay Mohapatra (2015)** in this paper the authors tried to find the importance of technical and fundamental analysis and the usage of Chartist Methods and Services and Valuation Techniques among stock brokers of Bombay Stock Exchange, India. The author says that Stock brokers' age correlates with usage of sentiment indicators and their gender correlates with the usage of computer graphics and services. Regarding the use of chartist / technical and fundamental analysis on seven forecasting horizons, four distinct forecasting styles among stock brokers could be identified through cluster analysis.

**23. Mr. Rahul Chauhan and Mr. Neel Rajpurohit (2021)** the author suggests that having half knowledge in case of stock market is very dangerous. So, it is the responsibility of the company to train the employees and technical analysts to make them experts in subject of stock market, so that they become experts to solve at the queries of the investors without any information or hesitation and solve the confusions of the investors to increase the investment.

**24. Mohamed Masry (2017)** here the author tries to understand the performance of investors and their portfolio before and after revolution in Egyptian Stock Market. During the research period, 67% of technical analysis rules achieved abnormal returns more than the Buy and Hold strategy indicating its capacity to cover transaction costs.

**25. R. Chitra (2011)** here the author is performing technical analysis on selected stocks of Indian companies to find out intrinsic value of the share and to know whether the shares are undervalued or overvalued. The only primary sources used in the study are secondary ones, such as the website's historical data. In order to determine whether the stock is technically strong, methods like Beta, the Relative Strength Index, and the Simple Moving Average are utilized for the purpose of analysis.

## III. RESEARCH METHODOLOGY

The primary understanding of technical analysis is being taken into account from information relating to the movement of stock prices and financials of NSE-listed pharmaceutical companies. Data has been collected from secondary sources. The Research study used in the study is Empherical Study. All the understanding of the various concepts of Technical Analysis and presentation has been earmarked exclusively with selected data for a period of 1 yrs. I, e.1st Dec 2021 to 1st Dec 2022. The closing prices of share prices is taken and the future price movements are analysed using various tools. All the listed companies in the National Stock Exchange constitute the population for the study. 10 companies which are actively traded in NSE were taken on Stratified sampling basis for the study. The selected companies are

**1.** Glenmark Pharmaceuticals Ltd

**2.** Divi's Laboratories Ltd

**3.** Aurobindo Pharma Ltd

**4.** Biocon Ltd

**5.** Cipla Ltd

**6.** Granules India Ltd

**7.** Lupin Ltd

**8.** Abbott India Ltd

**9.** Zydus Lifesciences Ltd

**10.** IPCA Laboratories Ltd

**TOOLS USED**

**Relative Strength Index:** One of the most widely used indicators in technical analysis is the RSI, which was created by J. Welles Wilder and is an extremely useful oscillating momentum indicator. The RSI ranges from 0 to 100. The 14 days RSI, in which the RSI is calculated using values from 14 days, is the most common. When the RSI is above 70, the stock is traditionally

regarded as being oversold, and when it is below 30, it is regarded as being oversold. Divergences and central line crossovers can also be used to generate signals.

**Moving Average Convergence/Divergence**: It is a type of trend indicator that shows how prices and moving averages are related. It's the difference between 26-day and 12-day exponential moving averages. It is very easy to calculate the MACD; the difference between 26-day and 12-day exponential moving averages. In this study, a buy opportunity occurs whenever the MACD line crosses from below to above the signal line, the indicator is considered bullish and sell opportunity occurs whenever the MACD line crosses from above to below the signal line, the indicator is considered bearish.

**Moving Average:** The majority of chart patterns show a lot of price movement variation.

Traders may find it challenging to determine a security's overall trend as a result of this. Moving averages are one straightforward strategy traders employ to combat this. The average price of a security over a predetermined period of time is called a moving average. The price movement is smoothed out when the average price of a security is plotted. Traders are better able to identify the true trend and increase the likelihood that it will work in their favor once the day-to-day fluctuations are removed.

### LIMITATIONS

• Since the sample unit contains solely prime ten Pharmaceutical firms there's probability for differences within the stock value movement trends in different firms. The inferences might not be generalized.

• This study is limited to a period of 1 year only (1st December 2021 to 1st December 2022).

• The results of the study may not be true for the period before and after the study. This study can be used only for short term decision making.

• Volatility in stock market is always subject to change.

### IV. DATA ANALYSIS AND INTERPRETATION

#### 1. Glenmark Pharmaceuticals Ltd

In the EMA analysis the 20 EMA is crossing the 50 EMA which indicates a good movement of stock in the bullish for long term.The MACD signal shows more movement of stocks in the upward movement and it shows more volatility. The RSI indicator shows the the stock is in the overbought area and it follows a bearish after the trend line touches the 70 level.

#### 2. Divi's Laboratories Ltd

In Moving Average Analysis, the 20 EMA line is below the 50 EMA which indicates that this is not the correct time to invest in the stock. When we consider MACD signal it indicates a buy signal as the MACD line is above the Signal line. The RSI signal shows that there is a more volatility in the purchase of the stock as it is making a rapid movement from 70 level to 30 level. Currently it indicates a sell signal.

#### 3. Aurobindo Pharma Ltd

According to the Moving Average Analysis the market is rejecting the bullish movement and currently it indicates to sell the shares as the 20 EMA is below the 50 EMA. The MACD signal currently indicates a buy signal. The RSI signal is currently at the oversold area indicating a buy signal for stock.

#### 4. Biocon Ltd

The EMA analysis of the stock shows an upward rally movement as the 20 EMA is trying to cross over the 50 EMA indicating a buy signal. The MACD signal indicates a sell signal as the MACD crosses the Signal line from above. The RSI signal indicates a sell signal if the trend line touches the 70 level as it is near to the level.

#### 5. Cipla Ltd

Based on the Moving Average Analysis it indicates a sell signal as the 20 EMA is trying to cross the 50 EMA. The MACD analysis now indicates a buy signal as the MACD crosses the SIGNAL line from below to above. The RSI chart shows more volatile of the stock in the overbought area and now it indicates a neutral signal as the stock is currently at the level of 50.

## 6. Granules India Ltd

The EMA analysis indicates a sell signal as the 20 EMA is trying to cross the 50 EMA in a downward movement. The MACD chart currently idicates a sell signal as the MACD line is already below the SIGNAL line. The RSI trend indicates a buy signal as the stock is at the oversold area at the level of 30.

## 7. Lupin Ltd

The EMA Analysis currently indicates a buy signal as the 20 EMA is above the 50 EMA. The MACD signal clearly indicates a sell signal as the MACD is above the SIGNAL line. The RSI chart shows the stock is overbought in the month of January, August, September and November. Currently RSI indicates a sell signal as the stock is overbought.

## 8. Abbott India ltd

According to EMA analysis it is indicating a buy a signal as the 20 EMA is above the 50 EMA. The MACD chart also indicates a buy signal as the MACD line is above the SIGNAL line. The RSI signal indicates a sell signal as the stock is at the level of 70 overbought and overvalued.

## 9. Zydus Lifesciences Ltd

The EMA Analysis indicates a sell signal as the 20 EMA is trying to cross the 50 EMA from above to below. The MACD indicator indicates a buy signal if the MACD line crosses the SIGNAL line from below to above. The RSI signal it is at the oversold area indicating a buy signal for stock.

## 10. IPCA Laboratories Ltd

The EMA analysis is indicating a sell signal as the 20 EMA is above the 50 EMA. The MACD chart also indicates a sell signal as the MACD line is above the SIGNAL line. The RSI signal which is being more volatile in the trend shows that the stocks are overbought many times and currently it is at the oversold area indicating a buy signal for stock.

## 11. Nifty Pharma

According to the EMA analysis the Nifty Pharma indicates a buy signal as the 20 EMA is above the 50 EMA. The MACD chart indicates a sell signal as the MACD line is above the SIGNAL line. The RSI indicator indicates a sell signal as it is at the overbought level indicating that the shares are overvalued.

**SUGGESTION**

1. Investors can buy the shares of Lupin, Abbott, Zydus as it shows a positive growth a buy signal.

2. Investors can be avoiding to invest in the shares of Glenmark, Divi's, Aurobindo, Biocon, Cipla, Granules as it shows a negative growth.

3. Before investing on any shares investors can use Technical Analysis for safe investment and for better returns.

## V. CONCLUSION

Today India is one of the top emerging pharmaceutical industry in the global market. The Pharmaceutical Sector industry in India is expected to reach $65 billion by the end of 2024 and to reach $130 billion by the end of 2030. Technical analysis helps to study the behavior of the prices of the stock to predict the future prices of the stock. The methods and theories which are used in this paper are commonly used among other traders. However, to analyze and interpret the movement of the stock price the effective tools of technical analysis are taken into consideration. Investors get benefited from technical analysis by gaining a better understanding of the stock and also being guided in the right direction in deciding whether to buy or sell the stocks. The small investors and traders shouldn't just jump into an investment; rather, they should use a variety of tools to determine whether the scrip is technically sound. Finally, I conclude that by saying that the index of Pharma sector in India shows a massive bullish movement for long term in EMA, but in MACD and RSI chart we can observe that the signal is for bearish movement for shorter period where the market can expect a correction in prices.

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## IMPLICATIONS OF CLIMATE RISK ON AGRI LOANS AND CREDIT RISK BANKS

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*Abstract*

*The study basically based on the impact of climate change on agriculture can have significant implications for Agri loans and credit risk for banks. As weather patterns become more extreme and unpredictable, crop yields can be impacted, leading to financial losses for farmers and a corresponding increase in loan defaults. This can pose significant risks to banks that have extended loans to these farmers. Additionally, the transition to more sustainable and climate-resilient farming practices can also have financial implications for farmers and their ability to repay loans. To mitigate these risks, banks typically use a variety of lending and recovering strategies, such as using a combination of loan products, requiring collateral, and partnering with other financial institutions. In this, authors analysed 38 nationalised banks to know about the financial risk due to climatic risk to the bank. The issue of climate risk and its impact on Agri loans and credit risk highlights the need for the financial sector to take a proactive approach to addressing the challenges posed by a changing climate. Increased frequency of extreme weather events droughts, floods, and heatwaves are becoming more frequent and intense, affecting crops and livestock, and leading to soil erosion and degradation.*

**KEYWORDS**: *credit risk, climate change, Agri loans of banks.*

## I. INTRODUCTION

Agriculture is regarded as the nation's backbone. More than 55% of the people depend on agriculture in India. The capital for these agricultural activities is from various sources and one among them is a loan from the bank with an interest rate for the repayment of loans. They must be depended on the yields for the revenue. We cannot predict the environmental conditions as we exactly do not know when the weather may change. Other than these there are other types of risk involved in agriculture. A farmer may obtain agricultural loans to cover the costs of seasonal agriculture activities or operations related to agriculture activities. This kind of loan is also available to assist in purchasing agricultural attributes such as seeds and insecticides and hiring labor for crop cultivation and harvesting. The farmers can avail of loans for various activities of agriculture like carrying out regular activities, purchasing farm equipment including tractors and harvesters, acquiring land, obtaining loans for product marketing & expansion etc.

## II. REVIEW LITERATURE

**1. Harjeet Singh & Dr. Himanshu Gupta (2020)** They determined study on institutional agricultural credit and repayment behaviour in India. This factors that influence farmers' borrowing and repayment behaviour in India. It highlights the need for policies that improve farmers' access to credit and provide better support for loan repayment, especially for small and marginal farmers. The study has important implications for policymakers and financial institutions involved in agricultural lending in India, and

provides useful insights into how to improve the effectiveness and sustainability of agricultural credit programs.

**2. Dr. V. Suresh Babu, Dr. R. Arputharaj., & Mr. G. Rajesh (2020)** In the preceding study, they examine the repayment of an agricultural loan in Theni district with special reference to the bank of India. The Bank of India is an Indian public-sector bank. It began with the laudable goal of improving rural economies through loans. More than 3400 banks in India have attained 100 percent networking status. The agricultural industry plays a role in the rural economy. Agricultural term loans are available for land development, minor irrigation, farm automation, crop planting, and linking purposes. the recovery performance of agricultural loans and the repayment problems encountered by respondents.

**3. Iqbal Thonse Hawaladar, Cristi Spulbar, Lokesh, Ramona Birau, & Cristian Rebegea (2020)** In the article, the primary goal of this study is to Analyzing non- performing assets in agricultural loans in India. The study found that the level of NPAs in agricultural loans was higher than the overall level of NPAs in the banking sector inIndia. The main factors contributing to the high level of NPAs in agricultural loans were identified as climate-related factors, such as droughts, floods, and other natural disasters, as well as other factors, such as inadequate credit appraisal, inadequate loan monitoring, and diversion of funds.

**4. Jagdeep Kaur Brar, Antoine Kornprobst, Willard John Braun, Matthew Davison, and Warren Hare (2021)** In the article, they analyse a case study of the impact of climate change on agricultural loan credit risk. The study found that climate change had a significant impact on agricultural loan credit risk in the region. The main factors contributing to the increased credit risk were identified as weather-related events such as droughts, floods, and other natural disasters, as well as changes in temperature and precipitation patterns. These factors resulted in lower agricultural productivity, decreased income for farmers, and an increased likelihood of loan defaults.

**5. Shivali Amit Wagle, & Harikrishnan R, (2021)** In this study, they analyse the effect of planting season in crop production in India state, the effect of planting season on crop production in Indian states is an important topic of research and analysis. Studies have shown that optimal planting windows are crucial for maximizing crop yields, and that climate change is expected to have significant impacts on planting seasons and crop yields. Therefore, it is important to implement adaptation measures to help farmers adjust to changing conditions and ensure food security in the face of a changing climate.

**6. Rahul Singh Gautami, & Jagjeevan Kanoujiya (2022)** In the article, they analyse role of regional rural banks in rural development and its influences on digital literacy in India. This research investigated the impact of regional rural banks in India on digital literacy and rural development. Regional rural banks and the government, according to the study's findings, should prioritize infrastructure development and digital literacy. It is an important component of regional rural banks and financial inclusion efforts.

**7. Bhumit Shah, & Rajkumari Soni (2022)** In the article, they analyse a study on role of NABARD and financial initiatives taken in promoting rural finance in India. The Indian economy is based on agriculture, and the real India can be found in the villages. The objectives of economic planning cannot be met without rural economic development. TheNABARD is critical to the economic growth of rural India. Microfinance programmers aim to reach the poor and achieve financial sustainability. Microfinance is regarded as a key strategy for poverty alleviation as well as a means of generating economic growthand employment for small, micro, and medium-sized businesses.

**8. Pritha Dattaa, Bhagirath Behera, & Dil Bahadur Rahut (2022)** In the article, they analyse the Climate change and Indian agriculture: A systematic review of farmers'

perception, adaptation, and transformation in Indian agriculture. Climate change is havinga negative impact on the Indian agricultural sector. Farmers' perceptions of, and adaptation to, rapidly changing climatic conditions are regarded as critical policy measures in combating these difficulties in life.

**9. Na Zhao, & Fengge Yao (2022)** In the article, the author examined the Innovative mechanism of rural finance: risk assessment methods and impact factors of agricultural loans based on personal emotion and artificial intelligence. the authors described the impact of agricultural loans and risk assessment methods on personnel and AI. Agricultural finance is currently in a disappointing situation in the current financialclimate, particularly during the COVID19 process. Its small peasant financial system could no longer serve farm owners' rapidly increasing demands for agricultural finance.

**10. Ravi Dupdal, B L Patil, B L Manjunatha, & S L Patil (2022)** In the article, the authors analyse the Climate change mitigation and adaptation strategies in Northern Karnataka's drylands. climate change mitigation and adaptation strategies in drylands of Northern Karnataka are crucial to ensure food security and livelihoods in the region. Mitigation and adaptation strategies need to be context-specific and tailored to the needs and priorities of local communities, and the involvement of institutions is critical to promote their adoption and uptake.

## III. DATA AND METHODOLOGY

Autors have used empirical research with serving the strucutred questionnaires to bankers (Nationalized Banks, cooperative Banks, and Regional Rural Banks) primarily into agri loans. Both primary and secondary data is used. Data is collected from 38 banks as respondients.

**OBJECTIVES:**

➢ To explore the various climate change risk in agricultural produce.

➢ To understand the procedures followed by banks for processing Agri loans. To analyses the implications of climate risk on Agri loans.

### 3.1 Hypothesis TestingHypothesis 1:

$H_0$ : There is no significant difference in opinion of banks on climate change as a threat to sustainable development of agriculture and to bank.

$H_1$ : There is a significant difference in opinion of banks on climate change as a threat to sustainable development of agriculture and to bank.

**Hypothesis 2:**

$H_0$ : There is no difference in opinion of banks on loss due to estimating future and past climate change is a threat.

$H_1$ : There is a difference in opinion of banks on loss due to estimating future and pastclimate change is a threat.

### 3.2 Limitation

➢ Data is confined to the opinion of the bankers in and around Bangalore.

➢ The outcome is purely based on the respondent's opinion, which may not have correct relevance.

➢ The opinion is confined to times of data collection only.

## IV. DATA ANALYSIS AND FINDINGS

### 4.1 ANOVA Analysis

**Table 4.1.1 Anova analysis on Hypothesis (H1) Testing.**

| ANOVA | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| climate change is a threat | BetweenGroups | 0.843 | 1.0 | 0.843 | 1.212 | 0.278 |
| | Within Groups | 25.051 | 36.0 | 0.696 | | |
| | Total | 25.895 | 37 | | | |
| past&future estimating is a challenge | BetweenGroups | 1.297 | 1.0 | 1.297 | 2.867 | 0.099 |
| | Within Groups | 16.282 | 36.0 | 0.452 | | |
| | Total | 17.579 | 37 | | | |

**Interpretation:**

The significance p value of climate change is 0.278 and estimating is a challenge value is 0.099 whish is >0.05 So we accept null hypothesis at 5% level of significance. And weconcluded that all the banks have same opinion on climate

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**Table 4.1.2 Anova analysis on Hypothesis (H2) Testing.**

| ANOVA | | | | | | |
|---|---|---|---|---|---|---|
| | | Sum of Squares | df | Mean Square | F | Sig. |
| climate scenario analysis in infancy | BetweenGroups | 2.106 | 1 | 2.106 | 2.181 | 0.148 |
| | WithinGroups | 34.763 | 36 | 0.966 | | |
| | Total | 36.868 | 37 | | | |
| Estimating climate Is a challenge | BetweenGroups | 1.021 | 1 | 1.021 | 2.618 | 0.114 |
| | WithinGroups | 14.032 | 36 | 0.39 | | |
| | Total | 15.053 | 37 | | | |

**Interpretation:**

The significance p value of climate scenario is 0.148 and estimating climate value is 0.114 whish is >0.05, so we accept null hypothesis at 5% level of significance. And we concluded that all the banks have same opinion on climate.

**Findings**

- From the executed survey for various banking institution understood that the bank followsvarious policies, rules and regulations under different circumstances.

- The operation of the regional rural banks  for majority of extent is same and they all follow the similar pattern except some marginal changes in their internal  operating system.

- Due the uncertain climate change in many states in India the banks will record the more NPA under their book of accounts in the financial annual report this is a loss forthe banks.

- If the government provides any scheme for the farmers to wave off the farmers loan only on the periodic and selected zone farmers loan will be waved off not every farmer's loan.

- Banks will offer the farmers with very minimal interest amount of loan with specific benefits like Pradhan Mantri Krishi Sinchaye Yojna, Paramparagat Krishi Vikas Yojana etc.,

- The banks as categorized the risk parameters according to the droughts, heats, rainfall, floods etc.,

- Banks have separate risk management framework for agricultural credit and they considerclimate related factors while processing agricultural loans.

- The banks majorly follow the lead bank guidelines (rebased from time to time), controlling office guidelines from regional office.

- Banks have a strong belief that climate change is a threat to a sustainable environment. Banks have a strong attitude about losses caused by projecting the future, and climate change is a concern.

- The bank also provides crop insurance plans like the Pradhan Mantri Fasal Bima Yojana to reduce agricultural losses caused by climate change.

- Banks that use NABARD's Automatic Refinance Facility (ARF) will be able to offset credit losses caused by weather circumstances.

**V. CONCLUSION**

This study helped to determine how the climatic risk on agricultural loans and the bank's credit risk has been mitigated, making it evident that there is a risk for both banks and their clients (farmers) when there is a shift in the climatic circumstances. The bank follows various schemes stated under the regulatory bodies to operate and mitigate the risk  they follow various schemes and their procedures; banks should seek more guidance from the main regulatory body i.e., RBI to reduce their overall risk from the climatic change.  Climate change risk is defined as an unpredictability brought on by extreme weather conditions like floods, droughts, and typhoons that generate disasters that pose a physical danger and have a detrimental effect on commerce and the economy as a whole.

Extreme weather-related circumstances are increasing in terms of loss of life, means of livelihood, savings, properties, opportunities for labour, and incomes. This might lead to transition problems. (Such as changing the way things are done, systems and procedures, moving, etc.), which could push up operational expenses. As the climatic condition is uncertain the back should try to forecast the loss occur in the future and maintain particular reserves of these kinds of risk. The banks should try to mitigate the NPA (Non-Performing Assets) from their clients (farmers).

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**FARMER PERCEPTION AND AWARENESS ABOUT CROP INSURANCE INKARNATAKA**

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***ABSTRACT:*** Crop insurance as a concept for risk management in agriculture has emerged in India since the turn of the twentieth century. From concept to implementation, it has evolved sporadically but continuously through the century and is still evolving in terms of scope, methodologies and practices.

India is an agrarian country, where the majority of the population depends on agriculture for their livelihood. Yet, crop production in India is dependent largely on the weather and is severely impacted by its vagaries as also by attack of pests and diseases. These unpredictable and uncontrollable extraneous perils render Indian agricultural and extremely risky enterprise. It is here that crop insurance plays a pivotal role in anchoring a stable growth of the sector. The study found that the majority of farmers perceived crop insurance as an important tool for managing risk and uncertainty associated with crop production, but many were hesitant to enroll due to lack of trust in the insurance companies and the lengthy and complicated claim process. The study also identified some key factors that influenced farmers'decision to enroll in crop insurance schemes, including the cost of premiums, the level of coverage, and the ease of access to insurance services.

**INTRODUCTION:** India is an agrarian economy with 116 million farm holdings covering 163 million hectares, with small and marginal farmers making up 80% of the producer population. Farming is an inherently risky business and farmers face many types of risks. Natural disasters such as droughts, floods, cyclones, storms, landslides and earthquakes severely affect agricultural production and farm incomes. Agricultural insurance is an important mechanism to address the risks to output and income resulting from various natural and manmade events. Crop insurance is a basic risk faced by agriculturalists worldwide, particularly in India due to the extreme dependence of the farm sector on weather conditions and the poor economic condition of farmers. The Comprehensive Crop Insurance Scheme (1985-99) and its successor, the N ational Agricultural Insurance Scheme (NAIS), have evolved over the years, and the last couple of years have seen the entry of the weather insurance sector. However, crop insurance is a complicated concept to administer due to the systemic nature of agricultural risks, moral hazard, difficulty curbing adverse selection, and non-viability and unaffordability. The National Agricultural Insurance Scheme (NAIS) is a countrywide crop-yield insurance programme implemented by all states except Punjab, Arunachal Pradesh, Manipur and Nagaland. It eliminates the problem of adverse selection and takes care of the pooling concept by ensuring the uninterrupted participation of farmers both in good and bad years. However, less than one-third of the farming community avails of institutional credit in India and for the remaining, insurance continues to be voluntary. A disaggregated study of beneficiaries under the NAIS reveals that more than 60% of the farmers, who benefited under food crops and oilseeds, belong to the small and marginal category (having landholdings less than two hectares).

Agriculture in Karnataka is a vital part of the state's economy, but growth is limited by a variety of factors. Rain-fed farms, affected by the vagaries of the weather, create fluctuations in farm incomes that put farmers in a precarious position. To protect farm livelihoods, risk mitigation strategies such as crop insurance are needed. This policy brief is based on two earlier studies on the farm sector and examines the state of crop insurance in Karnataka using secondary data from the National Sample Survey Office (NSSO).

### OBJECTIVE OF THE STUDY

- To Study the Agricultural insurance Scenario in India

- To Analyse the Awareness of Existing crop insurance Schemes in India

- To Know the opinion of farmers on the benefits of crop insurance

**REVIEW OF LITERATURE:**

| SL NO | Author name | Journal name | |
|---|---|---|---|
| 1 | K S Aditya, Avinash, Kishore | A case of weather-based crop insurance in Punjab, India | Conducted a contingent valuation study in Punjab, a state where irrigation is used for farming and where the risk is thought to be so low that crop insurance has not yet been implemented by the government. The primary data used in this study came from 716 wheat farmers. The study discovered that farmers are willing to payless than the premium based on current rates, INR 297 per acre, forcrop insurance |
| 2 | S.S. Raju, Ramesh Chand | 'A Study on the Performance of National Agricultural Insurance scheme and Suggestionsto Make it More Effective' | This essay has looked at the characteristics and effectiveness of the National Agricultural Insurance Scheme (NAIS) in use in the nation and has made some recommendations for improvements. The National Agricultural Insurance Scheme has only slightly improved the crop insurance programme since it was introduced in the nation.The area covered, the number of farmers, and the value of agricultural output are all relatively tiny. |
| 3 | NIRAJ VERMA | Making Insurance Markets Work for Farmers in India | The switch from a social crop insurance scheme with sporadic support from the GOI to a market-based crop insurance The Indian crop insurance programme is appealing to private insurance and reinsurance businesses because it is a programme where the productdesign and premium rates are actuarially sound. To provide mNAISin Rabi in 2010, two domestic commercial insurers have already reached agreements with several states. For its MNAIS insurance portfolio |
| 4 | Arun Kumar Deshmukh* Deepak Khatri** | Agicultural insurance in India – A paradigm shipft in Indian | This paper tells about the evolution of agricultural insurance in Indiaand its critical appraisal. The over dependence of Indian agriculture on uncertain rains during monsoon The market for agricultural insurance has demonstrated enormous potential. However, after being around for forty years, it hasn't been able to establish a solid foothold in the farming community. To achieve deep penetration, further efforts are needed in this direction |
| 5 | Sidharth Sinha | Agriculture Insurance in India | In order to protect Indian farmers from agricultural variability, the government runs a crop yield insurance programme, purchases are made at minimum support prices, and calamity relief funds are the main tools being used . The closure we get from this paper is the crop yield scheme is failed to implant due to less coverage and high claims to premium ratio. problem arises in both the design execution of the scheme. Problems with measuring the crops in a regular and neat manner |

**DATA AND METHODOLOGY**

**Study type:** Exploratory Research

An approach to methodology called exploratory research looks into unanswered researchquestions

**Data Collection Method:** primary data (Survey)

First-hand knowledge was obtained through direct observation, personal interviews with respondents' former employees, or other methods of data collection

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**Hypothesis test**

**Hypothesis 1**

**Ho:** Farmer not aware of risk insurance and its benefits

**H1:** Farmer aware of risk insurance and its benefits

## Hypothesis 2

**Ho:** There is a no difference in opinion of farmer on risk insurance benefits based on year of farming

**H1:** There is a no difference in opinion of farmer on risk insurance benefits based on year of farming

## DATA ANALYSIS AND FINDINGS

**ANOVA**

| | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Crop insurance is management tool in agricultural production | Between Groups | 27.941 | 4 | 6.985 | 5.830 | .000 |
| | Within Groups | 116.225 | 97 | 1.198 | | |
| | Total | 144.167 | 101 | | | |
| Crop insurance will protect viability of my farm operation regardless of water-related risks | Between Groups | 25.407 | 4 | 6.352 | 4.959 | .001 |
| | Within Groups | 124.240 | 97 | 1.281 | | |
| | Total | 149.647 | 101 | | | |
| I can't imagine managing my farm without crop insurance | Between Groups | 27.310 | 4 | 6.828 | 4.588 | .002 |
| | Within Groups | 144.337 | 97 | 1.488 | | |
| | Total | 171.647 | 101 | | | |
| Crop insurance requirement limit my ability to implement conservation practices | Between Groups | 28.352 | 4 | 7.088 | 6.110 | .000 |
| | Within Groups | 112.520 | 97 | 1.160 | | |
| | Total | 140.873 | 101 | | | |

**ANOVA**

| | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| I will buy crop insurance regardless of whether or not it is subsidized | Between Groups | 12.338 | 2 | 6.169 | 5.051 | .008 |
| | Within Groups | 120.917 | 99 | 1.221 | | |
| | Total | 133.255 | 101 | | | |
| Crop insurance provides good protection to my yield | Between Groups | 13.856 | 2 | 6.928 | 4.813 | .010 |
| | Within Groups | 142.497 | 99 | 1.439 | | |
| | Total | 156.353 | 101 | | | |
| I am willing to expose myself to greater risk to increase the yield of my crop because of crop insurance | Between Groups | 5.695 | 2 | 2.847 | 2.012 | .139 |
| | Within Groups | 140.119 | 99 | 1.415 | | |
| | Total | 145.814 | 101 | | | |

**Interpretation :**

This is another ANOVA table showing the results of a study comparing farmers' attitudes towards crop insurance. The variables are different attitudes (e.g. "I will buy crop insurance regardless of whether or not it is subsidized") and the groups are different farmers. The F valuesand Sig. levels show the significance of the differences between the groups. In this case, the first two attitudes have a significant F value (less than .05), suggesting that there is a significantdifference between the groups. The third attitude does not have a significant F value (greater than .05), which suggests that there is not a significant difference between the groups.

