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CONTENTS

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INNOVATION AND EMERGING TRENDS OF TECHNOLOGY ON THE GROWTH OF MUTUAL FUND: A LITERATURE REVIEW

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