**Findings :**

- The study shows that 55.9% of the farmers state it has neutral Expenses of theagricultural

- The study shows that 41.2% of the farmers get financial support the private/cooperative Bank

- The above survey shows that 48.0% of farmers lack of finance for affect of theyield

- The above analyses says that 85.3% of farmers heard about a agriculture insurance

**SUGGESTIONS:**

- Creating more a Awareness about crop insurance

- Providing more number of scheme in agriculture

- To providing benefit to the farmer

- To providing a compensation to loss on crop with in short time

**CONCLUSION:**

It is necessary for the Agriculture Department to establish a separate Crop Insurance Wing in order to address the current limitations in the current scheme. Agriculture More than 80% of respondents claimed that the department is not carrying out the plan properly. Additionally, they have no knowledge of any Crop Insurance procedures or data. More than 90% of respondents indicated that there is a need to increase awareness about crop insurance through the effective use of RSK services or by appointing Crop Insurance Agents similar to LIC agents to provide insurance service at the farmers' door step. Since most farmers lack literacy, they are unaware of the formal financial institutions' procedural and other requirements. Although institutional loanees are required by the NAIS to be insured, only about 40% of non-loanees are. The H-K region's farmers voluntarily purchase insurance. This is a good illustration of the enormous potential that insurance has to address

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## A COMPARATIVE STUDY OF PRE AND POST COVID PRODUCTIVE EFFICIENCY OF PUBLIC SECTOR BANK

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*ABSTRACT*

*This evaluates the financial records of 10 different public sector banks over afive-year period. It can be shown that there are only slight variations between before and after covid in terms of efficiency ratio, return on equity ratio, debt to asset ratio, and loan to deposit ratio from all of the aforementioned research using ratio analysis.The net interest margin, however, is negative both before and after covid. Additionally, we foundthat loans with deposits When a certain ratio is used, it demonstrates that all banks have sufficient liquidity to meet their needs and demonstrates the banks' liquidity status. By calculating how much money a firm produces from the equity of its shareholders, return on equity may be used to gauge a company's profitability. In comparison to pre-covid analysis, public sector banks' productive efficiency is more effective.*

**INTRODUCTION:** The financial sector, and individuals with income had all been hit by the epidemic's tidal waves. Impact All sectors, but mainly those related to the economy, appear to be affected by Covid-19. Due to the steady development of Covid-19 distribution both domestically and internationally, economic growth stalled. This was characterized by deteriorating external environmental circumstances, diminishing domestic needs, and a decline in consumer andcorporate confidence. It is possible to draw the conclusion that the decline in banking financial performance as coincide with the widespread use of Covid. Whether or not all operational activities in the banking sector have proceeded as planned, banking financial performance can be utilized to examine such actions. In order to evaluate a company's recent or short-term performance, analysts use efficiency ratios, which are more commonly referred to as activity ratios. Using information from a company's current assets or liabilities, these ratios are all used to measure business activity. An efficiency ratio is very important in the banking sector. The efficiency of a bank is calculated as non-interest costs divided by income.

**OBJECTIVES OF THE STUDY:**

1    To know about the key performance financial indicators for public sector banks.

2    To study the bank performance using key financial metrics and KPI's of the banks.

3    To know the Comparison of selected banks performance in pre and post covid timeusing identified financial metrics.

**REVIEW OF LITERATURE**:

**Dirgahayu Lantara Junaidi Junaidin Nurhayati Rauf A Pawennari Ratu Noorita Achmad (2022)**

"Indonesian Islamic banks: A review of the financial state before and after the COVID-19 pandemic" This study uses non-parametric production efficiency analysis to compare Indonesia's Islamic banking performance between 2010 and 2021, before and after the COVID-19 outbreak. This study made distinctions between various financial and non- financial aspectsof Indonesia's Islamic banks as well as looked into the connections between these financial aspects, Financial factors include things like properties, deposits, equities, financing, and revenue, as well as non-financial factors like staff and locations. Non- parametric analysis, the input-oriented variable constant return to scale (CRS) and returns to scale (VRS) models, and returns to scale (Scale) models are used as a platform to compute the IIB of overall, pure, and scale efficiency. It also used an intermediary approach to analyze the effectiveness of Islamic banks from 2010 and 2021 and found that specific Islamic banking operations are strongly correlated with economic development.

**Hari Sutra Disemadi1 Ali Ismail Shaleh (2020)**

Banking credit restructuring policy on the impact of COVID-19 spread in Indonesia According to the study's findings, the Financial Services Authority Regulation should be used to issue policies that will give a national economic stimulus in order to combat the economic instability brought on by the COVID-19 outbreak.

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These varied plans are totally up to the bank, and they heavily rely on the findings of the bank's evaluation of the debtor's financial performance or on the potential of the company and its ability to pay COVID-19- affected debtors. With a maximum term of one year, the length of this restructuring varies significantly depending on how the bank evaluates its debtors. The quality of restructured loans may be easily assessed if they are offered to debtors who have been identified as being impacted by the spread of COVID-19. This policy regulates the existence of credit restructuring. Depending on how each bank's policies evaluate the debtor's profile and financial capabilities, several restructuring plans may be put into effect.

**Reza Nurul Ichsan, Sudirman Suparmin, Mohammad Yusuf, Rifki Ismal and Saleh Sitompul (2021)**

"Determinant of Sharia Bank's Financial Performance during the Covid-19 Pandemic" Due to the large number of individuals who have lost their jobs and their incapacity to finance payments, poor financing has emerged from debtors' disbursements in this article explaining the impacts of the Covid-19 epidemic on the banking industry. The financial results of Islamic banks during the Covid-19 epidemic is evaluated in this study using yearly financial information from 2011 to 2020. To verify the model's linearity, several regression analysis tests and the Ramsey testing are performed. Financial performance (ROA) is favorably and considerably impacted by the Capital Adequacy Ratio(CAR), Operating Costs to Operating Income (BOPO), and Financing to Deposit Ratio (FDR), whereas the Not Performing Financing (NPF) has a negative and minor effect on financial performance (ROA). The capital adequacy ratio (CAR), operating costs to operating income (BOPO), funding to deposit ratio (FDR), and not performing financing all had a significant influence on the financial performance (ROA) of Indonesian Sharia banks (NPF).

**Dr. Asif Perwej (2020) in their article "THE IMPACT OF PANDEMIC COVID- 19 ON THE INDIAN BANKING SYSTEM**

" They are meant to demonstrate how the banking and financial sectors have been impacted by the COVID-19 outbreak. The coronavirus epidemic in India, in accordance with the Indian bank, threatens a protracted clean-up of its financial system. Banks, the financial backbone of the economy, provide loans to both individuals and companies. Their stability is crucial for the system to keep running. A significant drop in demand, lower earnings, and production halts are only a few of the COVID-19's detrimental repercussions on banks. As firms scramble to handle COVID-19's implications on financial services, staffing concerns, a lack of digital maturity, and demand on the present infrastructure are making the situation worse. With the current COVID-19 new coronavirus pandemic, banks surely have a lot on their plates. Businesses and borrowers are coping with job losses, slow sales, and declining revenues as the virus spreads around the world. Bank clients could start searching for financial aid. One apparent way that pandemics might harm financial institutions is via the enormous economic expenses they cause.

**RESEARCH METHODOLOGY**

**STUDY TYPE:** Research methodology used in this study is descriptive research as it basedon the secondary data.

**PERIOD OF STUDY:** The time considered in this study is from 2018 to 2022. The study isconducted by taking the data of financial statements of different banks.

(Pre covid: 2018-2019 and Post covid: 2020-2022)

**SOURCE OF DATA:** Secondary data comes from a variety of published sources, like websites and articles.

**TOOLS AND TECHNIQUE:** Anova, ratios, percentages

**DATA ANALYSIS AND INTERPRETATION**

**4.1 HYPOTHESIS:**

Ho: There is no significant difference of banks performance in pre and post covid era. H1: There is a significant difference of banks performance in pre and post covid era.

ANOVA   NET INTEREST MARGIN

| Source of Variation | SS | df | MS | F | P-value | F crit |
|---|---|---|---|---|---|---|
| Rows | 0.001008 | 4 | 0.000252 | 11.01466 | 6.16E-06 | 2.633532 |
| Columns | 0.000832 | 9 | 9.24E-05 | 4.038405 | 0.001214 | 2.152607 |
| Error | 0.000824 | 36 | 2.29E-05 | | | |
| Total | 0.002664 | 49 | | | | |

P value is less than 0.05.

**Interpretation:**

In the above table, as p value is 0.05 we h0 is rejected and h1 is accepted where there is significant difference of bank performance in pre covid and post covid era.

**NET INTEREST MARIGN:**

The difference between a bank's income from loans and its interest payments on deposits is called the net interest margin. It is one sign of bank development and profitability. It explainsthe distinction between the bank's interest on loans and its interest on deposits. The financial net interest margin is significantly affected by the interest rates in the economy. A bank's net interest margin will be positive for an efficient bank and negative for an inefficient bank.

Net Interest Margin = (Investment Income – Interest Expenses) / Average Earning Assets.

| NET INTEREST MARGIN | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Years | Bank of Baroda | Bank of Maharashtra | Central bank of India | Canara Bank | Bank of India | Indian bank | Indian overseas bank | Punjab & Sind bank | Punjab national bank | State bank of India |
| 2022 | -0.0152 | -0.01211 | -0.0108 | -0.0204 | -0.02 | -0.017 | -0.0165 | -0.0203 | -0.0170 | -0.012 |
| 2021 | -0.036 | -0.0154 | -0.0124 | -0.0284 | -0.021 | -0.026 | -0.0200 | -0.0269 | -0.0238 | -0.015 |
| 2020 | -0.0305 | -0.01806 | -0.0176 | -0.0325 | -0.025 | -0.046 | -0.027 | -0.0370 | -0.0254 | -0.021 |
| 2019 | -0.0234 | -0.02133 | -0.0226 | -0.0317 | -0.027 | -0.026 | -0.0298 | -0.0357 | -0.0255 | -0.020 |
| 2018 | -0.024 | -0.03003 | -0.0316 | -0.0303 | -0.029 | -0.024 | -0.0309 | -0.0310 | -0.0258 | -0.020 |

ANOVA        LOAN TO DEPOSIT RATIO

| Source of Variation | SS | df | MS | F | P-value | F crit |
|---|---|---|---|---|---|---|
| Rows | 0.005168 | 4 | 0.001292 | 7.471471 | 0.000173 | 2.633532 |
| Columns | 0.047402 | 9 | 0.005267 | 30.45746 | 3.12E-14 | 2.152607 |
| Error | 0.006225 | 36 | 0.000173 | | | |
| Total | 0.058795 | 49 | | | | |

P value is less than 0.05.

**Interpretation:**

In the above table, as p value is less than 0.05. h1 is accepted . where there is significantdifference of bank performance of pre and post covid era.

**LOAN TO DEPOSITE RATIO:**

The loan-deposit ratio is the proportion of a bank's total debt to its total deposits. Typically,the ratio is stated as a percentage. If the ratio is under 1, the bank as not borrow money from external sources to fund loans to its customers.

A bank's liquidity is assessed using its loan-to-deposit ratio, which compares all of its loans to all of its deposits during the same time period. The LDR is given in percentage form. The bank might not have enough liquidity to meet any unanticipated funding requirement if the ratio is too high.

Loan-to-deposit ratio= Bank's total amount of loans / The total amount of deposits for the same period.

Debt-to-Assets Ratio = Total Debt / Total Assets.

| LOAN TO DEPOSITE RATIO | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Years | Bank of Baroda | Bank of Maharashtra | Central bank of India | Canara Bank | Bank of India | Indian bank | Indian overseas bank | Punjab& Sind bank | Punjab national bank | State bankof India |
| 2022 | 0.1018 | 0.038298 | 0.0223 | 0.0426 | 0.04257 | 0.02889 | 0.01171 | 0.02392 | 0.05143 | 0.10988 |
| 2021 | 0.0715 | 0.024362 | 0.0174 | 0.0494 | 0.05160 | 0.04870 | 0.01527 | 0.027506 | 0.046958 | 0.116758 |
| 2020 | 0.0983 | 0.024459 | 0.0193 | 0.0683 | 0.07131 | 0.08006 | 0.024309 | 0.035833 | 0.088014 | 0.101675 |
| 2019 | 0.1034 | 0.072166 | 0.0187 | 0.0685 | 0.08470 | 0.05014 | 0.027618 | 0.027537 | 0.068675 | 0.140705 |
| 2018 | 0.1067 | 0.029242 | 0.0204 | 0.0741 | 0.08336 | 0.09488 | 0.042559 | 0.036205 | 0.100749 | 0.135582 |

**FINDINGS:**

● Return on Equity evaluates a company's profitability by figuring out the profit it makes from its shareholders' equity.

● Return on equity is increasing for the State bank of India during and post covid periodas compared to any other banks.

● Efficiency ratio is used to know the current performance, State bank of India andBank of Baroda higher value of efficiency performance in post covid period.

● Loan to deposit ration shows the liquidity position of the banks, by identified ratio itshows that all the banks are have adequate liquidity for their requirements.

● Debt-to-asset ratio to evaluate a company's capacity to service its existing debt as wellas its capacity to borrow capital through further debt.

**CONCLUSION**

This research was created to evaluate the pre-covid and post-covid productivity effectiveness of various public sector banks. This considers the financial accounts of ten distinct public sector banks throughout a five-year period of time. From all of the aforementioned study utilizing ratio analysis, it can be shown that there are only minor differences between before and post covid in terms of efficiency ratio, return on equity ratio, debt to asset ratio, and loan to deposit ratio. But net interest margin is negative irrespective of pre and post covid. Further, we discovered that loans with deposits When a certain ratio is employed, it shows that all banks have enough liquidity to satisfy their demands, showing the banks' liquidity position. Return on equity measures a company's profitability by figuring out how much money it makes from the equity of its shareholders. The productive efficiency of publicsector banks is more efficient as compared to pre-covid analysis.

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## FUNDAMENTAL ANALYSIS OF AUTOMOBILE SECTOR

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**ABSTRACT**

*This paper presents a fundamental analysis of five key companies in the Indian automobile sector: Maruti Suzuki, Tata Motors, Mahindra & Mahindra, Bajaj Auto, and Ashok Leyland. The analysis includes the calculation of key financial ratios, including Earnings per share, Return on Equity, Dividend pay-out Ratio, Return on Asset, and Debt to Equity, to determine each company's intrinsic value and growth potential. We also examine industry trends and macroeconomic factors to evaluate each company's performance. The analysis reveals that whileeach company has unique strengths and weaknesses, Maruti Suzuki stands out as a leader in the Indian automobile sector, with a strong financial performance across all metrics. Tata Motors and Mahindra & Mahindra are also strong players in the market, with healthy financial ratios and a good track record of innovation. Bajaj Auto and Ashok Leyland, on the other hand, have struggled to maintain consistent financial performance, but they show potential for growth in thefuture. Overall, this study provides valuable insights into the financial health of the Indian automobile sector and serves as a guide for investors looking to invest in this sector*

***Key Words:*** *Fundamental Analysis, Indian automobile sector, financial ratios, Earnings per share, Return on Equity, Dividend pay-out Ratio, Return on Asset, Debt to Equity, intrinsicvalue, growth potential, macroeconomic factors, performance, strengths, weaknesses, leader, strong financial performance innovation, struggled, financial health, investors.*

## I.  INTRODUCTION

The automobile sector in India has seen significant growth in recent years due to increasing consumer demand, favourable demographics, government support, and a growing economy. However, the sector faces challenges such as infrastructure constraints and  regulatory uncertainty. The Indian stock market, which includes equity stock, bonds, and other assets, provides significant opportunities for investment and growth. The stock market is an attractive option for investors, and small individual investors to larger global participants can participate. The Indian automobile industry is the fourth-largest manufacturer globally, and it plays a major role in the macroeconomic development and technological advancement of the country.

The rise in demand for vehicles and commercial vehicles is fueled by a sizable young population, greater access to credit, and rising personal income levels. The Indian automotive industry is expected to increase from its projected value of US 32.70 billion in 2021 to US$ 54.84 billion by 2027, with a CAGR of almost 9% between 2021-2027. The industry for electric cars in India is expected to be worth Rs. 1 million crore (US$ 7.09 billion) by 2025. Overall, investors should be mindful of the challenges and uncertainties faced by companies operating in these sectors and consider these factors when making investment decisions.

## II. REVIEW OF LITERATURE

| Sl.No | Particulars |
|-------|-------------|
| 1. | In the article "Financial appraisal of Automobile industry" author Chahat Gupta, (February 2018) The article analyzes the financial performance of Maruti Suzuki and Tata Motors, two leading automobile companies in India. The author uses statistical tools and ratio analysis to compare the liquidity and profitability of the companies. The analysis reveals that both companies have low liquidity ratios, indicating a lack of necessary liquid assets to clear their current liabilities. |
| 2. | In the article "An Analysis of Fundamentals of Selected It Companies Listed At NSE", author: Dr. Shashi Gupta, (August 2020) Conducted fundamental analysis on IT sector stocks to determine intrinsic value and financial performance, recommending better investment choices. Predicted future earnings per share using fundamental tools for selected IT companies. |
| 3. | In the article "An Analysis of Financial Performance of Leading Automobile Companies in India – A Comparative Study", Authors: CMA Sandip Basak and etall, (May –June 2021) examined the comparative study of pre and during COVID-19 influenced the financial performance of the automobile companies in India. The author is forecasting the expected fundamentals of the company by viewing the past data or performance of the automobiles companies. |
| 4. | In the article "Equity research: Fundamental analysis for long term investment", authors: Vinodkumar P Pathade, (March 2017) The paper presents equities' financial statements for long-term investment decisions, using statistical tools to analyze past financial data of automobile companies. The tools used include earning per share, current ratio, return on capital employed, inventory and debtors turnover ratios, and gross profit ratio. |
| 5. | In the article "Financial Performance Of Select Automobile Companies In India", author: sudarshan kumar, (2021) The article examines the financial performance of selected automobile companies in India using statistical tools like mean, standard deviation, and CAGR. It analyses growth and profitability potential of the industry. |
| 6. | In the article " Fundamental Performance Of Select Automobile Companies In India", author: Hemal Pandya and Hetal Pandya, (May 2013) Analyzes financial performance of Indian automobile industry by studying economic factors like inflation, GDP, unemployment, FDI, and their impact on the industry. Aids investors in making effective investment decisions for maximum returns. |
| 7. | In the article "A Study on Fundamental Analysis of Automobile Companies", author: P. Devika, (2019) Examines fundamental analysis of selected auto companies using statistical tools for profitability, performance, growth, and risk/return. Helps investors measure ROI and manage portfolios. |

## III.  DATA AND METHODOLOGY

### 3.1  Objectives of the Study

- To analyse the fundamentals of selected automobile companies.

- To analyse the selected automobile companies of India through fundamental analysis and assist the investors in making investment decision.

### 3.2   Type of Research

Exploratory research in financial analysis is to gain a better understanding of the fundamental factors that affect a company's financial performance, such as revenue growth, profitability, and cash flow. This information can then be used to make more informed investment decisions and to develop investment strategies that are based on sound fundamental analysis.

This paper contains the report from various research documents, information, and conclusions on Fundamental Analysis of Automobile Sector in India. Readers should be able to learn everything that they need to know about the main components of the Fundamental Analysis of the Automobile companies and have a better understanding of the financial performance.

## IV. DATA ANALYSIS AND FINDINGS

| Year | Maruti Suzuki | Tata Motors | Mahindra and Mahindra | BajajAuto | Ashok Leyland |
|------|---------------|-------------|-----------------------|-----------|---------------|
| **2017-2018** | 260.88 | 26.46 | 69.2 | 145.8 | 6.02 |
| **2018-2019** | 253.26 | -84.89 | 48.91 | 170.3 | 7.08 |
| **2019-2020** | 187.95 | -34.88 | -1.15 | 180.2 | 1.15 |
| **2020-2021** | 145.3 | -36.99 | 16.33 | 167.9 | -0.56 |
| **2021-2022** | 128.43 | -29.88 | 59.2 | 213.2 | -1.22 |
| *Mean* | 195.16 | -32.04 | 38.50 | 175.48 | 2.49 |

### 4.1 Earnings per Share:

The EPS of five major Indian automobile companies - Maruti and Suzuki, Tata Motors, Mahindra and Mahindra, Bajaj Auto, and Ashok Leyland - for five years are listed along with the mean EPS for each company over the period. Maruti and Suzuki had the highest mean EPS of 195.16, followed by Bajaj Auto with 175.48. Tata Motors had a negative mean EPS of -32.04, indicating a loss-making trend over the years. Mahindra and Mahindra had a stable mean EPS of 38.50, while Ashok Leyland's mean EPS was 2.49. However, EPS alone does not provide a comprehensive picture of a company's financial performance and should be evaluated with other financial ratios and metrics.

| Year | Maruti Suzuki | Tata Motors | Mahindra and Mahindra | Bajaj Auto | Ashok Leyland |
|------|---------------|-------------|-----------------------|------------|---------------|
| **2017-2018** | 0.3067 | 0 | 0.1084 | 0.4115 | 0.4037 |
| **2018-2019** | 0.3159 | 0 | 0.1738 | 0.3523 | 0.4379 |
| **2019-2020** | 0.3192 | 0 | -2.0435 | 0.6659 | 0.4348 |
| **2020-2021** | 0.3097 | 0 | 0.5358 | 0.8338 | -1.0714 |
| **2021-2022** | 0.4672 | 0 | 0.1951 | 0.6567 | -08197 |
| *Mean* | 0.3437 | 0 | -0.2061 | 0.5841 | -0.1230 |

### 4.2 Dividend Pay-out Ratio:

The table lists the dividend payout ratios for major Indian automobile companies - Maruti and Suzuki, Tata Motors, Mahindra and Mahindra, Bajaj Auto, and Ashok Leyland - for five years, along with the mean ratio. Tata Motors did not pay any dividends during the period. The other four companies had positive ratios, with Bajaj Auto having the highest mean of 0.5841. However, dividend payout ratio should be evaluated with other financial ratios for a comprehensive analysis.

| Year | Maruti Suzuki | Tata Motors | Mahindra and Mahindra | Bajaj Auto | Ashok Leyland |
|------|---------------|-------------|-----------------------|------------|---------------|
| **2017-2018** | 13.07 | 2.71 | 5.47 | 16.78 | 5.25 |
| **2018-2019** | 11.95 | -9.38 | 3.25 | 17.08 | 5.31 |
| **2019-2020** | 8.92 | -3.74 | 0.07 | 19.66 | 0.88 |
| **2020-2021** | 6.15 | -3.92 | 1.08 | 14.45 | -0.39 |
| **2021-2022** | 5.19 | -3.46 | 3.77 | 17.56 | -0.82 |
| *Mean* | 9.06 | -3.56 | 2.73 | 17.11 | 2.05 |

### 4.3 Return on Asset:

The table lists the return on assets (ROA) for major Indian automobile companies - Maruti and Suzuki, Tata Motors, Mahindra and Mahindra, Bajaj Auto, and Ashok Leyland - for five years, along with the mean ROA. Tata Motors had negative ROA for all five years, while the other four companies had positive ROA, with Bajaj Auto having the highest mean of 17.11. However, ROA should be evaluated along with other financial ratios for a comprehensive analysis.

## 4.4 Debt-to-Equity:

| Year | Maruti Suzuki | Tata Motors | ahindra andMahindra | BajajAuto | Ashok Leyland |
|---|---|---|---|---|---|
| **2017-2018** | 0 | 0.82 | 1.23 | 0 | 1.64 |
| **2018-2019** | 0 | 1.51 | 1.35 | 0 | 1.73 |
| **2019-2020** | 0 | 1.58 | 1.56 | 0 | 2.07 |
| **2020-2021** | 0.01 | 2.08 | 1.43 | 0 | 2.31 |
| **2021-2022** | 0.01 | 3.13 | 1.58 | 0 | 3.28 |
| *Mean* | 0.004 | 1.824 | 1.43 | 0 | 2.206 |

This table presents debt-to-equity ratios for five companies over five years. Maruti and Suzuki and Bajaj Auto have a debt-to-equity ratio of zero for all years, indicating no debt and financing their operations entirely through equity. Tata Motors, Mahindra and Mahindra, and Ashok Leyland have debt-to-equity ratios ranging from 0.82 to 3.28. The mean debt-to-equity ratio for all companies is 2.206, indicating a higher level of debt financing relative to equity.

## 4.5 Returns on Equity:

| Year | Maruti Suzuki | Tata Motors | Mahindra and Mahindra | Bajaj Auto | Ashok Leyland |
|---|---|---|---|---|---|
| **2017-2018** | 18.51 | 9.41 | 20.42 | 20.65 | 23.72 |
| **2018-2019** | 16.24 | -47.90 | 13.29 | 21.20 | 23.76 |
| **2019-2020** | 11.48 | -19.13 | 0.31 | 24.06 | 4.32 |
| **2020-2021** | 8.36 | -24.34 | 4.35 | 17.80 | -2.10 |
| **2021-2022** | 7.01 | -25.67 | 13.95 | 20.64 | -4.90 |
| *Mean* | 12.32 | -21.526 | 10.464 | 20.87 | 8.96 |

The table shows the returns on equity (ROE) of five companies over five years. Maruti and Suzuki have the highest average ROE of 12.32%, while Tata Motors has the lowest average ROE of -21.526%. Mahindra and Mahindra, Bajaj Auto, and Ashok Leyland have average ROEs of 10.464%, 20.87%, and 8.96%, respectively. Negative ROE indicates insufficient net income to cover shareholders' equity. ROE values are influenced by debt levels, industry conditions, and business cycles. Investors may use ROE to evaluate a company's profitability with shareholders' investment.

## V. CONCLUSION

The fundamental analysis of India's automobile sector involves evaluating economic, industry, and company-specific factors. Key economic factors include GDP growth, consumer spending patterns, and government initiatives for electric vehicles. The sector is highly competitive, with domestic and international players vying for market share, and safety, fuel efficiency, and electric vehicles are important industry trends. Financial stability, profitability, research and development capabilities, distribution networks, and innovation are critical company-level indicators. Maruti Suzuki, Bajaj Auto, Tata Motors, Mahindra & Mahindra, and Ashok Leyland are leading players in the sector. The automobile sector offers significant growth opportunities, but it's important to evaluate factors carefully before making investment decisions. Keeping an eye on emerging trends and shifts in consumer preferences is essential for success.

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## A STUDY ON THE IMPACT OF MARKETING MIX AND CUSTOMER PERCEPTION ON BRAND LOYALTY WITH SPECIFIC REFERENCE TO NOISE SMART WATCHES.

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*ABSTRACT*

This study was all about the learning consumer behaviour and to understand various concepts related to the Retail Market of Noise Smart Watch. The focus of the report is on view points and behaviour related to young people's purchase habits regarding Noise Smart Watch. Different buyers have dynamic cycles that vary. The buyer of the product will probably choose the subjective, quantitative outcome at the lowest possible price. should pay attention to customer behaviour when making purchases from Noise Smart Watch. The purpose of the proposition is to identify the factors influencing adolescent watch purchases from Noise Smart Watch.

## I. INTRODUCTION

Amit and Gaurav Khatri, two brothers, launched this company eight years ago. Before making smartwatches and developing a fine technology, they focused on making smartphone exterior casings and accessories. With the advancement of technology and the introduction of Noise shots in 2016, their business started to thrive. The future technology offerings of this company were met with a great deal of optimism. The Noise pictures have begun to be sold on online retailers like Amazon and Flipkart. The headquarters of this business are in Gurugram, India. Every person has an inner voice that motivates them to pursue their objectives and put forth the required effort to realize them. Due to a noise the two founders heard inside of them, the company was created and is still operating today.

**Keywords: -** Marketing mix, Brand Loyalty, Customer Perception.

## II. REVIEW OF LITERATURE

### (Avnish Singh Jat, Tor-Morten Gronli 2020)

Before smart watch applications are coordinated into the healthcare industry, a thorough examination of their precision, culmination, and impact on work process should be directed for the smart watch to gain widespread acceptance by health experts. Client studies are required to examine optimal usefulness, UI design, and ease of use in a variety of clinical and patient settings. More research is needed to understand the impact of savvy applications on clinical practice.

### (Mr. ABI.D, DR.J. RANI 2018)

According to the findings of the study, many students are eager to purchase smartwatches. The study also discusses their efficient power management, simple user interface, and minimal display. As a result, many companies began to integrate more technology into smartwatches. The wearable world is always evolving

### (X Chen 2021)

In this paper, we conducted an exploratory study of the relationship between smartwatch and smartphone versions of Android apps. We examined the collected app pairs from both non-code and code perspectives. Our experimental investigation reveals that up to 40% of resource files (e.g., images, UI layouts, etc.) and 30% of code are reused between smart- phone/watch app pairs, smartphone apps may require more than twice as many permissions and more than five times as many user interactions than their watch.

### (Apurva Adapa 2021)

factors influencing wearable technology adoption differ for different wearable devices as well as for different user groups - student and working. These hindrances, as well as the linkages that were not found in previous literature for technology adoption. In this study, we identified several novel constructs, or norms or factors, that specifically affect the uptake of smart wearable devices.

**(Bilal Waheed 2020)**

According to the survey, wearable technology is developing and becoming more common in both academics and business. Wearable technology has unquestionably huge potential for the healthcare and medical industries, but there is also a growing pool of data being produced that needs to be monitored and analysed.

## 2.1 OBJECTIVES

1. To determine which age groups of consumers favour noise watches and to analyses the factors affecting consumer perception and purchasing behavior

2. To determine the degree of customer satisfaction with Noise watches in the study area and to comprehend the significance of the media in selecting the Noise brand of watch.

3. To determine the factors influencing customer behaviour and the level of brand loyalty among consumers.

## 2.2 HYPOTHESIS

**H0:** There is no relation between the price of the Noise Watches and the frequency at which consumers purchase the watch.

**H1:** There is a relation between the price of the Noise Watches and the frequency at which consumers purchase the watch.

## III. DATA AND METHODOLOGY

**DATA COLLECTION: -** Using a questionnaire, primary data was gathered. It was gathered directly from the customer using a GOOGLE FORMS online surveying technique.

Secondary Data was also used by referring journals: The customer as given the data through questionnaire in online

Primary Data: Using online surveys, data is directly obtained from the customer.

**TYPE OF RESEARCH: -** Descriptive type of research

**SAMPLE DESIGN: -** The non-probability method has been employed the data collection method used is convivence sampling. Sampling frame households of the Bangalore city, sampling unit are housewife and sample size are 100.

## TOOLS AND TECHNIQUES

Hypothesis testing

SPSS & EXCEL 2019

## IV. DATA ANALYSIS AND FINDINGS

**ANALYSIS: - 1**

**Statistical tool: Chi-square**

**Hypothesis 1:**

**H0:** There is no relation between the price of the Noise Watches and the frequency at which consumers purchase the watch.

**H1**: There is a relation between the price of the Noise Watches and the frequency at which consumers purchase the watch.

**INTERPRETATION:**

The above output table shows that there is no correlation between the frequency with which customers purchase Noise Watches and its price because the p value is greater than 0.05, H0 is accepted, and H1 is rejected.

| How much do you think the Noise smart watch is worth? * How frequently do you shop at Noise for smart watches? Crosstabulation | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | How often do you purchase Noise smart watches? | | | | Pearson Chi-Square | P Value |
| | | Often | very often | Rare | Neutral | | |
| Do you feel the price of Noise smart watch are reasonable? | Highly reasonable | 9 | 3 | 10 | 4 | | |
| | Highly unreasonable | 4 | 5 | 1 | 1 | | |
| | Neither reasonable or unreasonable | 0 | 3 | 12 | 4 | 27.592 | .006 |
| | Reasonable | 5 | 6 | 21 | 9 | | |
| | Unreasonable | 0 | 1 | 0 | 2 | | |
| Total | | 18 | 18 | 44 | 20 | | |

## FINDINGS

1. Most consumers are between the ages of 21 and 30. As a result, it demonstrates how Noise as a brand has become well-known among Generation Z.

2. According to the table presented or generated based on the responses, the bulk of Noise consumers are from the urban sector, indicating that the non-urban sector is still untapped for the Noise brand.

3. Based on the analysis, 49% of people are college students and 51% are not, meaning that most noise consumers fall into the educated and graduate as well as non-graduate groups.

4. As a result, it should be assumed that 46% of respondents are women and 49% are men based on the analysis. Noise offers both male and female products.

5. Aa a result social media, friends, family, and advertisements were how they learned about Noise. 26% of people learned about it through advertisements, 42% through friends, 10% through family, and 22% through social media.

## V. CONCLUSION

The primary objective of this study was to comprehend how consumers perceive noise watches. This study demonstrates that the Noise has successfully maintained its eccentricity through a variety of channels while successfully integrating itself into the generation Z community. Although the brand is well-represented on several e-commerce platforms, it has not been able to attract customers to physical stores. Despite their satisfaction with the brand, customers would like to get more for their money. Noise must therefore provide relevant and instructive information to attract customers.

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## A STUDY ON THE ROLE OF CUSTOMER EXPERIENCE ON CUSTOMER RETENTION IN SMARTPHONE USERS IN BENGALURU

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*ABSTRACT*

This study examines the impact of customer experience (CX) on customer retention in smartphone users in Bengaluru. Using a quantitative approach and a survey questionnaire administered to 100 smartphone users, the study finds that customer experience has a positive effect on customer retention. The study highlights the importance of ease of use and responsiveness in retaining customers and suggests that empathy and tangibility also have a positive effect, albeit to a lesser extent. The study provides valuable insights for smartphone manufacturers and service providers in Bengaluru and contributes to the existing literature on customer experience and retention.

## I. INTRODUCTION

Giving clients mobile access to their account information can help businesses increase customer loyalty and provide customers more reasons to shop at their online establishments. These seven cutting-edge strategies can increase client loyalty for modern companies and possibly increase traffic and sales to mobile websites. Using mobile technologies and marketing tactics as part of a comprehensive programme for attracting and retaining customers can help businesses in the competitive market increase profitability.

**Keywords: -** Customer Experience & Customer Retention

## II. REVIEW OF LITERATURE:

### 1. Kethan, Mahabub Basha

In the current emerging market, it is difficult to both attract new customers and keep old ones. To grab the attention of the customer, the marketer must create unique marketing methods. The organisation may be able to directly attract customers to certain products and services by using effective advertising, direct marketing, digital marketing, corporate social responsibility, and sales discount offers. Maintaining positive relationships with customers can also be facilitated by the ethical behaviour of salespeople or any firm

### 2. Abhay Sharma & Dr. Mahesh V. Shitole(2021):

Between the expected and actual service quality of mobile phones, there is a substantial disparity. The study's findings indicated that mobile phone owners are dissatisfied with the company's post-sale services. By enhancing the technology utilised to deliver services, improvements in fulfilling delivery targets within promised times are anticipated. Mobile phone users' convenience must be taken into account, and efforts should be made to provide service at convenient times.

### 3. Kedar Gokhale(2021)

In this study, an effort was made to comprehend how service quality and its influencing elements affect customer satisfaction. In addition to comfort, dependability, service scope, cost, and safety, the driver's behaviour was added as a variable to the RECSA model for this reason. The findings demonstrated a direct and favourable association between each of these characteristics and the dependent variable, or consumer happiness

### 4. Dr. Rajasulochana, Dr. Sharanya Murthy, Ms. Sneha R(2022)

Reliability, empathy, responsiveness, tangibleness, and assurance were identified as ebanking service quality aspects and proposed indicators to measure account holders' satisfaction with internet banking services in this research study, which was conducted based on the prior literature. By examining the impact of internet banking service quality on customer satisfaction in public and private banks at Bangalore.

**5. Dr. Babar Zamaan Mohammed, Dr. P. Mohan Kumar, Dr.S.Thilaga , Mahboob Basha S(2022)**
The impact of consumer interaction on environmental concerns and customer experience was explored in the current study. The model that the researcher used in the current investigation is supported by the literature. According to the data findings, consumers are becoming more interested in environmentally friendly items like eBikes as their concern for the environment grows. The study further demonstrates that both intellectual and emotional aspects of the customer experience had a substantial impact on consumer engagement.

**2.1 OBJECTIVE:**

1. To identify the factors of customer retention in the smartphone users
2. To analyse the relationship between customer experience and customer retention
3. To analyse the role of brand in customer experience

**2.2 HYPOTHESIS**

**H0** : There is no significant relationship between customer experience and customer retention (obj 2)

**H1**: There is significant relationship between customer experience and customer retention (obj 2)

**H0** : There is no significant relationship between customer experience and brand  (obj 3)

**H1**: There is significant relationship between customer experience and brand (obj 3)

**III. DATA AND METHODOLOGY**

**3.1 DATA COLLECTION: -** Using a questionnaire, primary data was gathered. It was gathered directly from the customer using a GOOGLE FORMS online surveying technique.

Secondary Data was also used by referring journals: The customer as given the data through questionnaire in online

Primary Data: Using online surveys, data is directly obtained from the customer.

**3.2 TYPE OF RESEARCH: -** Descriptive type of research

**3.3 SAMPLE DESIGN: -** The non-probability method has been employed the data collection method used is convivence sampling. Sampling frame smartphone users of the Bangalore city, sampling unit are smartphone users and sample size are 100.

**3.4 TOOLS AND TECHNIQUES**

Hypothesis testing

SPSS

**IV. DATA ANALYSIS AND FINDINGS**
**4.1 ANALYSIS 01**
**Statistical tool : Descriptive Statistics**

Statistics

| | | 2.Gender | 3.Age | 4.Educational Qualification | 5.Monthly Income |
|---|---|---|---|---|---|
| N | Valid | 100 | 100 | 100 | 100 |
| | Missing | 0 | 0 | 0 | 0 |
| Mean | | 1.340 | 2.050 | 3.470 | 1.840 |
| Median | | 1.000 | 2.000 | 3.500 | 1.000 |
| Std. Deviation | | .4761 | .3860 | .6735 | 1.2121 |
| Skewness | | .686 | 1.573 | -.496 | 1.529 |
| Std. Error of Skewness | | .241 | .241 | .241 | .241 |
| Percentiles | 25 | 1.000 | 2.000 | 3.000 | 1.000 |
| | 50 | 1.000 | 2.000 | 3.500 | 1.000 |
| | 75 | 2.000 | 2.000 | 4.000 | 2.000 |

Source: Primary data collected through Questionnaire

**Interpretation:** The table indicates that there were no missing values for any of the variables, with all 100 responses being valid. The mean value for gender is 1.34, indicating that there were slightly more female participants than male. The mean age is 2.05, which suggests that the sample population was relatively young. The mean educational qualification is 3.47, indicating that the majority of participants had completed tertiary education. The mean monthly income is 1.84, which suggests that the sample population had a relatively low income level.

## 4.2 ANALYSIS 02

**Statistical tool : Regression analysis**

To analyse the relationship between customer experience and customer retention

Table showing the relationship customer experience and customer retention of smartphone users through Regression analysis

| | **Coefficients**a | | | | |
|---|---|---|---|---|---|
| | Unstandardized Coefficients | | Standardized Coefficients | | |
| Model | B | Std. Error | Beta | t | Sig. |
| 1    (Constant) | 2.150 | .259 | | 8.294 | .000 |
| 9. Which of these following factors affect your purchase? | .056 | .074 | .077 | .768 | .444 |

a. Dependent Variable: 14.  If another brand of the same product appears in the market will you prefer to stop buying this brand and buy the new brand?

**Source**: Primary data collected through Questionnaire

**Interpretation** : According to an analysis of the relationship between customer experience and customer retention, just 0.6% of the variation in customer retention can be attributable to customer experience. The relationship between customer experience and customer retention is not statistically significant. Although there is a weakly positive correlation between customer experience and customer retention (a coefficient of 0.056 verifies this), this correlation is not statistically significant. Accept H0 while excluding H1.

### FINDINGS :

- There is a positive correlation between a positive customer experience and customer retention in smartphone users in Bengaluru.
- Factors such as product quality, timely delivery, and efficient customer service play a significant role in shaping a customer's experience with a brand.
- Customers are more likely to stick with a brand if they have had consistently positive experiences over time.
- Personalized experiences have been found to promote customer happiness and loyalty. Personalization improves the consumer experience. Customers value being acknowledged and treated as unique individuals as opposed to just another customer.
- Customer satisfaction is influenced by customer support quality: Customer satisfaction and loyalty are significantly impacted by customer support

### CONCLUSION

This study investigated the impact of customer experience (CX) on customer retention in smartphone users in Bengaluru. A survey questionnaire was administered to 100 smartphone users to measure different dimensions of customer experience and customer retention. The study found that CX had a significant positive impact on customer retention, with ease of use and responsiveness being the most significant predictors of retention. The study concluded that improving customer experience is critical for retaining smartphone users in Bengaluru, providing valuable insights for smartphone manufacturers and service providers to retain customers. The study's practical implications for smartphone manufacturers and service providers emphasize the importance of improving CX to retain customers, and the study contributes to the literature on CX and retention by providing empirical evidence from a developing country context.

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3.  Kethan, M., & Basha S, M. (2022). Relationship of ethical sales behaviour with customer loyalty, trust and commitment: A study with special reference to retail store in Mysore City.

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**"AN EMPIRICAL ANALYSIS OF THE RELATIONSHIP BETWEEN EMOTIONAL INTELLIEGENCE AND WORKLIFE BALANCE OF IT EMPLOYEE"**

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**Abstract:** Emotional Intelligence has been an important part of everyday life. Recent research in the area of emotional intelligence has begun to focus on the role of emotional intelligence in the workplace. The present study aims to examine the relationship between emotional intelligence and work-life balance of IT employees. Emotional Intelligence involves behaviours related to the experience of emotion specifically Emotional Intelligence involves expressing, recognizing, understanding and managing emotions. The highly competitive globalized environment results in increase in job pressure which lead to distract work life balance among the employees. Employees are linked not only with financial constraints, part from that there is consequent intention in leaving the organization, and employees struggle between their work and life.

Keywords: Emotional Intelligence, Work-life balance, stress, IT Employees.

**I Introduction:** Emotional Intelligence is a set of skills hypothesized to contribute to the accurate appraisal and expression of emotion in oneself and in others, the effective regulation of emotion in self and others, and the use of feelings to motivate, plan, and achieve in one's life. It is normally regularly occurring that the people with extra emotional Genius will have greater degree of satisfaction. This is due to the fact the personnel with greater emotional talent are capable to advance the techniques to overcome the upcoming consequences, which may also occur out of stress and anxiousness will now not be in a state of affairs to overcome the stress condition. Work life balance study refers to the capacity to perceive and recognize one's undesirable or disruptive emotions, and to overcome the scenario by using self-regulating. Those who are adopted to self-regulation are successful of managing conflict, modifications and area greater possibly to take responsibility.

**Objective:** To examine the relationship between emotional intelligence and work-life balance of IT employees.

**II Review literature:**

|   | Author | TITLE | MAIN FINDINGS |
|---|--------|-------|---------------|
| 1 | Dr. Ramar Veluchamy , Samuka Choudhury, Sandip Dixit , Sanjali Jha | Impact of Emotional Intelligence and Work-Life Integration on Job Stress | Emotional intelligence that directly impacts performance individuals and organizations. Stress at work can negatively affect the body employee emotional intelligence There must be a balance between EQ and IQ for Employee mind-set for better organizational performance. |
| **2** | Prof. T. RAVIKUMAR | Emotional Intelligence and work life balance of IT Professionals in Bangalore | The many factors assessed by past and present assessment centre's include Social and emotional skills, also including communication, sensitivity, initiative and Interpersonal skills suggests that the key to their success lies in their ability to perceive, recognize and manage emotions. These abilities form the basis of emotional and social competence. It is Important for success in almost any job |

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| 3 | Dr. Sahar Moh'd Abu Bakir | The Impact of Managers Emotional Intelligence on Employees' Work Life Balance-A Field Study at Jordanian Private Hospitals | There is always a significance of Work life balance in organizations, and tried to highlight the influence of work life balance on employee's satisfaction as well as on their performance. |
| 4 | Felicity Chigeda,Takawira Munyaradzi Ndofirepi,Renier Steyn | The role of emotional intelligence, work-life balance support, and work-related stress | The results also confirm that the employees with higher emotional intelligence tend to work harder and show greater commitment to their current organization, respondents perceive a certain level of benevolence in their respective organizations and therefore feel that continuing in their current job is wiser to work despite hostile conditions than to venture into unfamiliar territory. |
| 5 | Dr. Rajesh Faldu and Miss. Trivedi Krupa Udaykumar | A Study On Impact Of Emotional Intelligence On Work Life Balance Of the teaching professionals | employers are aware of the importance of working life balance. By developing policies, employers in training programs can help employees do their jobs and to balance the life. Emotional intelligence plays an important role, so employers must know employees well emotions and help them develop emotional intelligence |

### III Data and Methodology:

Descriptive research is used to describe the most recent conditions in the company, whereas convenience sampling is used which is a non-probability sampling technique where samples are collected from the specific population (IT employees).

### IV Data Analysis and Findings:

Objective**:** To examine the relationship between emotional intelligence and work-life

balance of IT employees.

Statistical tool: Regression

H0- There is no significant relationship between emotional intelligence and work-life

balance of IT employees.

H1- There is a significant relationship between emotional intelligence and work-life

balance of IT employees.

**Coefficients**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| Emotional Intelligence | .168 | .120 | .145 | 1.404 | .164 |
| Commitment | -.349 | .125 | -.311 | -2.789 | .006 |
| Optimistic | .020 | .107 | .022 | .192 | .848 |
| Self-Regulation | .471 | .150 | .305 | 3.147 | .002 |
| Trust worthiness | -9.446 | .097 | .000 | -.001 | .999 |

a.Dependent  Variable: Work life balance

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**Interpretation:** From the above output table, it is observed that the p-value is less than 0.05 for the variables self-regulation and H0 is rejected at a 5% level of significance. Hence it is concluded that there is a significant relationship between emotional intelligence and work-life balance of IT employees.

**V Conclusion:**

Emotional Intelligence is an essential ability for the personnel to beautify their self-belief to make certain extra success in job, to be high-quality chief and to have the higher influence on self and different motivation level. It can additionally convey duty and dedication loyalty and have faith between body of workers in the business enterprise which should motive greater productiveness and effectiveness to the organization. It is very essential to have the emotional stability to be balance professional and personal life.

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**Dr. Ramar Veluchamy, Samuka Choudhury, Sandip Dixit, Sanjali Jha (2021),** Impact of

Emotional Intelligence and Work-Life Integration on Job Stress, An Anthology of Multifunctional perspectives in Business and Management Research (Volume 1).

**Prof. T. RAVIKUMAR(2014),** Emotional Intelligence and work life balance of IT Professionals in Bangalore,Volume 7, Issue 2, September 2014.

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Employees' Work Life Balance-A Field Study at Jordanian Private Hospitals, European Scientific Journal September 2018 edition Vol.14, No.25.

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**Dr. Rajesh Faldu and Miss. Trivedi Krupa Udaykumar (2019),** A Study On Impact Of

Emotional Intelligence On Work Life Balance Of Teaching Professional, ISSN: 2394-3114 Vol-40, Special Issue-08.

**Shama Noreen, Sadia Munir, Bassam Zaheer, Mohsan Idris (2018)** Impact of Emotional

Intelligence on Job Performance Mediating vol. 11(2), pages 1-69, January.

## SIGNIFICANT IMPACT OF FLEXIBLE WORKPLACE ON EMPLOYEE PERFORMANCE

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**ABSTRACT***: Workplace flexibility is a reaction to evolving conditions and demands. Employees that approach their work with a flexible viewpoint are typically given higher value by employers. Workers are drawn to employers who support a flexible work environment. Workplace flexibility emphasises the ability and willingness to adapt, particularly in terms of how and when work is accomplished. In a flexible workplace, the demands of the person and the organisation are addressed. Flexibility in the workplace is a common tool used by employers to recruit and keep talent. Additionally, through raising productivity, it might help a business accomplish its goals. Flexible working hours allow employees to work harder when they are most effective. High employee satisfaction levels promote a productive, positive work environment. Employees that are content might put in more effort, be more productive, and be more devoted than unhappy ones. If employees have enough time outside of work to handle personal responsibilities, they may be less distracted and more productive at work.*

**Keywords***: Workplace flexibility , Work environment, Employee satisfaction ,Employee performance.*

### Introduction:

Flexibility in the workplace is a response to changing circumstances and needs. Employers frequently place a higher value on employees who approach their work with a flexible perspective. Employers who encourage a flexible work environment attract workers.

Flexibility in the workplace emphasises the willingness and capacity to change, particularly in terms of how and when work is completed. Both the needs of the employee and the organisation are met in a flexible workplace. Employers frequently use workplace flexibility to attract and retain employees. Additionally, by increasing productivity, it might aid a company in achieving its objectives. Employees can put in more effort at their most productive times thanks to flexible work schedules. Remote employees worked 1.4 extra days each, according to an Air tasker survey.

### Objective:

* To identify / evaluate the factors influencing the adaptability of employees to new enviroment .

* To examine the role of work place flexibility in employee satisfaction.

* To analyse the relationship between work place flexibility and decision making.

**Review of literature**:

|  | Author | Title | Main findings |
|---|---|---|---|
| 1 | Anitha J. | Determinants of employee engagement and theirimpact on employeeperformance. | It was seen that working environment, employee engagement and co-worker relationship had significant impact on employee performance. |
| 2 | Esayas Degago | A Study on Impact of Psychological Empowerment on Employee performance in Small and Medium Scale Enterprise Sectors | It was seen that every dimension of empowerment is directly relatedto employee performance in the study of the relationship between dimensions of empowerment and employee performance dimension empowerment |
| 3 | Abdul Raziqa *,Raheela Maulabakhsha | Impact of Working Environment on Job Satisfaction | In the study of the research states some brief prospects thatbusinesses must recognise the importance of a good working environment in order to maximise job satisfaction |
| 4 | Khaled adnan Bataineh | *Impact of Work-Life Balance, Happinessat Work, onEmployee Performance* | That Work-life balance has a positive significant impact on employee performance . Employees are more likely to report feeling satisfied with their work when they are feeling good and under minimal stress both at work and at home, as shown in the practical data. |
| 5 | Adriana anamaria davidescu, simona – andreeaapostu , andreeapaul,ionut casunea | Work Flexibility, Job Satisfaction, and Job Performance among Romania Employees—Implications for SustainableHuman Resource Management | IT is seen that states the relationship between employee development and worktime and workspace flexibility as relevant aspects of sustainable HRM, job happiness,and job performance and Romanian employees. |

**Data and Methodology:** Descriptive research is used to describe the most recent conditions in the company, whereas convenience sampling method is used which is a non probability sampling technique where samples are collected from the specific population.

**DATA ANALYSIS AND INTERPRETATION :**

**Table showing the flexibility to work from home**

**The flexibility to work from home**

|  | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Valid  yes | 92 | 73.6 | 73.6 | 73.6 |
| no | 11 | 8.8 | 8.8 | 82.4 |
| maybe | 22 | 17.6 | 17.6 | 100.0 |
| Total | 125 | 100.0 | 100.0 |  |

Source: Primary data collected through Questionnaire

**Fig . Bar chart represents the percentage of the flexibility to work from home**
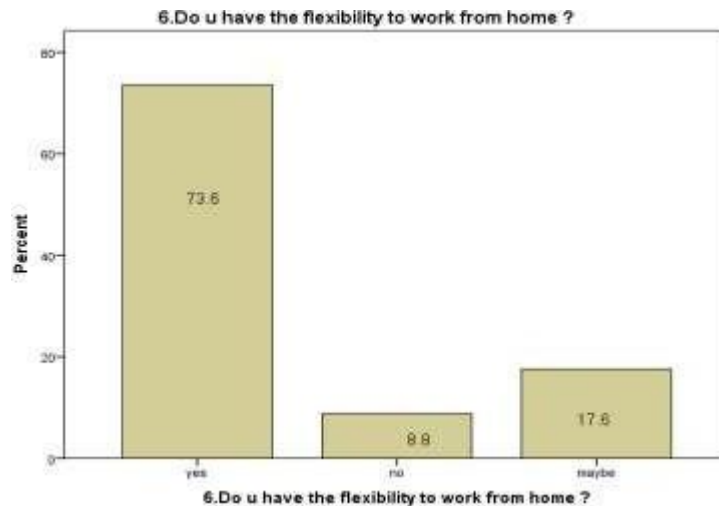


**Interpretation:**

According to the following graph ,73.6% of employees are having the flexibility to work from home, 8.8 %of employees are not having flexibility to work from home , 17.6% of employees are having an neutral opinion .

**Table showing based on the objective**

[To identify the factors influencing the adaptability of employees to new environment.]

**Do you have enough flexibility to do the tasks assignedto you**

|  | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Valid  1 | 4 | 3.2 | 3.2 | 3.2 |
| 2 | 5 | 4.0 | 4.0 | 7.2 |
| 3 | 25 | 20.0 | 20.0 | 27.2 |
| 4 | 55 | 44.0 | 44.0 | 71.2 |
| 5 | 36 | 28.8 | 28.8 | 100.0 |
| Total | 125 | 100.0 | 100.0 |  |

Source: Primary data collected through Questionnaire

**Bar chart represents having enough flexibility to do the tasks assigned to you**
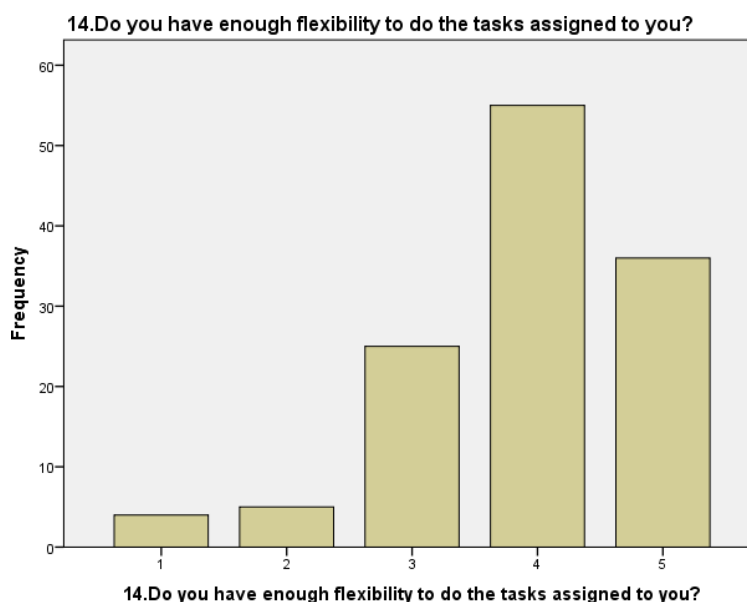
**Interpretation:**

According to the above chart, 3.2% of employees are strongly disagree to have the enough flexibility to do the task assigned , 4% of employees are disagreed to have the enough flexibility to do the task assigned to them , 20%of employees are neutral to have the enough flexibility to do the task assigned to them , 44% of of employees are agree to have the enoughflexibility to do the task assigned to them ,28% of employees are strongly agree to have the enough flexibility to do the task assigned to them.

| Model | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics Toleranc e |
|---|---|---|---|---|---|
| 1 6.Do u have the flexibility to work from home ? | .073[b] | .805 | .422 | .073 | .941 |
| 7.Do you value havinga flexible workschedule more than finding a new positionin another organization ? | .063[b] | .692 | .490 | .063 | .936 |
| 14.Do you have enough flexibility to dothe tasks assigned to you? | .032[b] | .327 | .744 | .030 | .815 |
| 16.Do you feel you have the freedom to be creative whilesolving problems inyour project? | -.028[b] | -.284 | .777 | -.026 | .804 |

a. Dependent Variable: .How would you rate your work life balance

b. Predictors in the Model: (Constant), .'Are the timelines allotted for task completion by your manager manageable

Accept l as p value is not significant

**Hypothesis:**

**H02: Workplace flexibility does not play any significant role in decision making. H1:Workplace flexibility play significant role in decision making.**

**P value significant so reject H02.**

**FINDINGS**

• Based on the survey , 73.6% of respondents strongly agrees that having a flexibility towork from home.

• According the source , 44% respondents strongly agree to have enough flexibility to do the task assigned for them,4%of respondents are disagreed to have enough flexibility to do the task assigned for them in the company.

• According to survey , flexibility to taking decision and learning and development tools improve skills where  p value is less 0.05% so we reject H0.

• Based on survey ( correlation analysis), rating of worklife balance and flexibility to work from home ,so we accept H0 as p value is not significant.

**CONCLUSION:**

The nature of the work that individuals and organisations must perform has changed significantly as a result of the quick technology advancements, constant innovation, and more flexible work and time schedules that have occurred in the global market. Work flexibility helps employees maintain a healthy balance between their personal and professional life, whichimproves performance and job happiness, with beneficial effects on the health of the business.Due to technological advancements and digital revolutions, many activities may now be performed everywhere there is an internet connection.

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# "A STUDY ON PERFORMANCE EVALUATION OF SELECTED DEBT MUTUAL FUNDS SCHEMES IN INDIA WITH REFERENCE TO NSE"

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## ABSTRACT

*The present paper investigates the performance of close-ended, growth-oriented debt schemes for the period from April 2017 to March 2022 of transition economy. Daily closing NAV of different schemes have been used to calculate the returns from the fund schemes. BSE-sensex has been used for market portfolio. The historical performance of the selected schemes were evaluated on the basis of Sharpe, Treynor, and Jensen's measure whose results will be useful for investors for taking better investment decisions. The study revealed that mutual fund schemes had outperformed the benchmark return. The results also showed that some of the schemes had underperformed; these schemes were facing the diversification problem. In the study, the Sharpe ratio was positive for all schemes which showed that funds were providing returns greater than risk free rate.*

**Keywords:** *Jensen measure, Mutual funds, performance evaluation, Sharpe measure, Treynor measure.*

## 1.1 INTRODUCTION

Mutual Fund is a trust that pools money from investors by selling shares of the fund like any other type of company that sells stock to the public. The raised money is used in different securities like stocks, bonds, money markets & commodities. Each mutual fund has common financial goal and the money is invested in accordance with the objective. Fund is managed by a professional fund manager, who is responsible for implementing a fund's investing strategy and managing its portfolio trading activities. Each investor in the mutual fund participates proportionally (based upon the number of shares owned) in the gain or loss of the fund. Any investor can invest minimum amount that is affordable and diversify their portfolio in different sectors depending upon their interests and risks.

## 1.2 STATEMENT OF THE PROBLEM

In comparison to other investments, mutual funds are thought to be one of the best. The performance evaluation of mutual fund schemes is examined in the current study. This study looks at how well the chosen plans can support an investment and whether they are outperforming or underperforming the benchmark.

## 1.3 OBJECTIVES OF THE STUDY

1) To evaluate the performance of selected close ended schemes on mutual funds in India.

2) To measure the risk- return relationship and market volatility of the selected mutual funds. 3) To examine the performance of selected schemes by using portfolio performance evaluation model namely Sharpe, Treynore and Jensen..

## 2. LITERATURE REVIEW

Komal B Sharma, (2020), Conducted a study on Performance analysis of Mutual fund: A comparative study of the selected debt Mutual Fund scheme in India.The findings of the research stated Only two mutual fund schemes-Axis corporate debt and HSBC Fund have performed well in the extremely erratic market'.

Shivam Tripathi, Dr Gurudutta. P.Jappe (2020),Analyses a case study on performance evaluation of selected equity mutual funds in India. In this literature, the author discussed with the exception of SBI Blue Chip Fund, Nippon India Large cap Fund, Nippon India Growth Fund, Nippon India small cap fund and DSP small cap fund.

Dr.P.Venkatesh,Dr.V.Selvakumar,Dr.D.ShanthiRevathi,Dr.K.Maran,(2020), conducted a case study on a performance analysis of selected mutual fund schemes in India. This paper aims to the standard deviation ,which represent the variation of returns from predicted return based on the past returns of the funds, is referred to as risk for all schemes.

Ashok Panigraphi,Mohit Mistry,Raghav Shukla , Abhishek Gupt,(2020),Conducted a case study on many sub functions involved in the operation of ELSS mutual funds,such as portfolio management service providers,stand-alone fund managers,professional training institutions,and applicants willing to adopt the schemes.

Manoj kumar Dash,(2018),Conducted a case study on performance evaluation of equity based mutual funds in india. The article examines the creative business plans of several companies. The evaluation is a truly important factor in deciding whether to invest in common money. the ranking given to the overall finances in an effort to attract investment into the individual accounts.

Gauri shankar lall &Manoj kumar dash,(2018),Analysis a case study on performance evaluation of equity based mutual in india.In this literature the author discussed Sundaram Global Advantage programme exhibits a higher Sharpe ratio than other chosen schemes, hence this scheme offers a superior return.

Dr.Nalla Bala Kalyan and Dr.S.Gautami,(2018),Conducted a case study on Risk and Return analysis the selected mutual fund scheme in india.The article examines a  safe tool for speculating is the mutual fund. For many individuals, a mutual fund is their sole option for making investments using a diversified, intelligent strategy. The following conclusion might be drawn after researching and examining several mutual fund strategies.

Dr.M.Sheik Mohamed and Mr.M. Kaja Muhaideen,analysis (2017),Analyses a case study on performance evaluation of selectedopen-ended equity mutual funds schemes in india. The article looks at many companies' innovative business models. A crucial consideration when selecting whether to invest in common currency is the evaluation the ranking of the entire financial situation made in an effort to draw money into the individual accounts.

N Bhagyashree & Mrs.B.Kishori,(2016),Conducted a case study on performance evaluation of mutual funds schemes in india.The findings of the research states that  the outcomes also revealed that some of the plans had underperformed; these plans had a diversification issue.

Muralidhar Prasad Ayaluru (2016),Conducted a case study on performance analysis of reliance mutual fund scheme.The findings of the research stated that the chosen resources Reliance  Bank Fund is regarded as having high risk and low returns, while the small cap fund is thought to have moderate risk and moderate returns.

## 3.1 RESEARCH METHODOLOGY

 The study gathers preliminary data on a few chosen debt money market fund schemes of mutual funds using a variety of performance and descriptive research methods. close-ended, money market debt mutual funds schemes are chosen from the top mutual fund firms based on the asset under management in order to analyse the performance of mutual fund schemes . As a benchmark for the study, the BSE-Sensex index is employed. The analysis makes use of the mutual funds scheme's daily net asset value (NAV) data and the benchmark market index's daily closing value. For the study, the yield on 91-day Treasury Bills served as the risk-free return rate.

❖ Period of study and sources of data

     The study covers a period of 5 years from April 2017 to March 2022.

*The study was mainly based on secondary data.The data regarding NAV  from the website of www.mutualfundindia.com , www.amfiindia.com  and Bombay stock exchange website.*

❖ ***Sampling method***
*Convenience sampling method.*

## SAMPLING SIZE:

5 selected schemes from mutual funds has been considered, and data has been collected for 5 years. 1. HDFC MEDIUM TERM DEBT FUND. 2. NIPPON INDIA STRATEGIC DEBT FUND - DIRECT PLAN - GROWTH OPTION 3. SBI SHORT TERM DEBT FUND - DIRECT PLAN -GROWTH. 4. AXIS CORPORATE DEBT FUND - DIRECT PLAN GROWTH. 5. KOTAK BANKING AND PSU DEBT DIRECT - GROWTH.

**3.2 INSTRUMENT DESIGN:**

Sharpe performance measure, Treynor performance measure, Jensen's performance measure, beta ,standard deviation

*Hypothesis*

Ho: *There is no relationship between fund return and market return of various mutual fund schemes.*

$H_1$: *There is relationship between fund return and market return of various mutual fund schemes.*

**3.3 LIMITATIONS**

• The study relies heavily on secondary data, so it is inevitable that there would be some drawbacks.
• There is limited time to carry out the investigation and best practises.  schemes total have been selected for analysis.

**4. DATA ANALYSIS AND FINDINGS**

**4.1 Determination of Beta, SD, Mean Value for the selected Mutual Funds of the India.**

| SLNO | Mutual funds | Beta | SD | Mean value |
|---|---|---|---|---|
| 1 | HDFC Medium Term Debt Fund direct plan growth | 0.003168817 | 1148.44145 | 18050.4965 |
| 2 | Nippon India Strategic Debt Fund  direct plan growth | -0.000230572 | 155.8953 | 6211.43245 |
| 3 | SBI short term debt fund direct plan growth | 0.000945813 | 286.05251 | 11101.0928 |
| 4 | Axis corporate debt fund direct plan growth | 0.000514477 | 150.59539 | 5496.38017 |
| 5 | Kotak banking & PSU debt direct plan growth | 0.00203173 | 609.35545 | 22268.8762 |

The table lists five different mutual funds along with their respective Beta, SD, and Mean value. Beta is a measure of the volatility of the fund compared to the market, with values greater than 1 indicating higher volatility. SD represents the standard deviation of returns and is a measure of risk. Mean value represents the average returns of the fund.

The mutual funds listed in the table are all debt funds, which primarily invest in fixed-income securities. The HDFC Medium Term Debt Fund has the highest Mean value among the funds listed, followed by Kotak banking & PSU debt direct plan growth. The Nippon India Strategic Debt Fund has a negative Beta, which indicates it is less volatile than the market.

Investors may use this information to evaluate the risk and return profile of each fund and make informed investment decisions based on their investment objectives and risk tolerance. It is important to note that past performance does not guarantee future results and that investors should conduct their own research and consult with a financial advisor before investing in any mutual fund.

**4.2 Determination of Correlation, Sharpe, Trynor, Jenson for the selected Mutual Funds of the**

| SLNO | Mutual funds | Correlation | Sharpe | Trynor | Jensen |
|---|---|---|---|---|---|
| 1 | HDFC Medium Term Debt Fund direct plan growth | 0.718551387 | 18050.4932 | 16886.02405 | 1287.590245 |
| 2 | Nippon India Strategic Debt Fund direct plan growth | -0.39943 | 6211.31878 | 4800.829297 | -0.00979233 |
| 3 | SBI short term debt fund direct plan growth | 0.861133 | 11101.07993 | 7199.687 | 5326.57364 |
| 4 | Axis corporate debt fund direct plan growth | 0.88966 | 5496.35566 | -1675.952122 | 2353.635353 |
| 5 | Kotak banking & PSU debt direct plan growth | 0.86828997 | 22268.87623 | 20452.69 | 9868.690527 |

**India.**

*The first column represents the serial number of the mutual fund, while the second column provides the name of the mutual fund. The third column represents the correlation between the returns of the mutual fund and a benchmark index. A high correlation indicates that the mutual fund's returns are closely related to the benchmark index's returns.*

*The fourth column represents the Sharpe ratio, which measures the excess return generated by the mutual fund relative to the risk-free rate per unit of volatility. A higher Sharpe ratio indicates a better risk-adjusted return.*

*The fifth column represents the Treynor ratio, which measures the excess return generated by the mutual fund relative to the systematic risk per unit of volatility. A higher Treynor ratio indicates a better risk-adjusted return.*

*The sixth column represents the Jensen alpha, which measures the excess return generated by the mutual fund relative to the return predicted by the capital asset pricing model (CAPM). A positive Jensen alpha indicates that the mutual fund has generated higher returns than expected given its level of risk*

*Investors can use these statistical measures to evaluate the performance of mutual funds and make informed investment decisions based on their investment objectives and risk tolerance. However, it's essential to keep in mind that past performance does not guarantee future results.*

**4.2 Table showing ranking of calculated formula for the selected Mutual Funds of the India.**

| Ranking funds according to evaluating the models | | | |
|---|---|---|---|
| Mutual funds | Ranking based on sharpe's | Ranking based on treynor's | Ranking based on jensen's |
| HDFC Medium Term Debt Fund direct plan growth | 2 | 2 | 4 |
| Nippon India Strategic Debt Fund direct plan growth | 4 | 4 | 5 |
| SBI short term debt fund direct plan growth | 3 | 3 | 2 |
| Axis corporate debt fund direct plan growth | 5 | 5 | 3 |
| Kotak banking & PSU debt direct plan growth | 1 | 1 | 1 |

Investors can use these rankings to evaluate the mutual funds' performance and make informed investment decisions based on their investment objectives and risk tolerance. However, it's essential to keep in mind that past performance does not guarantee future results.

## 5. CONCLUSION

The given table provides statistical measures for five different mutual funds, including correlation, Sharpe ratio, Treynor ratio, and Jensen's alpha. These measures can be used by investors to evaluate the mutual funds' performance and make informed investment decisions based on their investment objectives and risk tolerance. Based on the provided data, investors can rank the mutual funds according to their performance using different evaluation metrics. However, it's essential to keep in mind that past performance does not guarantee future results, and other factors like market conditions and economic events can impact a mutual fund's performance.

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## A STUDY ON IMPACT OF FACTORS AFFECTING FIRM'S PROFITABILITY OF SELECTED INDIAN IT COMPANIES

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**ABSTRACT**

*The purpose of study is to examines the impact of factors affecting profitability, a Descriptive statistic, correlation analysis and regression analysis method used to analyze firm's profit, on selected Indian IT companies. This study involves understanding relationship between the variables. The study mainly deals with the various Factors affecting Firm's Profitability of TCS, Infosys, HCL, Wipro and Tech Mahindra. Analysis for the last 10 years' have been done, by collecting financial statements. The study used Return on assets as dependent variable and current ratio, Debt ratio, Sales Growth, Firm Size, Firm age as Independent variable.*

***keywords***: *Profitability, Indian IT companies, Regression model, Debt ratio, Correlation Analysis.*

## I. INTRODUCTION

IT Industry playing a significant role in today's world. Companies in china, UK, United stated are among the top companies in the world. IT sector demonstrated to the entire world through export of software products, some IT companies excel in outsourcing. Indian IT sectors like TCS, Infosys, Wipro are well known for outsourcing and consulting companies. After 1991 India Witnessed a substantial growth in Indian economy. The global outsourcing market has grown from $ 2 trillion in 2008 to $3 trillion in 2015. The IT industry grown from 14% to 56% of the total outsourcing market during this time period. A significant portion of India's services are in the IT-BPM industry, according to the Economic Survey.

## STATEMENT OF THE PROBLEM

The competition in this sector has led to a decrease in profit margins, which has made it difficult for companies to differentiate themselves from their competitors. Profit is not only confined with attracting clients and earning more profits, it also involves minimizing cost in the organization for that companies have to understand the factors which affects the profitability of business.

## OBJECTIVE OF THE STUDY

➢ This study aims to determine the factors of Indian IT sectors which affects the profitability.

➢ To examine the relationship b/w the variables of profitability on Return on assets of Indian IT Company.

➢ To study the impact of variables profitability on Return on assets.

## II. REVIEW OF LITERATURE

Eissa A. Al-Homaid (2021) In this article, they analyse the Factors affecting the profitability of Indian listed firms apanel data approach found that the company should concentrate on leverage, company efficiency and firm size which gives more profit.

Harianto Lim and Rofikoh Rokhim (2021) In this article, they studied the Factors affecting profitability of pharmaceutical company, An Indonesian evidence and concluded with the main goal to assess the importance of a firm's operating income and how it relates to their liquidity and sustainability

Men Thi BUI, Hieu Minh NGUYEN (2021) In this article, they analyse the Determinants Affecting Profitability of Firms, A Study which conducted on Oil and Gas Industry in Vietnam and found that gap should be filled in diverse factors. It is suggested that companies have to avoid more debt to reduce the risk.

Bishnu Prasad Bhattarai (2020) In this article, they determined the Factors influencing profitability of insurance companies in Nepal and findings which explains, the size and financial power of insurance companies are important determinants.

Muhammad Aqil, Rizwan Raheem Ahmed, Jolita Veinhardt and Dalia Streimikiene (2019) In this article, they analyse the Factors Influencing the Profitability of Heavy Vehicle Industry. By analyzing in Case of Pakistan. And concluded that the quick ratio, inventory turnover, accounts receivable turnover, and average accounts payable are the factors that have the most impact on the return on assets of the heavy vehicle sector in Pakistan.

Dechasa Seifu Ashenafi, Dechasa Seifu Ashenafi (2018) In this article, they analyse the Factors Affecting Profitability of Microfinance Institutions, on Study of MFIs in Southern Nation Nationalities Peoples Regional State and found that, microfinance institutions should look for opportunities to cut expenses and implement a sound credit management strategy.

Matthijs C. T. Kant (2018) In this article, they analyse the Factors influencing the profitability of manufacturing firms listed on the New York stock exchange and suggested that companies need to be careful about how much leverage and debt issuance they have because they have negative consequences. R&D investments are essential part of the business

Shah, Mumtaz Hussain and Khan, Sajjad (2017) In this article, they analyse the Factors Effecting Commercial Banks Profitability in Pakistan and it aims to investigate which factors equity, debt, bank size, and assets yield higher profits and which one's banks should prioritize in order to increase profits.

Dr. John Francis T. Diaz (2017) In this article, they analyse the Factors Affecting the Profitability of Indonesian Real Estate Publicly-listed Companies and found that companies that have more assets have high sales growth and can optimize their operations. Real estate firms should concentrate on customer receivables because they generate more profit.

Swagatika Nanda and Ajaya Kumar Panda (2017) In this article, they analyse the determinants of corporate profitability and suggests that Managers should focus on elements that influence financial performance. Additionally, nominal exchange rate is more illuminating when describing profitability.

## III. METHODOLOGY

**3.1 Type of Research**: Causal research, to study the relationship b/w the dependent and independent variables.

**3.2 PERIOD OF THE STUDY**: Annual reports are collected from April 2013 to March 2022

**3.3 LIST OF SELECTED COMPANIES FOR THE ANALYSIS**: Five Indian IT companies are selected for the analysis

**3.4 DATA ANALYSIS TOOLS USED**: Descriptive statistics, correlation analysis and Regression analysis

**3.5 HYPOTHESIS TESTING Hypothesis 1:**

H0: The current ratio has no significant impact on return on assets. H1: The current ratio has significant impact on return on asset.

**Hypothesis 2:**

H0: The Debt ratio has no significant impact on return on assets. H1: The Debt ratio has significant impact on return on assets.

**Hypothesis 3:**

H0: The Sales growth has no significant impact on return on assets. H1: The Sales growth has significant impact on return on assets.

**Hypothesis 4:**

H0: The Firm size has no significant impact on return on assets. H1: The Firm size has significant impact on return on assets.

**Hypothesis 5:**

H0: The Firm age has no significant impact on return on assets. H1: The Firm age has significant impact on return on assets.

## IV. DATA ANALYSIS AND FINDINGS

**Table 4.1 Descriptive Statistics of TCS, Infosys, HCL, Wipro and Tech Mahindra**

|  | Return on Assets | Current Ratio | DebtRatio | Sales Growth | FirmSize | FirmAge |
|---|---|---|---|---|---|---|
| Mean | 0.19 | 2.98 | 0.26 | 0.16 | 10.77 | 46.9 |
| SD | 0.02 | 0.79 | 0.06 | 0.19 | 0.33 | 3.03 |
| Minimum | 0.16 | 1.78 | 0.19 | -0.03 | 10.1 | 42.4 |
| Maximum | 0.23 | 4.40 | 0.37 | 0.58 | 11.18 | 51.4 |

Source: https://www.moneycontrol.com

**Interpretation**

According to table 4.1, Mean value of the return on assets is 0.19 and its standard deviation is

0.02. it means the value of profitability can be deviate from mean to positive and negative sides by 0.02. the maximum value of ROA is 0.23 and minimum value is 0.16. thus when considering the average value of ROA Selected IT companies those are in favorable positions by profitability.

**Table 4.2 Correlation Analysis of TCS, Infosys, HCL, Wipro and Tech Mahindra**

|  | Return on Assets | Current Ratio | DebtRatio | Sales Growth | FirmSize | FirmAge |
|---|---|---|---|---|---|---|
| Return on Assets | 1 |  |  |  |  |  |
| Current Ratio | -0.1945 | 1 |  |  |  |  |
| Debt Ratio | 0.3352 | -0.8587 | 1 |  |  |  |
| Sales Growth | 0.4019 | -0.3139 | 0.3365 | 1 |  |  |
| Firm Size | -0.1694 | 0.1631 | -0.2531 | -0.2424 | 1 |  |
| Firm Age | 0.1326 | -0.0548 | 0.1589 | 0.2554 | -0.9424 | 1 |

Source: https://www.moneycontrol.com

**Interpretation**

Current ratio and firm size has a low degree of negative relation on Return on assets. Debt ratio, sales growth, Firm age has a low degree negative relation on return on assets. Current ratio and debt ratio has a High degree negative relation, it means to maintain current ratio, it is not necessary to borrow more debts.

**Table 4.3 Regression Analysis of TCS, Infosys, HCL, Wipro and Tech Mahindra**

| Regression Statistics |  |
|---|---|
| Multiple R | 0.8299 |
| R Square | 0.6917 |
| Adjusted R Square | 0.3063 |
| Standard Error | 0.0176 |
| Observations | 10 |

| ANOVA |  |  |  |  |
|---|---|---|---|---|
|  | df | SS | MS | F |
| Regression | 5 | 0.0032 | 0.0006 | 2.1114 |
| Residual | 4 | 0.0014 | 0.0004 |  |
| Total | 9 | 0.0047 |  |  |

|  | Coefficients | Standard Error | t Stat |
|---|---|---|---|
| Intercept | 0.0004 | 1.3060 | -0.2005 |
| Current Ratio | 0.0029 | 0.0349 | 0.0523 |
| Debt Ratio | 0.1213 | 0.4303 | 0.3498 |
| Sales Growth | 0.0244 | 0.0753 | 0.5470 |
| Firm Size | 0.0055 | 0.0869 | 0.3055 |
| Firm Age | 0.0023 | 0.0089 | 0.2116 |

Source: https://www.moneycontrol.com

### Interpretation

In the above ANOVA table f Statistic value is 2.1114 that is above 2.56, so above data is not predictable on return on assets at 0.05 level of significance.

From the above table R-Square value is 0.6917 that is 69.17%. which indicates that current ratio, debt ratio, sales growth, firm size and firm age explains 69.17% variation in Return on assets remaining explained by other variable which is not considered in this study. This means current ratio, debt ratio, and sales growth, firm size and firm age is impacting 69.17% on Return on assets.

For every unit change in the current ratio, the Return on Assets is positively impacted by 0.29%. If the current ratio goes up by one unit, the return on assets will increase by 0.29%.

A change in the debt ratio for one unit has a positive impact on return on assets of 12.13%. If the debt ratio goes up by one unit, the return on assets will increase by 12.13%.

Sales growth of 1 unit has a positive impact on Return on Assets of 2.44%. If sales grow by 1 unit, the impact on the return on assets will increase by 2.44%.

Changes in company size of one unit have a 0.55% positive influence on return on assets. If the business size grows by only one unit, the return on assets will increase by 0.55%.

For every unit change in company age, the Return on Assets shows a positive impact of 0.23%. If the age of the business rises by one unit, the return on assets will rise by 0.23%.

### 3.6 Limitations

➢ This research is limited to Indian IT sectors only.

➢ The data which are collected are confined with Internal Factors of the business.

➢ Secondary data is collected for selected companies, because of the lack of data in privatelimited companies.

➢ This analysis which is made are applicable only to selected IT firms in INDIA it is not applicable for whole IT Sector.

### Findings

➢ Current ratio and Firm size has a negative relation.

➢ Debt ratio, Sales growth and firm age has a positive relation.

➢ In regression R square value is 0.6917 that is 69.17% is impacting on ROA.

➢ Current ratio, Debt ratio, Sales growth, Firm size and Firm age has a positive change. That is if increase in 1-unit cause in positive change in ROA.

➢ Debt ratio is impacting more positive change of 12.13% on ROA.

➢ Firm age is impacting less positive change of 0.23% on ROA.

### Conclusion

From this study the above variables are impacting 69.17% on Return on assets. While Debt ratio has a positive change of 12.13%. companies have to concentrate more on debts that it has to decrease its debt, to have less impact on Return on assets. Current ratio and firm size has a negative relation on return on assets, that means higher current ratio is not necessary to gain more return on assets.

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**A STUDY ON RELATIONSHIP BETWEEN STOCK RETURN AND TRADE VOLUME ON SELECTED COMPANIES WITH REFERENCE TO NIFTY 50**

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**ABSTRACT**

*This study aims to investigate the relationship between stock return and trade volume on selected companies within the NIFTY 50. The study uses daily data from April 2012 to March 2022 and employs a  regression analysis to examine the extent to which trade volume affects stock returns. The selected companies include prominent players from different sectors. The findings reveal that trade volume has a significant positive impact on stock returns, indicating that trading activity is an essential driver of stock price movements. Furthermore, the study also reveals that certain sectors, such as the finance sector.Overall, this study contributes to the understanding of the dynamics between stock returns and trade volume in the Indian stock market and highlights the importance of monitoring trading activity for investors and analysts.*

**Key words:** *relationship, stock return, trade volume, selected companies, NIFTY 50, impact, trading activity, dynamics, monitoring.*

**JEL codes:** *G10, G14, G17, G18, G23*

**I. INTRODUCTION**

The trading volume of a financial asset indicates how often it has been exchanged for over a given time period. The quantity of shares traded for equities is a replacement for volume. Traders use volume for futures and options to gauge liquidity and combine volume changes with technical signals to make trading decisions. Volume for futures and options is defined by the number of contracts that have been traded. Observing volume patterns over time may provide insight into the amount of conviction driving gains and falls in specific firms and whole markets. This is also true for option traders, since trading volume measures the current interest in an option. Technical analysis and other trading strategies are significantly influenced by volume and it is showed with technical indicators.

A stock return is the calculation of a stock's return percentage over a specific time frame. Changes in share price, corporate actions like spinning off and splitting off and eventually capital returns in the form of one-time and recurring dividends are all necessary inputs for the computation.

The trading volume is analysed using the following criteria: price movement, exhaustion gap volume and moves, bearish and bullish signals, confirmation of moves, volume history. Similarly, stock returns are analyzed using Price earnings share ratio, Earnings per share, Price to growth, Price to sales, Price to book, Equity and Assets return, Payout of yield and dividend.

## II. REVIEW OF LITERATURE

| Sl. No | Particulars |
|---|---|
| 1 | Shiu-Sheng Chen (2012) "Revisiting the empirical linkages between stock returns and trading volume", The purpose of this study is to look at the asymmetry of the return-volume relationship in bull and bear stock markets, as well as if the empirical associations between trading volume and stock return vary with stock market volatility. The returns and volume are favourably correlated in bull markets, they are negatively correlated in bear markets. |
| 2 | Bramantyo Djohanputro (2011) "Market Return, Volatility and Trading Volume dynamics after Economic Crisis", The investigation focuses on the Indonesian Stock Exchange from the aftermath of the economic collapse to the subprime mortgage crisis. The Indonesian capital market is expected to move dramatically from its pre-crisis status. In terms of their relationships, traders are supposed to use the information included in trading volume. |
| 3 | William A. Brock and Blake D LeBaron (1995) "A Dynamic Structural Model for Stock return volatility & Trading volume", The primary hypothesis of this study, which holds that the price of the trading process is determined by the trading process itself, necessitates the development of a structure model that can gather information on asset returns and reading volume. |
| 4 | John Y. Campbell, Sanford J. Grossman and Jiang Wang (2014) "Trading Volume and Serial Correlation in Stock Returns", To investigate the relationship between total stock market trading volume and the serial correlation of daily stock returns. This study presents a stunning insight concerning the short-term stock market behaviour. We have made the counter-argument that trading volume is generated by risk-averse market makers accommodating random variations in noninformational traders' stock demand. |
| 5 | Andrew W. Lo and Jiang Wang (2001) "Stock market trading volume", According to the study, economic forces and market operations determine volume and prices. The literature on financial markets has concentrated on examining the behaviour of returns based on simplistic assumptions about the market, such as allocational and informational efficiency. |
| 6 | Bong-Soo Lee, Oliver M Rui (2000) "The dynamic relationship between stock returns and trading volume: Domestic and cross-country evidence", According to the study, contrary to theoretical model expectations, trading volume does not Granger-cause stock market returns on each market, and a positive feedback occurs between tarding volume and return volatility. |
| 7 | Sarika Maharajan, Balwinder Singh (2009) "The Empirical Investigation of Relationship between Return, Volume and Volatility Dynamics in Indian Stock Market", Using daily data from India's primary stock exchange, the BSE, this study explores the relationship between stock market return, volume, and volatility dynamics. The study found a positive and significant relationship between volume and return volatility, lending credence to both the mixture of distribution and sequential arrival theories of information flow. |
| 8 | Louis Gagnon and G. Andrew Karolyi (2009) "Information, Trading Volume, and International Stock Return Comovements: Evidence from Cross-Listed Stocks", In this study, discovered a novel aspect of the dynamic relationship between stock returns and trading volume, namely that high-volume days are associated with predictable patterns in cross-correlations between various stock returns, as well as predictable patterns in serial correlation of stock returns. |
| 9 | Pradeep K Yadav (1992) "Event studies based on volatility of returns and trading volume- A review", The purpose of this article is to provide a systematic evaluation of event studies based on return volatility and trading volume. The rationale for such investigations has been briefly discussed, as have the fundamental methodological issues involved. The volume-volatility relationship and its significance in this context have also been emphasised. |
| 10 | Bipin B. Ajinkya, Prem C. Jain (1989) "The behavior of daily stock market trading volume", The study examines three trading volume definitions and two expectation models to quantify excess (abnormal) trading utilising simulation processes with real-world data, as well as features of many statistical tests that could be used in trading volume event investigations. |

## III. DATA AND METHODOLOGY

**Objectives:**

- To study the selected stocks returns on trade volume.
- To examine the trend of volume of trade and returns of stock.
- To evaluate the correlation between returns of stock and trade volume.
- To check the causality relation between returns of stock and trading volume.

**Hypothesis:**

H0: There is no significant relationship between trade volume and stock returns.

H1: There is a significant relationship between trade volume and stock returns.

**Type of Research:**

This article uses Descriptive research to examine how trade activity and returns of stock are related.

## IV. DATA ANALYSIS AND FINDINGS

### Table 1: Return to Volume (Correlation)

| Sl.No | Company | Return to Volume |
|-------|---------------|------------------|
| 1 | Infosys | -0.015801133 |
| 2 | Wipro | 0.056613446 |
| 3 | SBI | 0.01587089 |
| 4 | Bharti Airtel | 0.031901814 |
| 5 | Cipla | 0.054199356 |
| 6 | Nifty | 0.022938418 |

**Interpretation:**

The above table shows that 10 years of trading volume and stock return data are taken into account. According to this correlation test, there is a substantial association between trading volume and stock return, with certain companies being positively correlated, such as Wipro, SBI, Bharti Airtel, Cipla, and Nifty, and Infosys being negatively correlated.

### Table 2: CAPM

| Security | Actual | |
|----------|--------|------|
| | Return | Beta |
| Infosys | 0.0224 | 0.1178 |
| Wipro | 0.0360 | 0.0285 |
| SBI | 0.0210 | -0.0207 |
| Bharti Airtel | 0.0513 | 0.0980 |
| Cipla | 0.0626 | 0.0141 |

| Beta Calculation | |
|------------------|--------|
| $Ri = Rf + \beta (Rm - Rf)$ | |
| Infosys | 3.2580 |
| Wipro | 3.5859 |
| SBI | 3.7659 |
| Bharti Airtel | 3.3334 |
| Cipla | 3.6389 |

**Interpretation:**

According to the above CAPM calculation table, each company will provide a distinct return on investment. For example, an investor can earn a return of Cipla 0.0626 * 100 = 6.26% by investing.

**Table 3 Regression analysis:**

**Table 3.1 Regression analysis for Infosys**

**Regression analysis of Returns to Nifty Index**

| Regression Statistics | |
|---|---|
| Multiple R | 0.0509744 |
| R-square | 0.002598389 |
| Adjusted R-square | 0.00219491 |
| Std error | 1.071947965 |
| Observations | 2474 |

| Anova | | | | | |
|---|---|---|---|---|---|
| | df | S.S | M.S | F | Significance F |
| Regression | 1 | 7.399971697 | 7.399971697 | 6.439952291 | 0.011219103 |
| Residual | 2472 | 2840.507073 | 1.149072441 | | |
| Total | 2473 | 2847.907045 | | | |

| | Coefficient | Std error | t-statistic | P value | Lower(95%) | Upper (95%) | Lower-95.0% | Upper-95.0% |
|---|---|---|---|---|---|---|---|---|
| Intercept | 0.053456701 | 0.021552202 | 2.480335959 | 0.013191976 | 0.011194469 | 0.095718932 | 0.011194469 | 0.095718932 |
| Nifty Index | 0.022059815 | 0.008692817 | 2.537706108 | 0.011219103 | 0.005013861 | 0.03910577 | 0.005013861 | 0.03910577 |

**Interpretation:**

According to the table above, the R-Square value is 0.002598, or 0.2598%. This shows that the Returns varies by 0.2598% which indicates that the Nifty Index has an effect on Returns of 0.2598%. For every unit change in the Nifty Index, the Returns is positively impacted by 2.2%. If the Nifty Index increases by one unit, the Returns will decrease by 2.2%. If the Nifty Index falls by one unit, the Returns will increase by 2.2%.

**Regression analysis of Trading Volume to Nifty Index**

| Regression Statistics | |
|---|---|
| Multiple R | 0.613982973 |
| R-square | 0.376975091 |
| Adjusted R-square | 0.376723059 |
| Std error | 160.7545932 |
| Observations | 2474 |

| Anova | | | | | |
|---|---|---|---|---|---|
| | df | S.S | M.S | F | Significance F |
| Regression | 1 | 38652936.44 | 38652936.44 | 1495.738634 | 2.6645E-256 |
| Residual | 2472 | 63881520.95 | 25842.03922 | | |
| Total | 2473 | 102534457.4 | | | |

| | Coefficient | Std error | t-statistic | P value | Lower(95%) | Upper(95%) | Lower-95.0% | Upper-95.0% |
|---|---|---|---|---|---|---|---|---|
| Intercept | 44.29663829 | 7.177867275 | 6.171281329 | 7.89187E-10 | 30.22138534 | 58.37189124 | 30.22138534 | 58.37189124 |
| Nifty Index | 0.003315104 | 8.57175E-05 | 38.67478033 | 2.6645E-256 | 0.003147018 | 0.003483189 | 0.003147018 | 0.003483189 |

**Interpretation:**

According to the table above, the R-Square value is 0.3769, or 37.69%. This shows that the Trading volume varies by 37.69% which indicates that the Nifty index has an effect on Trading volume of 37.69%. For every unit change in the Nifty Index, the Trading Volume is positively impacted by 0.33%. If the Nifty Index increases by one unit, the Trading Volume will decrease by 0.33%. If the Nifty Index falls by one unit, the Trading volume will increase by 0.33%.

**Findings:**

- For regression over the long term, there is a sizable link between stock return and trade volume.
- The Returns to volume table demonstrates that stock return and trading volume data spanning 10 years were considered which indicates that there is a strong relationship.
- The findings of the regression study for Infosys, Wipro, Bharti Airtel, and Cipla with regard to Nifty returns show a favourable association.
- Infosys' returns fluctuate by 0.2598%, impacting Nifty's returns by 0.2598%. Nifty's effect on returns is 2.2%. Trading volume for Infosys changes by 37.69%. Nifty influences trading volume by 37.69%, increasing it by 0.33% for every unit movement.

## V. CONCLUSION

The research aims at the 10-year trend in returns and trading volume for five chosen Nifty companies and the Nifty 50. Analysis has been done using approaches including regression, correlation, and the Capital Asset Pricing Model (CAPM). Trade volume changes will have a small impact on the NIFTY where as the change in stock returns will not cause any effect on the Nifty index. Through this analysis, I was able to determine that the relationship between volume of trade and stock returns is positive; however, stock return has no bearing on trade volume, and vice versa; additionally, when a single business showed negative reaction in the movement of the stock return to Nifty return. As a result, it is clear that the return, the volume of trades in companies, and the Nifty index are all related.

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## "A STUDY ON TECHNICAL ANALYSIS ON SELECTED COMPANIES OF BSE"

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### ABSTRACT

*TECHNICAL ANALYSIS ON SELECTED COMPANIES OF BSE. The objective of the study is mainly focused on determining share price of the selected company of previous five years. The data collected is secondary data.The RSI shows the range of volatility influence of the price to now the investors to buying, selling and holding of the stocks. So it shows which company is better to invest the price to buy the shares. moving averages suggest the investors to track the price movements of a security. this study helps to get knowledge about when to enter and exit from the stock market.the technical skills are required to trade in the market to predict the price movements and determining the trends when to invest and when to exit the market all those things should be taken into consideration.*

*Key words: technical analysis, RSI, MOV AVG, VOLUME, TREND LINE.*

### 1.1 INTRODUCTION

Technical analysis is learn of financial market moves. It's the method of examining a securities historical price in order to determine possible future prices. This quite carried out through analysis current fee with comparable historical prices motion to the prediction of future results. The devout technician defines this procedure as the truth that history repeats itself whilst others would suffice to assert that we will have to be taught from the history. Here the price moves in economic market will take into account instead of essential motives that impacts the market

### 1.2 STATEMENT OF THE PROBLEM

Traders engage in trading without using an appropriate strategy. Traders get mislead by price patterns. Accurately anticipating strike rates is a challenging task for traders and investors. The performance evaluation of stocks is examined in the current study.

### 1.3 OBJECTIVES OF THE STUDY

- To analyze the importance of technical analysis in the formulation of trading strategies.
- To analyze and evaluate the selected automobile stocks are overbought and oversold.
- To understand the movement and performance of selected stocks to take investmentdecisions.

### 2. LITERATURE REVIEW

**1.Dr. Bhaskar v patil , mrs Manjushree A Kadam (2022**), conducted a study on technical analysis for gaining profitability on large cap stocks.in this study intends to concentrate on strategically deciding on buying and selling of growth-oriented stocks**. 2. Srushti Dongery (2022)**, conducted a study on market indicators used for technical analysis. The purpose of this research is to demonstrate the value of using market indicators for technical analysis to forecast changes in the prices of large-, mid-, andsmall-cap stocks**. 3. Kelvin lee yong ming, Mohamad jais, Ling pick soon (2022)**, Conducted a study on new approach for e-commerce stock prices prediction by combination of machinelearning and technical analysis. in the paper In order to anticipate the stock price of thefive largest market capitalization e-commerce stocks..**4.Shabana gul (2021),** Conducted a study on relevance of technical analysis as apredictive tool: an empherical study from Indian stock market. this study is analytical in nature and solely dependent on secondary information obtained through NSE. **5. Aman Bhatia (2021),** conducted a study on technical analysis and its use in stockmarkets. The aim of the study is to determine whether traditional price patterns and Japanese candlesticks are effective for small- and mid-cap company charts. **6. Mr. Rahul Chauhan, Mr. Neel rajpurohit (2021),** conducted a research study on the technical analysis of NSE towards its stocks with reference to Indian stock market.stidy concludes that Technical analysis does not differentiate between capital gains and current income. **7.Mrs. B Kishori, K. Divya (2020),** conducted a study on technical analysis of selectedcompanies of BSE. this study intends to concentrate onstrategically deciding on buying and selling of growth-oriented stocks.

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**8.Dr.Girija Nandini, Dr. Ratidev Samal (2020),** conducted a research on technical analysis of selected industry leaders of Indian stock market under the cloud of covid-19.In This paper emphasizes the many entry and exit points for distinct companies as well as whether to pursue long or short positions.

**9. Rayarakula Sravan, J.Kalpan (2019),** conducted a study on technical analysis ofselected

stocks in banking sector with reference to motilal oswal securities.In this paper it helps investors determine whether to buy shares of a specific company or not**. 10. Varshini Venu, Charithra CM, Dr. Bhavya Vikas (2019),** conducted a study onequity research using technical analysis.in this paper it intends to analyze the trends in the share price movements of twelve firms from three different industries. **11.Rakshith L, Manoj Kumar N V (2018),** conducted a study on technical analysis on selected BSE stock. the study's primary goal see how the price volatility has an impact on their decisions to purchase, sell, and hold stocks. **12. Mohamed Masry (2017),** conducted a study on the impact of technical analysis on stock returns in an emerging capital markets. study.in this paper the basic buy-and-hold strategy for the Egyptian stock exchange was defeated by simple trading principles**. 13.Shalini singh, Dr.Anindita Chakraborty (2016),** conducted a study on stock price movements through technical analysis: empirical evidence from the information technology (IT) sector. In this paper In order to analyze IT index firms, this article is developed to use a technical analysis tool**. 14. Valarmathi A, Kowsalya P (2016),** conducted a study on technical analysis of NSE towards it stocks with reference to Indian stock market.in this paper research was carried out using the past values of IT stock**. 15. Sudheer V (2015),** conducted a study on trading through technical analysis: an empiricial study from Indian stock market. Investors can analyze stocks using technical oscillators by using technical analysis to help them make profitable investments. **16. Mohad Naved (2015),** conducted a study on technical analysis of Indian financial market with the help of technical indicators. This study contains a discussion of theindicators that can be used for Nifty stock technical analysis on the Indian market. **17. Ms. Padma (2015),** conducted a study on technical analysis of listed securities in NSEwith reference to banking industries. This paper's primary goal is to conduct a technical analysis ofa sample of stocks in the banking sector. **18. Dr.S Umaprabha , M.Mala (2015),** conducted a study on technical analysis on stocks listed in NSE with reference to pharmaceutical industries. this paper aim is to examine the technical analysis of a few stocks in the pharmaceutical industry. **19.Jumah Abbad, Bashar Fardousi, Muneer Abbad (2014),** conducted a study onadvantages of using technical analysis to predict future price on aman stock exchange.inthis paper it determines the ability of technical analysis principles to forecast futurestock values on the Amman Stock Exchange. **20. Dr. Asha E Thomas (2014),** conducted a study of technical analysis and its usefulness in Indian stock market. The purpose of this study is to assess technical analysis from an Indian standpoint and determine its applicability to the Indian stock market. **21. J.Nithya, Dr. G.Thamizhchelvan (2014),** conducted a study on effectiveness of technical analysis in banking sector of equity market. The aim of this study is to perform technical analysis on a subset of the CNX Nifty's listed companies. **22. C.Boobalan (2014),** conducted a study on technical analysis in select stock of Indian companies.in this paper it says that on the basis of technical analysis skills, one can forecast the ideal stock market investment choice.**23. Hemal Pandya (2013),** conducted a study on technical analysis for selected companies of Indian IT sector. This paper's objective is to conduct a technical analysis of the securities of a limited group of information technology businesses in order to support investing choices in that industry. **24. B.Sudheer Kumar, Dr.G. Malyadri (2012),** conducted a study on technical analysis in selected companies in India.in this paper it explains how to choose a specific portfolio based on each security's unique returns. **25.R.Chitra (2011),** conducted a study on technical analysis on selected stocks of energy sector. The purpose of the current research is to conduct a technical analysis on a few energy sector companies and determine whether to purchase or sell them by using techniques.

## 3.1 RESEARCH METHODOLOGY

Descriptive research is used to refer the characteristics of the population. In this instance, the study's flaw is clearly identified. Based on the issue, this study primarily utilized descriptive research .data is being collected from all secondary sources, including papers, books and journals to analyze how well statistical tools, corporate share prices, and financial tools work.in this study Data has been drawn from BSE website.

**SAMPLING SIZE:**

5 selected stocks from automobile sector has been considered, and data has been collected for 5 years. 1.TATA MOTORS LTD. 2. MAHINDRA & MAHINDRA LTD. 3.MARUTI SUZUKI INDIA LTD. 4. ASHOK LEYLAND LTD. 5.MRF LTD.
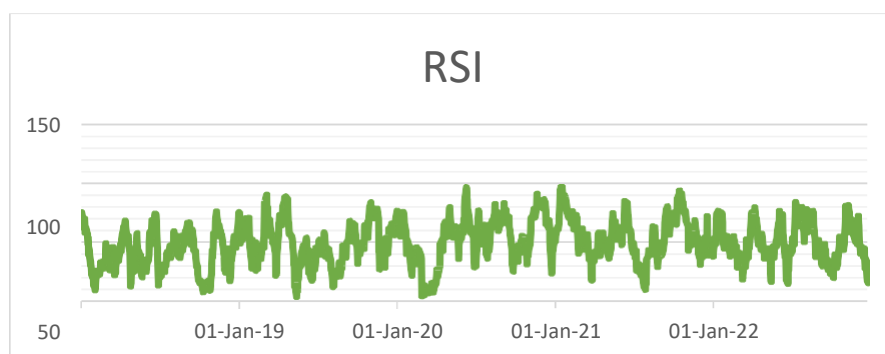
**3.2INSTRUMENT DESIGN:**

Relative strength index (RSI) & Simple Moving average.

**3.3LIMITATIONS**

- This study can be used only for short run decision making.

- Technical analysis is undertaken for only five years.

- Volatility in stock market is always subject to change.

**4. DATA ANALYSIS AND FINDINGS**

4.1RSI OF TATA MOTORS LTD



From the above chart it shows the yearly to yearly calculations of RSI from the period 01-01- 2018 TO 22-12-2022.it indicates the company can have the huge volatility range  98 to 5 and RSI is resulted with 40 to 60.so it says that investors would earn more returns on their investment.

**4.4 RSI OF MAHINDRA & MAHINDRA LTD**
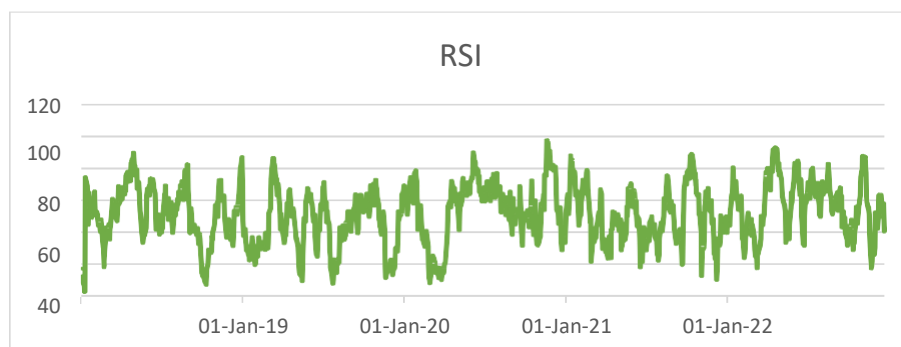


From the above chart it shows the yearly to yearly calculations of RSI from the period 01-01- 2018 TO 30-12-2022.it indicates the company can have the huge volatility range 99 to 0 and RSI is resulted with the 35 to 55 .so it influences investors to earn more returns on their investment
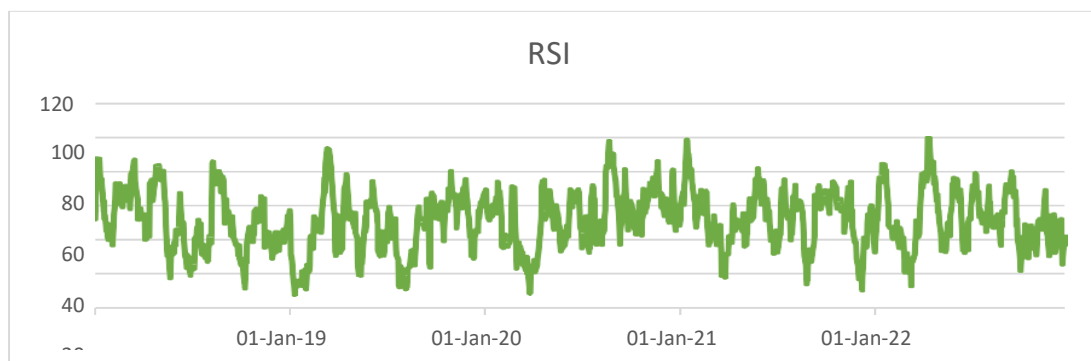
**4.3  RSI OF MARUTI SUZUKI LTD**
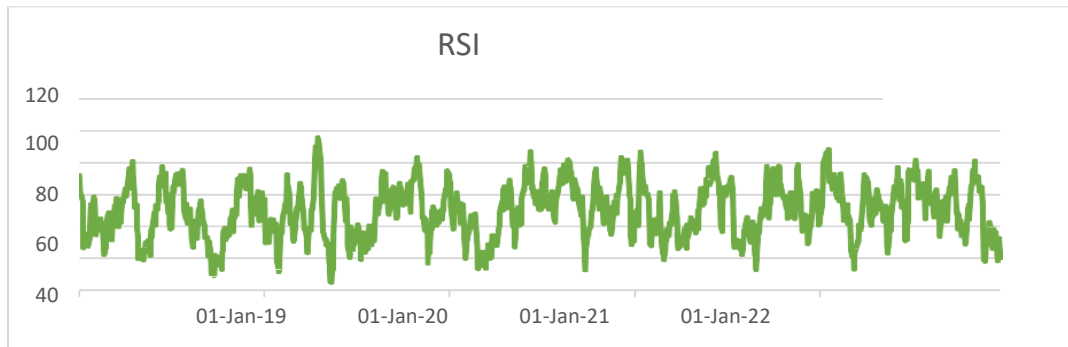


From the above chart it shows the yearly to yearly calculations of RSI from the period 01-01- 2018 TO 30-12-2022.it indicates the company can have the huge volatility range 99 to 0 and
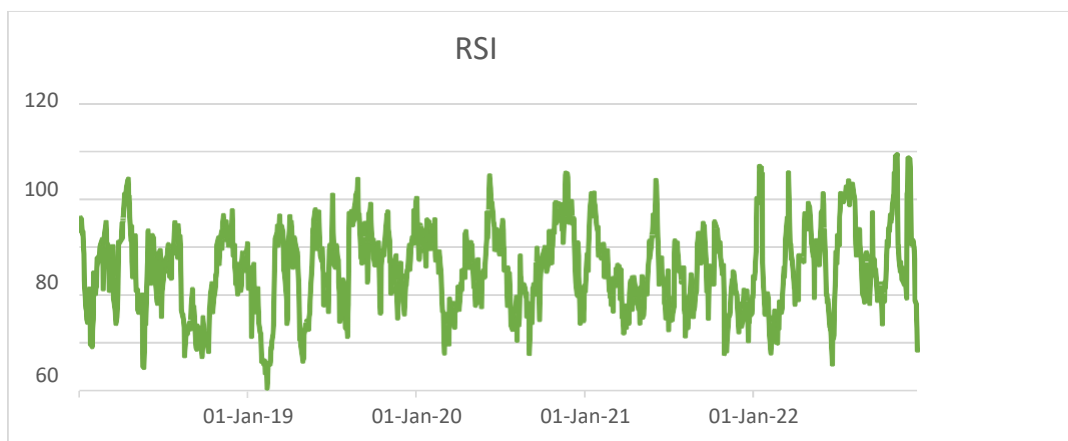
RSI is resulted with the 35 to 45. So volatility is more in short period investors would get more returns on their investment.

**4.4  RSI OF ASHOK LEYLAND LTD**



From the above chart it shows the yearly to yearly calculations of RSI from the period 01-01- 2018 TO 30-12-2022.it indicates the company can have the huge volatility range 100 to 10 and RSI is resulted with the 30 to 45. So the RSI is touching 30 it's a bearish sign where the investors would make less profits on their investments.

**4.5  RSI OF MRF LTD**



From the above chart it shows the yearly to yearly calculations of RSI from the period 01-01- 2018 TO 30-12-2022.it indicates the company can have the huge volatility range 100 to 0 and RSI is resulted with the 40 to 60.so it says that investors would earn more returns on their investment.

### 4.2.1    50 DAY MOVING AVERAGE OF TATA MOTORS LTD
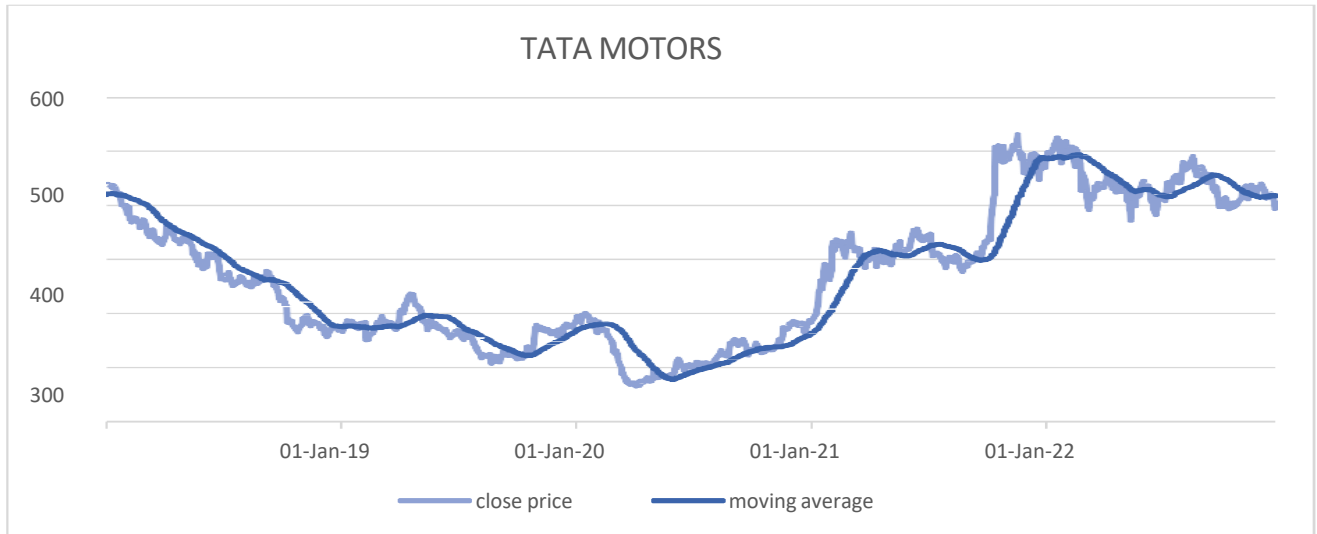


From the above chart its says that where moving average trend line  is cutting the close price line from above during the year 01-jan -2018 it says that investors should sell the shares at that time. the moving average trend line is cutting the close price line from below during the year 01-jan 2021 from there after the market is in upward trend where the investors would earn more return on their investment.

### 4.2.2    50 DAY MOVING AVERAGE OF MAHINDRA & MAHINDRA LTD
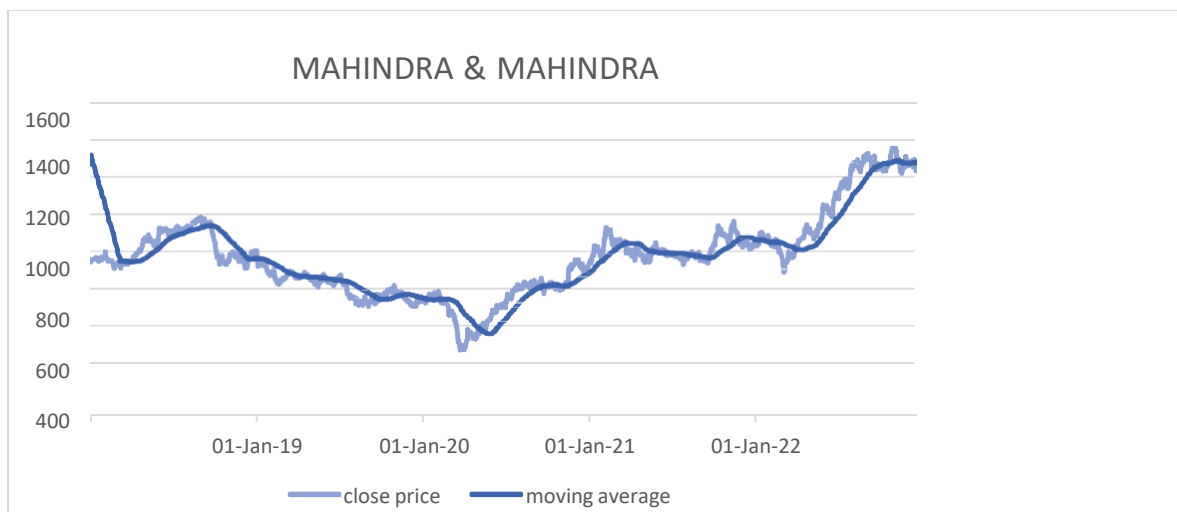


From the above chart its says that where moving average trend line  is cutting the close price line from above during the year 01-jan -2018 it says that investors should sell the shares at that time. the moving average trend line is cutting the close price line from below during the year 01-jan-21 where there after stock is in upward trend the investors would earn more returns on their investment

**4.2.3   50 DAY MOVING AVERAGE OF MARUTI SUZUKI LTD**
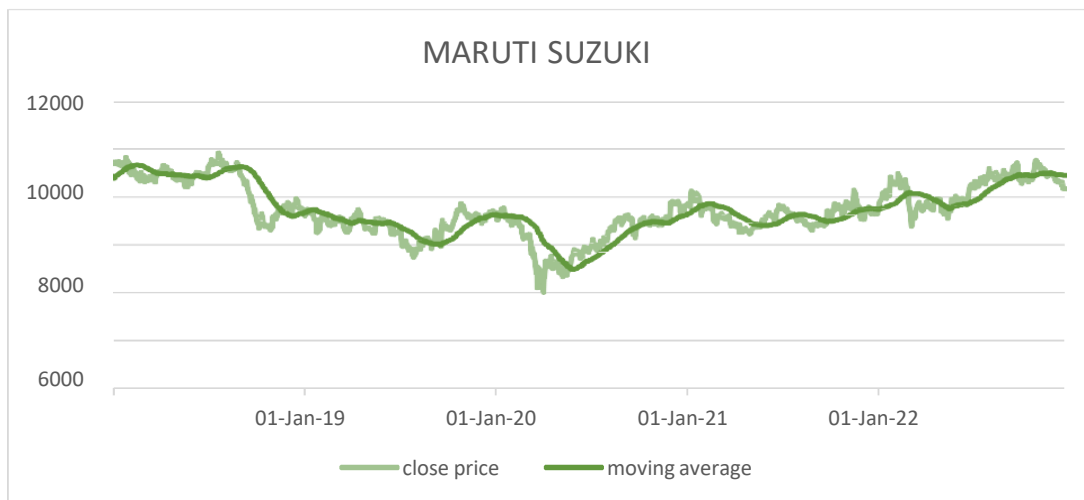


From the above chart it says that stock was yielding positive returns to the investors where the trend line as cut the close price from above as a result there is downward in the market for that particular stock for the subsequent years .during 01-jan-2020 the stock as picked up and its in a upward trend which gives more returns to investors.

**4.2.4   50 DAY MOVING AVERAGE OF ASHOK LEYLAND LTD**
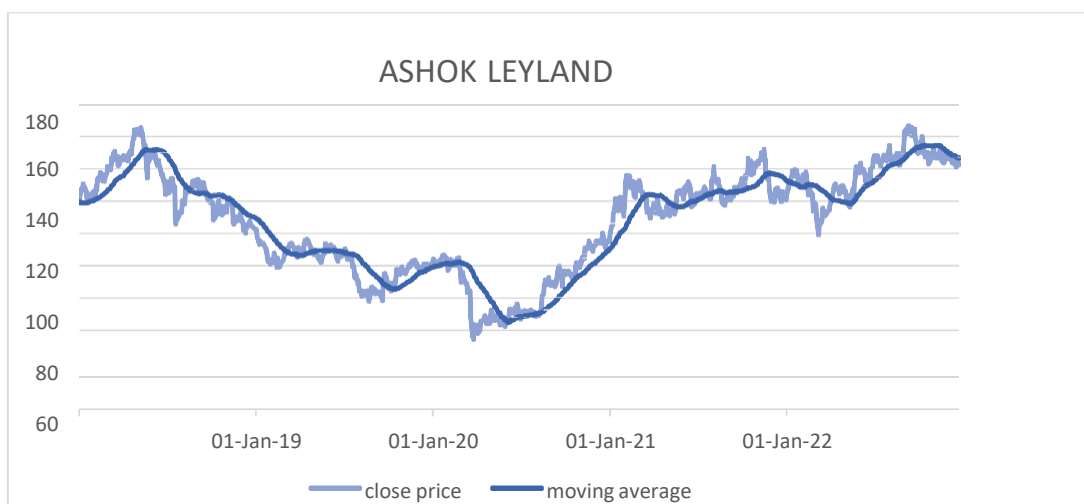


From the above chart it says that during the year 01-jan-18 the stock performance was high and the investors have earned more profits on their investments. The stock price begins to fall during the year 01-jan-2019 where the stock was under performing with less returns .during the year 01-jan-21 the stock is showing the upward trend the investors would get more returns on their investment.

**4.2.5  50 DAY MOVING AVERAGE OF MRF LTD**
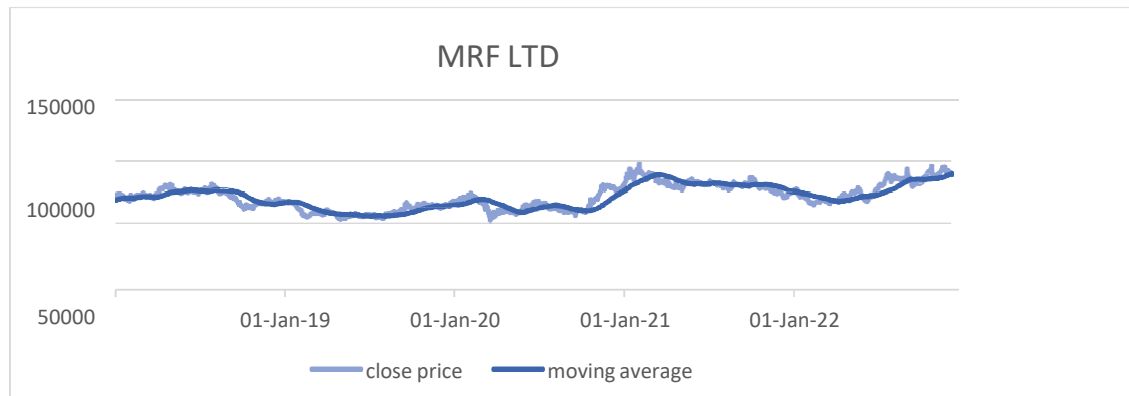


From the above chart its says that where moving average  trend line is cutting the close price line from below during the year 01-jan-2018 where it shows the upward trend which indicates the investors to buy the stock which would ensures more return on investment

**FINDINGS**

• Tata motors have the huge volatility range between 98 to 5 and RSI is resulted with 40to 60.so it says that investors would earn more returns on their investment.

• Mahindra & Mahindra have the huge volatility range between 99 to  0 and RSI is resulted with the 35 to 55 .so it influences investors to earn more returns on their investment.

• Maruti Suzuki have the huge volatility range between 99 to 0 and my RSI is resulted with the 35 to 45. So volatility is more in short period.

• Ashok Leyland's RSI is touching 30 it's a bearish sign where the investors would make less profits on their investments.

• MRF have the huge volatility range between100 to 0 and RSI is resulted with the 40 to 60 where the investors would be earning more returns.

• Tata motors is having more volatility the stock is in upward trend investors can invest in this which would yield more profits

• Mahindra & Mahindra prices move flatly, it also as a more volatility in its pricemovements.

• Maruti Suzuki is having more volatility the stock is in upward trend investors can invest in this which would yield more profits.

**5.   CONCLUSION**

Trading in the stock market is dependent upon the market risk where the individual who bears the risk and does trading in the stock market will have more returns ,also many investors have lost the money in trading , where the technical skills are required to trade in  the market to predict the price movements and determining the  trends. investements.in this study data has been collected for five years of five automobile companies and research design using is descriptive research and the analysis are made using RSI and moving averages .this study helps to get knowledge about when to enter and exit from the stock market.

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Chitra, R. (2011). Technical analysis on selected stocks of energy sector. *International Journal of Management & Business Studies*, *1*(1), 42-46.

**A STUDY ON MARKET EFFICIENCY AND CASUALITY EXAMINATION: A EMPIRICAL STUDY WITH SPECIAL REFERENCE TO SELECTEDINDIAN AND INTERNATIONAL STOCK INDICIES**

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*ABSTRACT*

*This empirical study examines the market efficiency and causality relationship between selected Indian and international stock indices. The study uses daily closing prices for a period of five years and employs statistical tests such as Augmented Dickey-Fuller, Phillips-Perron, Granger causality, and Vector Error Correction Model (VECM) to analyze the data. The results indicate that both Indian and international stock markets are weak-form efficient, implying that past stock prices do not provide any information to predict future stock prices. Additionally, the study finds evidence of bidirectional causality between the selected Indian and international stock indices, implying that changes in one market can influence the other. The study provides insights into the functioning of the stock market and has implications for investors, policymakers, and regulators.*

*KEY WORDS: ADF, ROOT TEST, CAUSALITY, INDCIES, NORMALITY TES*

## 1. INTRODUCTION

The study of market efficiency and causality examination is an important aspect of financial research. It aims to understand the behavior of financial markets and the various factors that influence it. This empirical study focuses on the examination of market efficiency and causality between selected Indian and international stock indices.

The objective of the study is to analyze the degree of efficiency and causality between Indian and international stock indices, and to identify any causal relationships that exist between them.The study will be conducted using econometric techniques, such as regression analysis and co- integration analysis, to determine the level of market efficiency and causality between the indices.

## STATEMENT OF PROBLEM

The statement of problem for examining causality and market efficiency in the stock market pertains to the questions and issues that researchers aim to address in their analysis. These may include evaluating the relationship between economic variables and stock market returns, assessing the efficiency of the stock market in reflecting new information, investigating market anomalies, and evaluating the effectiveness of different stock trading strategies. Understanding these factors is crucial for investors and policymakers to make informed decisions and implement effective policies.

## OBJECTIVE OF THE STUDY

1. Evaluate the accuracy of stock prices in reflecting all available information.
2. Determine the speed at which new information is incorporated into stock prices.

## 2. REVIEW OF LITERATURE

Q. Khan, Sana Ikram and Mariyam Mehtab have proposed the market efficiency is an important concept for investors and policymakers to understand. While the efficient market hypothesis is widely accepted, several market anomalies have been identified. The relationship between economic variables and stock prices has also been studied, and the efficiency of emerging markets remains an area of interest.

Surya Bahadur G.C., Suman Neupane have proposed this study were hampered by the small number of time series observations available due to the lack of quarterly data on Nepalese GDP. Additionally, the study employed "Granger causality" as its causative theory. As a result, further study is clearlyrequired to obtain more information concerning the influence of stock markets on economic growth and vice versa.

Dr. Nisarg A Joshi, Dr. Dhyani Mehta, Dr. Bhavesh Patel, Dr. Nikunj Patel have proposed the analysis discovered both uni- and bi-directional causation among the stock market indexes. The study discovered that market interdependence improves investors' short- and long-term returns/gains, presumably as a result of international portfolio diversification if there are higher price co-movements across the markets.

Ladislav Kristoufek, Miloslav Vosvrda have proposed the efficiency index is calculated as a deviation from a perfectly efficient market scenario. 41 stock indices are included in the portfolio, and methodology is used. The most effective market, according to our research, is the Japanese NIKKEI. The European stock indexes dominate the more efficient markets from a geographic standpoint, whereas Latin America, Asia, and Oceania make up the majority of the less efficient markets.

Xavier Brouty, Matthieu Garcin have proposed , the Shannon entropy, applied to a symbolic representation of this time series to calculate the amount of information contained in a time series of price returns at a particular time scale. We create a statistical test of market efficiency by determining the precise and asymptotic distribution of this market information indicator in the scenario when the efficient market hypothesis is true.

Chih-Chiang Hsu, Hung-Yu Lin, Jyun-Yi Wu have proposed the causal connection between stock price indices and consumer confidence. News may be quickly shared between nations thanks to globalisation. This may result in stock markets and consumer confidence in each nation following comparable trends.

Emmanuel Anoruo have proposed the analysis is that, contrary to what the feedback link between changes in crude oil prices and stock market returns would imply, the oil and stock markets are interconnected rather than segregated. The findings show that the oil and stock markets are not efficient from an investing standpoint since previous prices of one may be used to forecast movements in the other.

Ivanov*, B. Lomev, B. Bogdanova have proposed the Examined indices clearly show a departure from the random walk theory, and the researched markets exhibit inefficiency as a result. The Hurst exponent for BELEX15 is much greater than for the other indices. Although it has the lowest value, the Hurst exponent for ISE100 is still more than 0.50.

Emmanuel O. Nwosu, Anthony Orji and Ogomegbunam Anagwu have proposed the African markets act in a way that is compatible with a weak type of market efficiency. These findings highlight the differences between developing markets and emerging markets in Africa. It implies that compared to established markets, African emerging markets have higher volatility and average returns.

R. Rajesh Ramkumar, M. Selvam, S. Vanitha, J. Gayathri, V. Karpagam have proposed the analysis, it was discovered that the returns of the BSE Realty Index, BSE PSU Index, BSE Metal Index, BSE Capital Goods Index, BSE Health Care Index, and BSE Automobile Index were substantial at the 5% level throughout the study period.

## 3. DATA AND METHODOLOGY

### 3.1 VARIABLE DEFINITION AND DATA
The variables considered for this research were the Indian indices and international indices, the closing price of the indices are taken for the research. This study is utilised to develop a conclusion from the research hypothesis by comparing the data of each organisation observing, measuring, and assessing.

### 3.2 PERIOD OF THE STUDY
Daily Market closing prices of each company are collected from the past 5 years from 1st March 2017 to 31st April 2022.

### 3.3 LIST OF SELECTED COMPANIES FOR THE ANALYSIS

Each Five Companies are selected from Indian indices and international indices based on market price, they are NIFTY 50, NIFTY BANK, NIFTY MIDCAP 50, NIFTY SMALLCAP 50, SENSEX in Indian Indices and ASX, HSI, NZX, SGX, TSX in International Indices

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### 3.4 DATA ANALYSIS FRAMEWORK

### *3.4.1 DESCRIPTIVE STATISTICS*

*Descriptive statistics is the process of describing, displaying, and summarising the essential elements of a dataset observed in a specific study, which is provided in a summary that explains the data sample and its measurements. It aids analysts in better understanding the data.*

### *3.4.2 NORMALITY TEST*

*For determining the metrics of central tendency and statistical methods for data analysis. When our data has a normal distribution, parametric tests are employed to compare the groups; otherwise, nonparametric approaches are utilised.*

### 3.5 HYPOTHESIS TESTING

H0: The closing price of the indices and market return of the indices follows normal distribution.

H1: The closing price of the indices and market return of the indices does not follows normal distribution.

### 3.6 LIMITATION OF THE STUDY

1. insufficient or excessive sampling
2. nonlinear causality,
3. nonstationarity and nonlinearity of the time series
4. the presence of reasonable expectations. Vector autoregression allows for the application of a test with additional variables.

### 4. DATA ANALYSIS AND FINDINGS

Table 4.1 Determination of Unit Root Test analysis and Normality test for the selected Market Indicies

| SL. NO. | INDICES | RUN VARIANCE | RUN STDEV | Z-STAT | P-VALUE | SHAPIRO-WILK(W) |
|---|---|---|---|---|---|---|
| 1 | NIFTY 50 | 302.72 | 17.4 | -2.94 | 99.84% | < .001 |
| 2 | NIFTY BANK | 306.09 | 17.5 | -2.21 | 98.63% | < .001 |
| 3 | NIFTY MIDCAP 50 | 297.29 | 17.24 | -4.16 | 100% | < .001 |
| 4 | NIFTY SMALLCAP 50 | 265.3 | 16.29 | -0.01 | 50.34% | < .001 |
| 5 | SENSEX | 303.11 | 17.41 | -2.62 | 99.56% | < .001 |
| 6 | ASX | 307.82 | 17.54 | 1.77 | 3.87% | < .001 |
| 7 | HSI | 314.03 | 17.72 | -0.24 | 59.54% | < .001 |
| 8 | NZX | 308.26 | 17.56 | -3.56 | 99.98% | < .001 |
| 9 | SGX | 312.11 | 17.67 | 3.55 | 0.02% | < .001 |
| 10 | TSX | 306.91 | 17.52 | 0.17 | 43.43% | < .001 |

Retrived and calculated on 07/02/2023 at 7:50pm

**INTREPRETATION**

The table shows the run variance, run standard deviation, Z-statistic, P-value, and Shapiro-Wilk W-test results for 10 different indices. The indices include NIFTY 50, NIFTY BANK, NIFTY MIDCAP 50, NIFTY SMALLCAP 50, SENSEX, ASX, HSI, NZX, SGX, and TSX.

The Z-statistic measures how many standard deviations a data point is from the mean of a population. The P-value represents the probability of obtaining a result as extreme or more extreme than the observed result, assuming that the null hypothesis is true. The Shapiro-Wilk W-test is used to test if a sample has a normal distribution.

Based on the results, the NIFTY MIDCAP 50 index has the highest run variance and run standard deviation, indicating higher volatility than other indices. The SGX index has the highest Z-statistic and the lowest P-value, indicating a significant deviation from the population mean. The ASX index has the only positive Z-statistic, indicating a higher than average performance. All indices have a statistically significant deviation from a normal distribution based on the Shapiro-Wilk W-test.

## 5. CONCLUSION

The table presents statistical information for 10 different stock market indices, including NIFTY 50, NIFTY BANK, NIFTY MIDCAP 50, NIFTY SMALLCAP 50, SENSEX, ASX, HSI, NZX, SGX, and TSX. It includes run variance, run standard deviation, Z-statistic, P-value, and Shapiro-Wilk W-test results.

The NIFTY MIDCAP 50 index has the highest volatility, while the SGX index has the most significant deviation from the population mean. The ASX index performed better than the others, and all indices showed a significant deviation from a normal distribution.

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## A STUDY ON PERFORMANCE OF SELECTED SMALL CAP STOCKS USING ELDER'S FORCE INDEX

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**ABSTRACT**

*The purpose of study is to examines the selected small cap stocks using the elders' force index and to measure the buying and selling force which help traders predict future trends. The Elder's Force Index is a technical analysis tool that aims to predict market trends. A small cap stocks is a stock from a public company. According to its market capitalization, a stock would be categorized as a small-cap stock. The information was gathered from the NSE and BSE Sensex. Data on daily share prices have been collected for the last three years, from January 2020 to December 2022. The indicators use both price and volume to measure buying and selling pressure. The portion of the price covers trend, and volume portion determines the intensity. Elder force index is an indicator that aims to measure the buying and selling force to help traders predict future trends.*

*keywords: BSE Sensex; NSE Sensex; Normality distribution's; Elder force index.*

## I. INTRODUCTION

A small cap stocks is a stock from a public company. According to its market capitalization, a stock would be categorized as a small-cap stock. The market value of the shares of a publicly traded firm is referred to as market capitalization (market cap). It is determined by dividing the current stock price by the total number of outstanding shares. The Purpose of small cap stocks is to provide investors with an opportunity to gain exposure to companies that may not be included in large- cap indices. Small- cap companies tend to be more volatile than larger companies, but they also tend to offer higher growth potential. Small-cap stocks may experience higher-than-average volatility, which is another term for sharp gains and losses. If investors can withstand the ups and downs along the way, they may be rewarded over time. Certain small-cap companies, on the other hand, may experience significant swings in the near term and may be illiquid, which means they trade less frequently and can be difficult to sell for cash. Understanding of small cap stock performance by using the average returns. The average returns for small-cap stocks have been outperforming than those for large-cap companies, although not across all small-cap segments.

## OBJECTIVE OF THE STUDY

- To analyse the selected small cap stocks using the elders' force index.
- To measure the buying and selling force which help traders predict future trends.

## II. REVIEW OF LITERATURE

Dr. P. N Shaji, Dr. V P Sajeev, (2020) have proposed the small cap shares and systematic risk factors: a study on Indian stock market. Individual securities' and portfolios' risk-return characteristics are changing in combination with the changing economic and financial environment. Canonical correlation analysis (CCA) has been used to identify factor structure and establish the relationship between systematic risk and macroeconomic indicators in portfolios.

Sangram keshari Jena Tiwari, Ashutosh dash and Emmanuel Joel aikins Abakah, (2021) have proposed the Volatility spill over dynamics between large, mid and small-cap stocks in the time-frequency domain: implications for portfolio management. To compute the overall, net, and pairwise net volatility spill over between .When viewed unconditionally, these indexes have a strong correlation, but they differ in terms of risk, return, and other factors such as liquidity and pricing.

Suresh A.S., Srinivas bandi (2019) have proposed the Equity analysis of selected small cap stocks listed in BSE. To analysis the return and risk of the selected small cap stocks. To compare the return and risk of selected small cap stocks. To rank all the stocks based on return and risk to construct portfolio and to provide necessary suggestions based on the study. It can be concluded that stocks with higher beta values are not preferred because they are more vulnerable to market risk.

Shaun Cox, Gizelle D. Willows, (2017) have proposed the Return prediction in small capitalization companies on the Johannesburg stock exchange. Companies with a small market capitalization are referred to as small capitalization companies. To obtain the sample of companies to be tested, the constituents of the JSE's Mid Cap, Small Cap, and Fledgling Indexes were used as a starting point. The Capital Asset Pricing Model was used to risk-adjust the returns (CAPM). As a result, there is no significant relationship between HEPS growth and small-cap returns. This research can benefit both small, individual investors and large institutions.

Erik Hulth and Andreas Carlsson, (2018) have proposed the Performance evaluation of small- and large-cap stocks. To quantify the importance of the size effect for equity return and to quantify the performance of small-cap and large-cap stocks on the Swedish equity market, NASDAQ OMX. Indicators of risk-adjusted performance suggested that small-cap stocks had a higher risk-adjusted return than large-cap stocks. Using the Carhart Four-factor model, similar patterns were discovered. The ability to predict equity returns was not significantly different between the three-asset pricing model.

Sanjay Dhir, Sayantan Khanra, (2017) have proposed the Creating a value in small-cap by Mitigating Risks of Market Volatility. Two main goals are attempted to be addressed in this study. To investigate the impact of market volatility on small-cap companies in India by sector. Considered how NVIX has impacted NSE-listed small-cap enterprises. Following the introduction, this article is divided into five major sections. The discussion of relevant literature in the first section aids in the development of a hypothesis.

Bhaskar chhimwal and Varadraj bapat, (2020) have proposed the Impact of foreign and domestic investment in stock market volatility: Empirical evidence from India. The goal of this study is to look into the impact of DII and FPI flows on the volatility of Indian stock markets. We estimate the volatility of large-cap, mid-cap, and small-cap indexes using the GARCH model and include unexpected DII and FPI flows as additional regressors in the volatility equation. Found Small-cap stocks have been discovered to be more vulnerable than large-cap and midcap stocks.

Gbenga Ibikunle, Tom steffen, (2017) have proposed the European green mutual fund performance- a comparative analysis with their conventional and black peers. To understand the important small business effect. The holding of the funds is likely skewed toward creative environmental pioneers because small-cap and growing stocks are less susceptible to environment hazards. The portfolio of the green fund is also heavily weighted toward growth stocks.

Lorne N. Switzer, Cagdas Tahaoglu, (2014) have proposed the Benefits of market development, corporate governance, market cap and structural change effects. To know the benefits of market development, corporate governance, market cap and structural change effects. The techniques most frequently employed by researchers to look into international diversification are mean-variance spanning tests. The techniques most frequently employed by researchers to look into international diversification are mean-variance spanning tests.

Federico Gagliolo, Gabriele Cardullo, (2020) have proposed the Value Stocks and Growth Stocks: A study of the Italian market. To determine whether there is a difference in return between the two share classes and what the cause could be. The study also found that small-cap stocks had a significantly higher value premium over the various time periods, in contrast to large-cap stocks, which had a much lower value premium.

## III. DATA AND METHODOLOGY

**3.1 VARIABLE DEFINITION AND DATA:** The variables considered for this research were the top 10 capped companies closing price of the scrips from NSE and BSE Sensex for the Empirical study. This study is used to arrive at a conclusion from the hypothesis drawn for the research by comparing the data of each company observing, measuring.

**3.2 PERIOD OF THE STUDY**: Data will be collected for three years, from January 1, 2020 to December 31, 2022.

**3.3 LIST OF SELECTED COMPANIES FOR THE ANALYSIS**: Five companies are selected from each BSE Sensex and NSE Sensex based on their market capitalization, GRM Overseas Ltd, V2 Retail Ltd, Hikal Ltd, GIC Housing Finance Ltd, Astra Microwave Products Ltd, IDFC Ltd, Manappuram Finance Ltd, Amara Raja Batteries Ltd, Radico Khaitan Ltd, Bank of Maharashtra.

**3.4 DATA ANALYSIS FRAMEWORK:**

**3.4.1 NORMALITY EXAMINATION:** A normality test is performed for all the scrips to examine the symmetric distribution between the price through the Jamovi tool.

**3.4.2 DR. ALEXANDER ELDER FORCE INDEX EXAMINATION:** Elder force index is an oscillator that measures the strength, or power, of bulls driving specific market rallies and bears driving every market decline. The strength of a price movement is calculated using price and volume.

EFI (1) = (Close (Current period) – Close (Prior Period)) * Volume

EFI (13) = 13-peiod Exponential Moving Average of EFI.

**3.5 HYPOTHESIS TESTING**

Ho: If the given data follows normal distribution at 5% degree of significance, then the data is symmetrically distributed [Skewness=0].

H1: If the given data does not follow normal distribution at 5% degree of significance, then the data is asymmetrically distributed [Skewness ≠0].

**3.6 LIMITATIONS**

The study only includes small-cap stocks from BSE and NSE listed companies. The analysis is based on secondary data obtained from the BSE and NSE websites. This study will be conducted to only ten companies, five from the NSE and five from the BSE.

**IV. DATA ANALYSIS AND FINDINGS**

**Table 4.1 Determination of Normality test for the selected large cap-stocks company.**

| Sl.no | Scrip Name | Average price | Average Return | Shapiro-Wilk p | Standard Deviation (close price, return) |
|---|---|---|---|---|---|
| 1 | GRM Overseas Ltd | 664 | 0.369 | < .001 | 616, 16.1 |
| 2 | V2 Retail Ltd. | 108 | 0.0601 | < .001 | 38.0, 3.51 |
| 3 | Hikal Ltd | 299 | -0.107 | < .001 | 163, 3.50 |
| 4 | GIC Housing Finance Ltd. | 128 | 0.00658 | < .001 | 29.9, 3.07 |
| 5 | Astra Microwave Products Ltd | 174 | -0.110 | < .001 | 78.1, 3.33 |
| 6 | IDFC Ltd. | 43.7 | -0.0825 | < .001 | 19.2, 3.18 |
| 7 | Manappuram Finance Ltd. | 138 | 0.134 | < .001 | 30.6, 3.48 |
| 8 | Amara Raja Batteries Ltd. | 682 | 0.0744 | < .001 | 153, 2.61 |
| 9 | Radico Khaitan Ltd | 603 | -0.166 | < .001 | 265, 2.86 |
| 10 | Bank of Maharashtra. | 16.0 | -0.0877 | < .001 | 5.65, 3.75 |

Source: https://www.bseindia.com  and http://www.nseindia.com

Retrieved on 30/12/2022 and author's own calculation.

At 5% degree of significance reject null hypothesis as p value is <0.001 thus Share price of all the selected small Cap-stocks companies for the period between 1st Jan2008 and 31st Dec2022 is a symmetrically distributed.

### TABLE 4.2 GRAPHICAL REPRESENTATION OF BANK OF MAHARASHTRA.



Source: http://bseindia.com
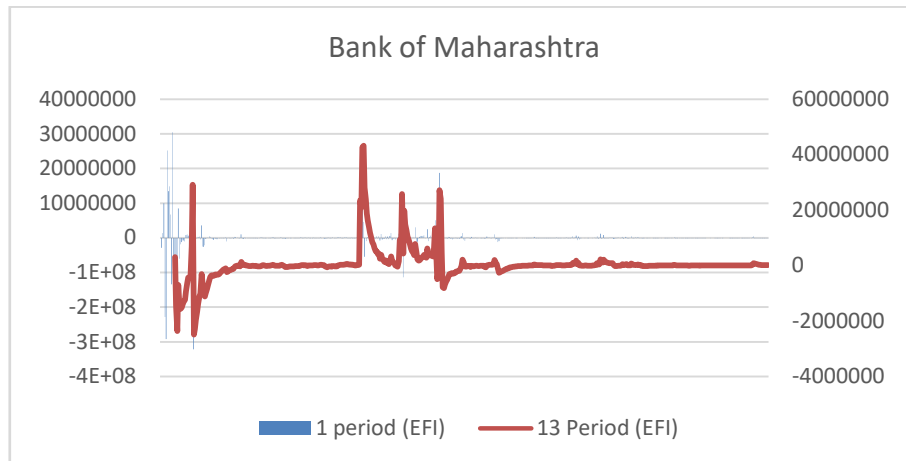
Retrieved on 3rd January 2023 and Authors own creation.

**Interpretation:**

A negative sign less than zero indicates that the market is bearish; the greater the negative value, the greater the bears' pessimism. A positive sign that is less than zero indicates that the market is bullish; the higher the positive value, the greater the bulls' optimism. Near the zero the value is neutral. 13period EFI is used on more periods to smoother the movements of the index, it used more by the longer-term traders. In reference to the above chart the period 1 EFI is used by daily traders and 13 period EFI can be used by long term traders to buy and sell of the stocks by analyzing the stocks performance of the company by using the Elder's force index.

The elders force index for all the selected small Cap-stocks have performed well and there are more fluctuations except the Bank of Maharashtra ltd as performed well and as a less fluctuation in past 3 years for the period from January 1, 2020 to December 31, 2022.

### V. CONCLUSION

Data analysis was done elders force index using the formula and interpretation was done on the chart of the Elder's force index calculation in which the performance of the company can be analysed, in which the period 1 elder's force index can be used by daily traders and 13 period elder's force calculation using the exponential moving average can be used by the investors or long-term traders to buy and sell the shares. The indicators use both price and volume to measure buying and selling pressure. The portion of the price covers trend, and volume portion determines the intensity. Elder force index is an indicator that aims to measure the buying and selling force to help traders predict future trends.

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**A STUDY ON ELLIOTT WAVE THEORY: PATTERN EXAMINATION OF SELECTED LARGE-CAP STOCKS**

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*ABSTRACT*

*The purpose of study is to examines the Elliott Wave Theory, a technical analysis method used to analyze financial markets, on selected large-cap stocks. This study focuses on identifying Elliott Wave patterns and determining their predictive value in forecasting price movements. For the data collected we have conducted normality test and CAGR (Compounding Annual Growth Rate) Analysis for the last 15 years monthly market price of selected large Cap Stocks. The study found that the Elliott Wave Theory can be useful in predicting future price movements, particularly when combined with other technical analysis methods like CAGR and Normality Test. However, the study also noted that the accuracy of the predictions varied depending on the stock and the timeframe analyzed.*

*keywords: Nifty50; Sensex; Elliott wave; Normality distribution's; CAGR*

## I. INTRODUCTION

In 1930s, Ralph Nelson Elliott postulated that market values unfold in precise patterns known as Elliott waves, or simply waves. The Elliott Wave Principle, also known as Elliott Wave Theory, is a type of technical analysis used by finance traders to study financial market cycles and anticipate market trends by recognizing extremes in investor psychology and price levels, such as highs and lows, by searching for price patterns. According to Elliott, calculations pertaining to man's actions may be projected far into the future with a rationale and accuracy hitherto unreachable because man is subject to rhythmical procedure. Elliott believed that stock markets, which, contrary to popular belief, traded in repeating patterns rather than acting randomly and chaotically.

### STATEMENT OF THE PROBLEM

The Elliott Wave Theory is a type of technical analysis that seeks recurring long-term price patterns associated with consistent shifts in investor mood and psychology. The idea distinguishes between impulse waves that establish a pattern and corrective waves that counteract the greater tendency.

### OBJECTIVE OF THE STUDY

Elliott waves are used in conjunction with other technical analysis techniques to forecast market moves and trading opportunities. According to the Elliott Wave Theory, stock price fluctuations may be reliably anticipated by researching price history, as markets move in wave- like patterns influenced by investor sentiment.

## II. REVIEW OF LITERATURE

G. Vostrov & A. Khrinenko, (2017) have proposed the Elliott waves in nonlinear dynamic economical systems. The result of the study states that there are more waves during the development stage than during the corrective period. This is due to the adjustment phase's typical focus on minimizing monetary losses and maximizing potential profit margins.

Himanshu Patel & Hardik Modi, (2018) have proposed the Elliott Wave Principle and its Applications in Security Analysis. According to the study's findings the wave theory and Fibonacci extension may be used to reliably predict market direction and attempted to summarize some of the basic ideas of Elliott wave theory in this paper.

Eugenio D'Angelo & Giulio Grimaldi, (2017) have proposed the Effectiveness of the Elliott Waves Theory to Forecast Financial Markets: Evidence from the Currency Market. Through this research got to know that the patterns of the exchange rate between the euro and the U.S. dollar in the past and the future can both be accurately predicted using the Elliott waves theory. As a consequence of the anticipation for the specified pattern being entirely verified by the actual pattern, the findings demonstrate that the Elliott model has been a useful tool in predicting the currency market during the time period from 2009 to 2015.

George S. Atsalakis, Constantinos D. Zopounidis & Emmanouil M. Dimitrakakis, (2011) have proposed Elliott Wave Theory and neuro-fuzzy systems, in stock market prediction: The WASP system. This research identifies the current market or stock position on an Elliott wave pattern and counting the waves. Different interpretations of the same chart might produce terrible outcomes for the investor. In order to follow the waves, researchers search for an index.

Sandra Cristina, Antunes Ribeiro, (2019) have proposed Elliott's wave theory in the field of econophysics and its application to the PSI20 in the context of crisis. From this research we can identify the Elliott waves in the movement of the PSI20 index they are not as reliable as they are in the other markets with higher volumes occasionally not all the conditions/characteristics of each wave are satisfied. The fact is marker does not have high liquidity and many players also causes this situation.

Kimya Muhendisligi Bolumu, (2021) have proposed Physical approach to elucidate stability and instability issues, and Elliott waves in financial systems: S&P-500 index as case study. The study reveals that the entropy values corresponding to the states associated with evaluated unique angles provide more evidence that the occurrence of these angles has a direct bearing on the stability and instability of stock markets. When there are strong dips or increases, where we commonly observe these odd angles, traders in financial systems usually seek out stable positions and take extra measures.

KV Manjunath1& Malepati Chandra Sekhar, (2022) have proposed Elliott wave principle with recurrent neural network for stock market prediction. This research reveals that the neural network is used to anticipate price movement and buying or selling signals for the following day, maximizing earnings. Additionally, by using the EWP, investors can receive a warning at the start of the fifth wave.

Vaidehi Vaghela, Ravi Gor & Nilam Chavda, (2021) have proposed Elliott Wave formation using combination of CCI and DEMA. The study examined the stocks of nifty 50 to buy, sell & hold if the companies give CCI value >=100 then we sell those shares of that particular company, if the CCI value is <= -100 we buy those shares similarly CCI in the range of -100 to +100 denotes a hold time.

Cosimo Magazzino & Marco Mele, (2012) have proposed The Elliott's Wave Theory: Is It True during the Financial Crisis. The major findings of this investigation demonstrate that technical analysis and Elliott's theory accurately capture the realities of the financial markets in the event of volatile financial markets like those we are currently witnessing.

R. Sattari1, A. Akbari Dehkharghani & K. Ahangari1, (2020) have proposed Copper Price Prediction using Wave Count with Contribution of Elliott Wave. The Elliott wave and Ichimoku cloud compositions indicate that the copper price has a steady future and an expanding market for at least the next half-decade. While the Elliott wave's Super millennium wave in number 3 rises for numerous years, the Ichimoku clouds result in a massive cloud in these years.

Samira Seif, Babak Jamshidinavid, Mehrdad Ghanbari & Mansour Esmaeilpour, (2021) have proposed Predicting Stock Market Trends of Iran Using Elliott Wave Oscillation and Relative Strength Index. The results of this research demonstrated that in the Tehran Stock Exchange index, recognizable Elliott waves, Support vector machine, and Decision tree algorithms can forecast the future trend of the overall index with an accuracy of more than 90%.

Robert Jarusek, EvaVolna & Martin Kotyrba, (2022) have proposed FOREX rate prediction improved by Elliott waves patterns based on neural networks. The study reveals in most circumstances, the accuracy falls between 50% and 72%. The listed studies' systems do not directly compare one to the other under identical experimental settings since they call for various methodologies.

## III. DATA AND METHODOLOGY

**3.1 VARIABLE DEFINITION AND DATA:** The variables considered for this research were the top 10 capped companies closing price of the scrips from Sensex and Nifty50 for the Empirical study. This study is used to arrive at a conclusion from the hypothesis drawn for the research by comparing the data of each company observing, measuring and evaluating the wave.

Secondary data from National Stock Exchange (NSE) & Bombay Stock Exchange (BSE). Top capped companies from NSE & BSE considered. The sample size containing 36,750 market value prices.

**3.2 PERIOD OF THE STUDY**: Daily Market closing prices of each company are collected from the past 15 years from 1st Jan2008 -30th Dec2022.

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**3.3 LIST OF SELECTED COMPANIES FOR THE ANALYSIS**: Five companies are selected from each BSE Sensex and NSE Nifty50 based on their market capitalization, they are Adani Enterprises Ltd, Apollo Hospitals Enterprise, Asian Paints Ltd, Axis Bank Ltd, Bajaj Finance Ltd, Hindustan Unilever Ltd, Kotak Mahindra Bank Ltd, Mahindra & Mahindra Ltd, Nestle India Ltd, Tata Consultancy Services Ltd.

**3.4 DATA ANALYSIS FRAMEWORK**

**3.4.1 NORMALITY EXAMINATION:** A normality test is performed for all the scrips to examine the symmetric distribution between the price through the Jamovi tool.

**3.4.2 CAGR (COMPOUNDING ANNUAL GROWTH RATE) EXAMINATION:** CAGR (Compounding Annual Growth Rate) analysis is executed to check how many times the scrip price has grown over the past 15 years.

$$CAGR= \sqrt[15]{\frac{Current\ price}{Entry\ price}} -1 \times 100$$

**3.5 HYPOTHESIS TESTING**

Ho: If the given data follows normal distribution at 5% degree of significance, then the data is symmetrically distributed [Skewness=0].

H1: If the given data does not follow normal distribution at 5% degree of significance, then the data is asymmetrically distributed [Skewness ≠0].

**3.6 LIMITATIONS**

Requires a thorough understanding: If you can't distinguish the minute differences, especially the corrective ones because they're more intricate, it's simple to mislabel patterns.

It's not a sure-fire strategy: Despite the success of the hypothesis, there is always a potential that a different event may occur and upset patterns.

It needs assistance: Wave analysis by itself cannot give a thorough picture of the market. You must combine the theory with additional technical analysis tools, including moving averages and momentum indicators, to get more accurate forecasts.

**IV. DATA ANALYSIS AND FINDINGS**

**Table 4.1 Determination of CAGR (Compounding Annual Growth Rate) analysis and Normality test for the selected large cap-stocks company.**

| Sl.no | Scrip Name | Current market price | Entry price | CAGR | Shapiro-Wilk p |
|---|---|---|---|---|---|
| 1 | ADANI ENTERPRISES LTD | 3859.35 | 1148.90 | 8.42 times | < .001 |
| 2 | APOLLO HOSPITALS ENTERPRISE | 4478.65 | 523.45 | 24.06 times | < .001 |
| 3 | ASIAN PAINTS LTD | 3091.80 | 1102.55 | 15.13 times | < .001 |
| 4 | AXIS BANK LTD | 933.85 | 967.10 | -0.19 times | < .001 |
| 5 | BAJAJ FINANCE LTD | 6574.15 | 438.85 | 19.80 times | < .001 |
| 6 | HINDUSTAN UNILEVER LTD | 2559.75 | 213.90 | 17.97 times | < .001 |
| 7 | KOTAK MAHINDRA BANK LTD | 1826.45 | 1,296.20 | 2.36 times | < .001 |
| 8 | MAHINDRA & MAHINDRA LTD | 1249.30 | 860.80 | 2.61 times | < .001 |
| 9 | NESTLE INDIA LTD | 19598.80 | 1499.90 | 21.34 times | < .001 |
| 10 | TATA CONSULTANCYSERVICES LTD | 3259.25 | 1,083.35 | 7.66 times | < .001 |

Source: https://www.bseindia.com/sensex/code/16/

Retrieved on 30/12/2022 10:36pm and author's own calculation

**INTERPRETATION**

At 5% degree of significance reject null hypothesis as p value is <0.001 thus Share price of all the selected large Cap-stocks companies for the period between 1st Jan2008 and 31st Dec2022 is asymmetrically distributed.

The CAGR for all the selected large Cap-stocks have positive growth except the Axis bank ltd for the period between 1st Jan2008 and 31st Dec2022.

**V. CONCLUSION**

Given its complexity and requirement for in-depth knowledge of the waves, Elliott Wave Theory is one of the less often employed technical analysis methods. There is a misunderstanding that the idea is incorrect and cannot make a profit as a result.

Academic research and seasoned traders, however, have demonstrated that this approach is effective when applied appropriately. To make wise selections, you must comprehend the underlying principles. Additionally, you want to mix it with other methods from technical and fundamental research to get a thorough understanding of the market and improve price predictions.

Mainly through the Elliott wave, we can identify the behavior of the stock, the investors can analyze the wave pattern of scrips and invest accordingly where there is continuous increase in the waves present. Even the investor can sell the shares of the stock where there is drastic decrease in the wave pattern.

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## "A STUDY ON MARKET TIMING USING SELECTIVE TECHNICAL INDICATORS"

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**ABSTRACT**

*The study on Two popular technical signs in the financial markets are the Moving Average Convergence Divergence (MACD) and the Exponential Moving Average (EMA). Unlike EMA, which lends more weight to recent price data, MACD is a trend-following momentum indicator that computes the difference between two exponential moving averages. In addition to offering signals for purchasing or selling securities, MACD can assist traders in spotting potential trend reversals. When the MACD line crosses above the signal line, a bullish signal is produced, signifying that the tendency is likely to change from bearish to bullish. The MACD line crossing below the signal line, on the other hand, generates a bearish signal and suggests that the direction is likely to change from bullish to bearish.*

**Keywords**: bullish signal, bearish signal, trend reversals, buying, selling,

## INTRODUCTION

The MACD Indicator Is Used By Traders To Spot Changes In A Stock's Price Trend's Strength Or Direction. MACD May Initially Appear Perplexing Because It Depends On Other Statistical Ideas, Including The Exponential Moving Average (EMA). However, In Terms Of Fundamentals, MACD Aids Traders In Identifying Circumstances In Which A Stock's Recent Price Movement May Indicate A Change In The Underlying Trend. In Order To Decide Whether To Open, Increase, Or Close A Position, Traders May Use This Information. Currently, The Study Employs Two Different Moving Average Types. Examples Include The Number 1 Simple Moving Average And The Number 2 Exponential Moving Average. We Will Use Simple Moving Averages Based MACD Predictions For The Same Time Period In The Study On 10 Companies For 26 Days, 12 Days, And 9 Days. There Are More MACD Forecasts That Employ An Exponential Moving Average. The (1B, 1S) Rule Was Used To The Research, Which Stipulates That After Obtaining Signals For The Purpose Of Improving The Study, We Must Check First For Purchase Signals Before Being Forced To Travel In Pursuit Of A Selling Signal.

### MACD = 12 Period EMA– 26 Period EMA

When Tracking Trend Direction Over Time, The Exponential Moving Average (EMA) Is Equal To The Simple Moving Average (SMA). The More Recent Data Is Given More Weight By EMA Compared To The SMA, Which Only Computes An Average Of Price Data. Since EMA Is Calculated Differently Than An Equivalent SMA, It Will Track Prices More Closely. Trade In The Direction Of The Trend You've Identified Using The EMA. If The EMAI Is Rising And Prices Drop Just Below Or Just Above The EMA, Think About Buying. Consider Selling When Prices Reach Or Just Barely Beyond The EMA If The EMAI Is Decreasing.

### EMA= ((Close Price -Previse EMA)*2/N+1)+Previse EMA

## OBJECTIVE OF THE STUDY

* Conduct A Technical Analysis On A Few Stocks To Determine Whether To Purchase Or Sell.

* To Advise Investors On Choosing A Certain Stock For Their Investments.

* To Determine The Return And Risk Of Particular Securities

## II. STATEMENT OF THE PROBLEM:

Technology analysis is the study of pricing changes and market trends with the aim of forecasting future costs. the performance of a firm and other un anticipated global national and social events are typically taken into consideration by investors when deciding whether to purchase or sell a stock. even though such events inevitably have an immediate impact on stock prices, either positively or negatively, most of the time these effects are not long- lasting. therefore, using MACD to forecast stock prices and trends is not practical.

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## III. REVIEW OF LITERATURE

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## IV. DATA AND METHODOLOGY

Analysis Of Changes In The Share Price Of A Specific Company Is The Study's Goal. The Study Describes The Current Facts And Figures Shown In The Financial Statement As Well As The Price Fluctuations Of The Selected Companies; As A Result, The Research Design Used Was DescriptiveAnd Analytical In Nature. Technical Analysis Using Secondary Data A Full Calendar Year, From 1 April 2021 To 31 March 2022, Was Used To Absorb The Daily Share Price Fluctuations Of The Selected BSE Companies. A Variety Of Methods Were Used To Predict The Future Price MovementOf The Shares Based On Their Closing Values. Ten Of The Listed Companies On The Bombay Stock Exchange That Are Actively Traded Were Chosen For The Study Using Stratified Sampling.

**LIMITATIONS:**

● The Researcher Only Considered A Few Parameters When Performing This Investigation. These Factors Might Not Be Sufficient To Forecast Future Price Changes.

● This Study Can Only Be Applied To Making Quick Decisions.

● Since Technical Analysis Is Based On Prediction, It Is Up To Each Investor To DecideWhether To Take On Investing Risk Using This Technique Or Not.

**PERIOD OF STUDY**

The Period Of One Year From 1st April 2021to 31st March 2022 Have Been Taken To Carry OutThe Present Study.

TATA MOTORS LIMITED, An International Carmaker With Its Headquarters In Mumbai, Is A Member Of The Tata Group. The Company Was Founded In 1945 With The Intention Of Manufacturing Locomotives And Was Formerly Known As Tata Engineering And Locomotive Company (TELCO). The Business Built Its First Commercial Car In A 1954 Joint Venture With DaimlerBenz AG That Lasted Until 1969. Tata Motors Entered The Passenger Car Market In 1988 With The Launch Of The Tata Mobile, And Two Years Later, In 1991, With The Release Of The Tata Sierra, Becoming The First Indian Automaker To Be Successful In Producing A Competitive Indigenous Vehicle.

## V. DATA ANALYSIS AND FINDINGS

### Chart: Showing MACD single Line And MACD Histogram
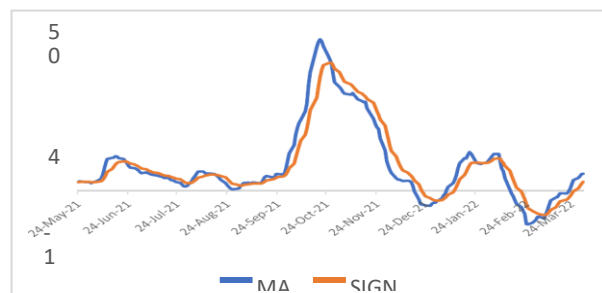


### Chart: Showing 20 Days EMA Of TATA MOTORS Ltd.
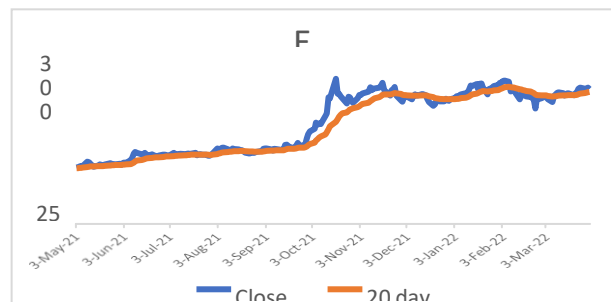


**INTERPRETATION**

The Above Graphs Above Represent TATA MOTORS Ltd.'s Closing Price Trend, MACD And Signal Line, And MACD Histogram During The Course Of A Year (From 1ST April 2021To 31stMarch2022).It Has Been Noted That The TATA MOTORS Stock Has Been Range- Bound Over The Past 12 Months.

The Positive And Negative MACD Have Been Found And Displayed By The TATA MOTORS MACD Histogram. Negative And Positive MACD Histograms Were Built, Respectively, Above And Below The Zero Line. When The MACD Is In The Green And The 12-Day EMA Is Higher Than The 26-Day EMA, Upside Momentum Is Increasing. It Indicates Negative MACD And An Increasing Downward Momentum When The 12-Day EMA Is Below The 26-Day EMA.

The Price Is Seen To Be Above The EMA On Chart. The Tata Motors Ltd. Chart Shows The Variation In Various Prices, Including Open, High, Low, And Close, With Respect To Various Weeks, Which Were Taken Into Account From 01/04/2021 To 31/03/2022.

**FINDINGS**

1.   When We Consider MACD Signal It Shows That From The Month Of May The Stock Made Heavy Bearish Movement And It Recovered Very Fast In The Market. Currently It Indicates A Buy Signal As The MACD Line Is Above The Signal Line.

2.   The MACD Signal Shows A Range Bound Movement In The Market For Almost 7 Months And It Is Now Indicating A Sell Signal As The MACD Crosses The Signal Line From Above.

3.   The MACD Chart Shows That The Stock Is In A More Price Movement But Now It Indicates A Buy Signal As The MACD Crosses The SIGNAL Line From Below To Above.

## VI.  CONCLUSION

"Analysis Of Changes In The Share Price Of A Specific Company" Is A Study That Aims To Analyze The Fluctuations In The Share Price Of 10 Selected Companies Listed On The Bombay Stock Exchange(BSE). The Study Covers A Full Calendar Year, From 1 April 2021 To 31 March 2022, And Uses Technical Analysis To Predict The Future Price Movement Of The Shares Based On Their Closing Values. The Research Design Used Was Descriptive And Analytical In Nature And The Selected Companies Were Chosen Using Stratified Sampling. In Conclusion, The Study Suggests That Changes In The Share Price Of A Specific Company Can Be Analyzed Through Technical Analysis And Financial Statements. However, The Results Should Not Be Taken As A Guarantee Of Future Market Performance And Investors Should Consider Additional Factors Such As Fundamental Analysis And Risk Management In Their Investment Decisions.

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## "A STUDY ON SIGNIFICANT INDICATORS OF INDIAN MUTUAL FUND"

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### ABSTRACT

Mutual funds are playing a vital role in the economic development and this industry has flourished worldwide. In the light of these developments, the objective of this review is to identify the performance indicators of mutual funds and to analyse the impact of these performance indicators on mutual fund's performance. The study also draws attention to the contradictions in the literature in the area of examining these performance indicators which have been identified as per the available literature as performance Asset Under Management (AUM), Total Expense Ratio (TER), Net New Money (NNM), Load Structure. This paper elaborates the impact of these performance indicators. It has been found that each performance indicator affects the return of the mutual fund independently. This paper also discusses contradictions and the gap present in the literature regarding these performance indicators.

**Keywords:** Mutual Funds, Performance indicators, Asset Under Management (AUM), Total Expense Ratio (TER), Portfolio Tune Over Ratio (PTR), Net New Money (NNM), Load Structure.

### I. INTRODUCTION

Mutual funds are financial entities that pool the funds of many participants to buy a variety of securities, including stocks, bonds, and money market instruments. Individuals can diversify their investment portfolio and possibly lower their overall risk by investing in mutual funds, which expose them to a range of securities. Mutual funds are also professionally managed, which can aid in maximizing returns and lowering the amount of time and effort needed to monitor investments. Access to expert management, diversity, convenience, and possibly cheaper expenses, when compared to investing in individual securities, are just a few of the main advantages of investing in mutual funds. Indicators of mutual fund Asset Under Management (AUM), Total Expense Ratio (TER), Portfolio Tune Over Ratio (PTR), Net New Money (NNM), Load Structure

### STATEMENT OF THE PROBLEM

In India, only 8% of PAN holders invest in Mutual Funds. Due to the lack of proper knowledge or information about the Mutual fund, many investors take wrong decisions while investing in Mutual Fund. As investors have multiple options in the investment sector and as a different set of schemes like open-ended schemes such as income/ debt-oriented schemes, growth/equity-oriented schemes, hybrid schemes, solution-oriented schemes, and other schemes and closed-ended schemes such as income/debt-oriented schemes, growth/equity-oriented schemes and interval schemes, etc Due to multiple options, investors are unable to make a proper choice to invest in the right scheme. This study will help new investors who are willing to invest in mutual funds to get proper knowledge about the different types of funds available in the Mutual Fund and how to select a Mutual Fund to invest with the help of indicators like Assets Under Management (AUM), Total Expenses Ratio (TER), Portfolio Turnover Ratio (PTR), Net New Money (NNM), Load Structure, Exit Load, etc.

### OBJECTIVES

➢ To examine the Average Assets Under Management of the Indian mutual fund industry (open and close-ended for growth or equity-oriented scheme) in the period between January 2022 - December 2022

➢ To examine the Net New Money of the Indian mutual fund industry (open and close-ended for growth or equity-oriented scheme) in the period between January 2022 -December 2022

### II. REVIEW OF LITERATURE

#### 1. A Study on Performance Evaluation of Mutual Funds Schemes in India (April 2016)

As this article refers to Day by day remaining NAV of different schemes that have been used to calculate the returns from the fund schemes. S&P BSE-Sensex has been used for market portfolio. The ancient performance of the selected schemes was evaluated on the basis of Sharpe, Treynor, and Jensen's measure will be beneficial for buyers for taking better investment decisions.

## 2. An Analysis of Investor's Risk Perception towards Mutual Funds Services (May 2009)

As this article refers to the present examination to give a glance at investors' perceptions toward hazard-go-back exchange off for mutual offerings. Hence mutual finances can prove to be the maximum preferred economic avenue supplied its miles put forth before traders in the preferred form.

## 3. INVESTORS'AWARENESS AND PERCEPTION ABOUT MUTUAL FUNDS (May 2011)

As this article refers that buyers can put money into company bonds, debentures, bank deposits, post office schemes etc. but in recent times buyers opt for portfolio managers to make investments cash on their behalf. These portfolio managers are experts in stock market operations and invest the cash in one of these manner that the buyers could get minimum confident returns.

## 4. A Study on the Growth of Mutual Funds in India (March 2021)

As this article refers to intermediary's critical reality is discovered that mutual price range are secure, with close to 0 chance, imparting an optimized return on income and defensive the interest of buyers. It's miles crucial to benefit desirable knowledge of mutual fund investments, groups in the discipline, and mutual fund specialists, as clients are without difficulty inaccurate by means of the advertisements and offers promoted via various monetary institutions.

## 5. Influence of Macroeconomic Indicators on Mutual Funds Market in India (March: 2017)

As this article refers to the institutional buyers together with the domestic mutual price range have gained a good sized function in the Indian equity market. This has a look at examines the interplay between the mutual budget marketplace and numerous macroeconomic variables using 15 years of annual information spanning from April 2000 to March 2015. The examine located that the Mutual fund flows are not significantly motivated by way of the variables, that is, client rate Index, Gross domestic financial savings, trade rate, boom price, interest price and nifty returns.

## 6. Evaluation of Growth of Mutual Funds and Exchange Traded Funds in India (March 2016)

As this article refers to the contrast of the index price range proved that each index fund and the ETFs are efficient whilst compared on the beta and the go-back parameters. The tracking error, which defines the performance of tracking the index, is located to be superior in index funds than ETFs. In the assessment of the large-cap finances, the beta is appreciably one-of-a-kind and so are their returns. The huge cap price range have delivered better returns compared to the index with a lesser beta price, which is augmented well with the alpha values. Sharpe's ratio considers the go-back of the fund above the threat-free price adjusted to the same old deviation of the fund.

## 7. AN EMPIRICAL STUDY ON INDIAN MUTUAL FUNDS AND THEIR PERFORMANCE EVALUATION PRIOR TO RECESSION (12 January 2015.)

As this article refers to Stock choice is one of the maximum crucial traits of a fund manager, with the help of which he can generate better returns by means of taking a rather decrease danger. To review of Indian Mutual budget with respect to the 3 performance evaluation measures, the results do now not comply with the hypothesis taken inside the observe.

## 8. A Critical Analysis of Selected Mutual Funds in India (2014)

As this article refers to HDFC Mid Cap opportunities (G), Birla solar life MNC Fund (G) and Quantum long-time period fairness (G) become first-rate mutual fund schemes. However, amongst these, Birla sun existing MNC Fund (G) has the highest rate ratio that's 2.35 in comparison to all different mutual fund schemes. Therefore, it is going out of the opposition. Now, between HDFC Mid Cap opportunities (G) and Quantum long-term equity (G), the latter has the least cost ratio that's 1.25. But on comparing their popular deviation, HDFC Mid Cap opportunities (G) has a lesser chance related to it that's 0.013. Beta and R-square are nearly comparable in bote instances.

## 9. Perception of Indian Investor towards investment in mutual funds with special reference to MIP Funds

As this article refers to the buyers are aware about numerous schemes of mutual budget. The Mutual Fund buyers especially belong to the age institution from 19 years to fifty-five years and fall within the earnings institution of Rs 30,000 to Rs 70,000 and above. Most of the investors are aware about MIP price range and the preferred reason for making an investment in MIP fund is steady returns given via those price range.

### 10. Indian Investor's Perception towards Mutual Funds (Aug 2012)

As this article refers to discover elements critical for securing investor's penetration. The first category relates to the scheme/ fund associated attributes. This consists of safety of cash invested in mutual finances, favourable credit score rating of fund/ scheme by using reputed credit score organizations, complete disclosure of all relevant data and normal updates.

### 11. A Study on Contemporary Measures of Mutual Fund Performance Evaluation

### (July 2013)

As this article refers recent developments have proven that the Indian mutual laugh enterprise isn't decoupled from worldwide trends. The financial turmoil and decreased fund returns have served to focus on the significance of a thorough overall performance assessment of mutual finances earlier that investing.

### 12. Efficiency measurement of open-ended mutual fund schemes with respect to the Indian mutual fund industry (2018)

As this article refers to measuring the relative DEA efficiencies of 143 Indian mutual fund schemes for eleven years' time from April 2006 to March 2017. A robust analysis is carried out by way of carrying out five DEA runs one at a time for all pattern schemes, increase, earnings, stability, and ELSS funding styles.

### 13. Evaluating the Performance of some selected open ended equity diversified Mutual fund in Indian mutual fund Industry (September 2013)

As this article refers to All the chosen funds showing a beta value of much less than 1 which means that the funds will be much less risky than the marketplace. The better Jensen's degree cost, the higher the fund is performing. HDFC pinnacle's two hundred funds are the satisfactory appearing fund.

### 14. INVESTORS' BEHAVIOUR TOWARDS INDIAN MUTUAL FUNDS INVESTMENT (December 2020)

As this article refers to buyers based on demographical variations. The look at carried out shows that the investors are aware of numerous schemes of mutual price range. Higher return & protection and tax advantage is the principle elements of mutual fund that attraction the buyers. The investors are aware of numerous schemes of mutual price range. Higher return & protection and tax advantage.

### 15. Performance Evaluation of Indian Equity Mutual Funds against Established Benchmarks Index (2014)

As this article refers to comparative overall performance between fairness mutual fund schemes and benchmark indexes over the 5 economic durations. They may be diversifying the budget in one of a kind shares which can be producing better returns.

### 16. Performance Evaluation of Mutual Funds: A Study On Selected Equity Mutual Funds In India (2022)

As this article refers to fall inside the NIFTY at some stage in the 12 months 2020 has impacted the overall performance of all the chosen budget. Within the eventual analysis it is able to be concluded that maximum of the price range has finished properly within the highly risky market. it's miles concluded that even as making the funding decision the first and most vital attention is hazard and return factor followed through the protection and liquidity. Maximum of the price range have finished properly within the highly risky market. After reading the distinctive mutual fund schemes.

### 17. Preference of Investors for Indian Mutual Funds and its Performance Evaluation (September 2012)

As this article refers to one mutual fund of varied equity plan, second mutual fund of balanced type and 1/3 one you could plan of debt kind and many others. On this manner the money will get assorted, threat is reduced and the investor will get first-rate earnings. Recall nicely rated large-cap budget, midcap finances and a balanced fund. Overall performance of mutual fund schemes favoured through investors on the basis of return parameters.

### 18. ROLE OF MUTUAL FUNDS IN INDIA: AN EMPIRICAL ANALYSIS (December 2009)

As this article refers the essential boom of the Indian mutual fund industry, however also tested the dynamics of the causal dating that runs between the increase of mutual funds investment and capital marketplace improvement. Accordingly, the coverage makers in India ought to take important steps to reduce the volatility of the Indian capital market thereby supporting setting the mutual price range industry in an excessive growth trajectory. The robustness of this examine, however, is delimited with the aid of the inter-play of macro -financial factors inflation at home, hobby fee volatility, foreign institutional investments, global crude oil charge changes, volatility of foreign exchange price, and transnational monetary and economic contagions.

### 19. A REVIEW OF PERFORMANCE INDICATORS OF MUTUAL FUNDS (October 2012)

As this article refers to Past performance of mutual price range explains how the fund has finished inside the beyond and for this reason you possibly can count on advantageous or poor performance in the destiny as nicely. Mutual fund agencies with larger asset base are performing better than lower asset-based corporations. Out of the overall paper reviewed no clean dating of load price with overall performance changed into located. Literature suggests that the investment fashion does have an effect on the overall performance of the mutual finances. That the mutual fund businesses having high turnover have executed properly than corporations with lower turnover. Cost ratio affects the overall performance of mutual price range definitely.

### 20. A STUDY ON THE RISK-ADJUSTED PERFORMANCE OF MUTUAL FUNDS INDUSTRY IN INDIA (2017)

As this article refers to the usage of Sharpe ratio, Treynor ratio, Jensen's Alpha and price at chance for a pattern of 100 Indian mutual fund schemes. The observe duration is from January 2013 to June 2016. The sample comprises of 18 diversified fairness schemes, 9 tax saving schemes, 17 large cap budget, sixteen long time gilt, 8 long term earnings, 8 quick time period profits finances, eleven small/ mid cap finances and 12 extremely-quick time period budget Direct plans assist the investors to without delay invest in the MFs by passing the distributor.

### 21. Performance of Monthly Income Scheme in Mutual Fund Industry in India (2016)

As this article refers to with the inventory markets soaring the buyers are attracted toward those schemes. Still best a small section of the investors invests in mutual finances because of the risk associated with it. Also there's an extra tendency to put money into fixed deposits because of the security. That allows you to excel and make mutual finances a fulfilment, organizations nonetheless need to create consciousness and apprehend the psyche of the Indian client. It acts as a manual for the buyers in deciding on the schemes which high-quality fits their expected returns and hazard tolerance degree.

### 22. AN EMPIRICAL STUDY ON INDIAN MUTUAL FUNDS AND THEIR PERFORMANCE EVALUATION PRIOR TO RECESSION

As this article refers to Stock desire is one of the most vital traits of a fund manager, Measures, the consequences do now not follow the hypothesis taken in the have a look at HDFC and fidelity are the price range Beta, Handiest three budget comply with all the 3 overall performance assessment Measures, having the identical rank, that is because of the fund supervisor's negative investment making plans of the price range.

### 23. Performance of the Indian Mutual Funds: A Study with Special Reference to Growth Schemes (July - September 2008)

As this article refers to the sample schemes were not well various as depicted by the variations within the Jensen alpha and Sharpe's Differential return. All of the three chance-adjusted performance measures (Sharpe, Treynor and Jensen fashions) The prevailing net asset price of all the pattern schemes are undoubtedly and substantially correlated with its past net asset value for all the time lags signifying consistency in successive period returns.

### 24. Analysis of Equity Based Mutual Funds in India (July-Aug 2012)

As this article refers to The have an examine has investigated the overall performance of equity primarily based absolutely mutual fund schemes in India, using CAPM. In the end, non-public region businesses have completed a long way higher than the public location ones. Evaluation reveals that the non-public quarter mutual fund schemes have been less risky and more profitable in comparison to the general public sector ones.

**25. An Overview Mutual Fund Investments in India (November 2021)**

As this le refers to the Mutual Fund investment is subject to marketplace conditions, therefore for the hazard averse traders there are such a lot of different funding options to be had other than the mutual finances, consisting of investment in other monetary assets (stock marketplace, debentures, Bonds, Treasury bills and many others) and different Non-monetary belongings permit the workplace certificates, bank deposits, Pension schemes, actual property's) to keep away from chance. Diversification and SIP permits investor to manipulate the risks. Sponsor, agree with, Trustee, switch Agent, Asset management organization and so on. Forms key detail Mutual Fund shape. Furthermore.

**3.1 Variable definition and data**

The variable included in this research is mutual fund schemes which are based on open-ended and close-ended schemes in growth or equity-oriented schemes using some indicators like asset under management and net new money the purpose of this research is to help the investors to invest in the right mutual fund scheme.

**3.2 Period of study**

In this study, I have used secondary monthly data of mutual fund schemes from AMFI INDIA for a period of three years from 1st January 2020 to 31st December 2022.

**3.3 Data analysis framework**

Analysis of monthly AUM of open-ended and close-ended schemes of growth/equity-oriented scheme calculated average asset under management (AAUM), In the process of descriptive statistics research includes Standard deviation, skewness, Shapiro-wilk W, and co-efficient value.

**3.4 Hypothesis**

H0: The Average AUM data of schemes undergrowth or equity oriented follows a normal distribution.

H1: The Average AUM data of schemes undergrowth or equity-oriented does not follow a normal distribution.

**4. DATA ANALYSIS AND INTERPRETATION**

**TABLE 4.1 Determination of Descriptive statistics for Open Ended mutual fund schemes for the year 2020.**

| SL.NO | SCHEMES Growth/Equity-Oriented Schemes | AVERAGE (AUM) | CO-VARIANCE | Shapiro-wilk P |
|---|---|---|---|---|
| 1. | Multi Cap Fund | 143117 | 10.09 | 0.628 |
| 2. | Large Cap Fund | 144648 | 10.58 | 0.671 |
| 3. | Large & Mid Cap Fund | 56101 | 12.25 | 0.781 |
| 4. | Mid Cap Fund | 85407 | 11.78 | 0.847 |
| 5. | Small Cap Fund | 49030 | 14.55 | 0.654 |
| 6. | Dividend Yield Fund | 4111 | 12.60 | 0.268 |
| 7 | Value Fund/Contra Fund | 51204 | 10.34 | 0.241 |
| 8 | Focused Fund | 50571 | 12.55 | 0.823 |
| 9 | Sectoral/Thematic Funds | 64151 | 12.34 | 0.631 |
| 10 | ELSS | 95624 | 11.53 | 0.764 |

The Shapiro-Wilk P values indicate the level of normality of the data distribution. A P-value less than 0.05 indicates that the data is not normally distributed. From the data collected, it can be observed that the schemes "Dividend Yield Fund" and "Value Fund/Contra Fund" have P-values less than 0.05, which indicates that their return distributions are not normally distributed.

On the other hand, the rest of the schemes have P-values greater than 0.05, which suggests that their return distributions are approximately normally distributed. This can be an important consideration for investors who are interested in evaluating the risk and return characteristics of different investment options.

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**TABLE 4.2 Determination of Descriptive statistics for CLOSE ENDED mutual fund schemes for the year 2020.**

| SL.NO | SCHEMES Growth/Equity-Oriented Schemes | AVERAGE MEAN | CO-VARIANCE | Shapiro-wilk P |
|---|---|---|---|---|
| 1. | ELSS | 3921 | 11.75 | 0.556 |
| 2. | Other Equity Schemes | 25265 | 9.27 | 0.129 |

From the data collected, it can be observed that the ELSS scheme has a Shapiro-Wilk P-value of 0.556, which is greater than 0.05. This indicates that the returns from the ELSS scheme are approximately normally distributed.

On the other hand, the Other Equity Schemes have a very low Shapiro-Wilk P-value of 0.129, which is less than 0.05. This suggests that the returns from the Other Equity Schemes are not normally distributed and have a skewed distribution.

**TABLE 4.3 Determination of Descriptive statistics for Open Ended mutual fund schemes for the year 2021.**

| SL.NO | SCHEMES Growth/Equity-Oriented Schemes | AVERAGE MEAN | CO-VARIANCE | Shapiro-wilk P |
|---|---|---|---|---|
| 1. | Multi Cap Fund | 31724 | 62.64 | 0.001 |
| 2. | Large Cap Fund | 198098 | 9.51 | 0.105 |
| 3. | Large & Mid Cap Fund | 88101 | 13.69 | 0.162 |
| 4. | Mid Cap Fund | 134170 | 14.12 | 0.203 |
| 5. | Small Cap Fund | 84635 | 17.48 | 0.159 |
| 6. | Dividend Yield Fund | 8148 | 15.83 | 0.057 |
| 7 | Value Fund/Contra Fund | 68772 | 10.19 | 0.103 |
| 8 | Focused Fund | 80037 | 14.83 | 0.098 |
| 9 | Sectoral/Thematic Funds | 117672 | 16.88 | 0.189 |
| 10 | ELSS | 136518 | 8.67 | 0.203 |
| 11 | Flexi Cap Fund | 179395 | 22.72 | 0.046 |

From the data, it can be observed that the Multi Cap Fund, the Dividend Yield Fund and Flexi Cap Fund has the lowest Shapiro-Wilk P-value, which is less than 0.05. This indicates that the return distribution of the Multi Cap Fund is not normal and may have a skewed distribution.

The rest of the schemes have Shapiro-Wilk P-values greater than 0.05, suggesting that their return distributions are approximately normal.

**TABLE 4.4 Determination of Descriptive statistics for CLOSE ENDED mutual fund schemes for the year 2021.**

| SL.NO | SCHEMES Growth/Equity-Oriented Schemes | AVERAGE MEAN | CO-VARIANCE | Shapiro-wilk P |
|---|---|---|---|---|
| 1. | ELSS | 4589 | 8.17 | 0.005 |
| 2. | Other Equity Schemes | 13412 | 33.82 | 0.663 |

From the data collected, it can be observed that the ELSS scheme has a very low Shapiro-Wilk P-value of 0.005, which is less than 0.05. This indicates that the returns from the ELSS scheme are not normally distributed and may have a skewed distribution.

On the other hand, the Other Equity Schemes have a Shapiro-Wilk P-value of 0.663, which is greater than 0.05. This suggests that the returns from the Other Equity Schemes are approximately normally distributed.

**TABLE 4.5 Determination of Descriptive statistics for Open Ended mutual fund schemes for the year 2022.**

| SL.NO | SCHEMES Growth/Equity-Oriented Schemes | AVERAGE MEAN | CO-VARIANCE | Shapiro-wilk P |
|---|---|---|---|---|
| 1. | Multi Cap Fund | 53010 | 15.66 | 0.549 |
| 2. | Large Cap Fund | 225109 | 4.22 | 0.189 |
| 3. | Large & Mid Cap Fund | 111265 | 7.08 | 0.030 |
| 4. | Mid Cap Fund | 162616 | 6.72 | 0.052 |
| 5. | Small Cap Fund | 109793 | 7.68 | 0.022 |
| 6. | Dividend Yield Fund | 9706 | 3.18 | 0.308 |
| 7 | Value Fund/Contra Fund | 79642 | 5.10 | 0.065 |
| 8 | Focused Fund | 96855 | 4.89 | 0.169 |
| 9 | Sectoral/Thematic Funds | 149470 | 4.55 | 0.111 |
| 10 | ELSS | 145841 | 4.14 | 0.328 |
| 11 | Flexi Cap Fund | 225702 | 5.10 | 0.193 |

The schemes with a P-value less than 0.05 include Mid Cap Fund, Small Cap Fund, Large & Mid Cap Fund, Focused Fund, Sectoral/Thematic Funds, and ELSS, indicating that their returns are not normally distributed.

However, the Multi Cap Fund, Dividend Yield Fund, Value Fund/Contra Fund, Large Cap Fund, and Flexi Cap Fund have Shapiro-Wilk P-values greater than 0.05, indicating that their returns are approximately normally distributed

**TABLE 4.6 Determination of Descriptive statistics for CLOSE ENDED mutual fund schemes for the year 2022.**

| SL.NO | SCHEMES Growth/Equity-Oriented Schemes | AVERAGE MEAN | CO-VARIANCE | Shapiro-wilk P |
|---|---|---|---|---|
| 1. | ELSS | 3658 | 5.11 | 0.673 |
| 2. | Other Equity Schemes | 4335 | 30.12 | 0.031 |

From the data collected, we can observe that the Shapiro-Wilk P-value for ELSS is 0.673, which is greater than 0.05. This suggests that the data for ELSS is normally distributed.

On the other hand, the Shapiro-Wilk P-value for Other Equity Schemes is 0.031, which is less than 0.05. This indicates that the data for Other Equity Schemes does not follow a normal distribution.

**CONCLUSION**

According to this study, the market performance of mutual funds is based on schemes that enable investors in various sector indicators. Past mutual fund scheme performance explains how Asset Under Management has performed in the past, and in accordance with that, we can anticipate positive or negative scheme (open-ended and closed-ended with reference to growth/equity-oriented schemes) performance in the future as well. A significant study discusses the annual performance from January 2020 to December 2023. Based on the analysis, investors can forecast the success of the schemes in the future. The majority of growth/equity-oriented open-ended and closed-ended schemes are doing well and have created a favourable impression of the mutual fund sector, which can anticipate additional investors in the future. When the scheme has a regularly distributed distribution during analysis, it suggests better performance and is a favorable investment.

The results of the descriptive statistics for the open-ended and closed-ended mutual fund schemes in 2020 and 2021, in conclusion, show that the average AUM of different schemes is normally distributed at a 5% level of significance. This is inferred based on the Shapiro-Wilk test results, which show that because all of the null hypotheses the data are normally distributed cannot be disproved. The findings of this analysis can serve as a starting point for more statistical research on the mutual fund sector.

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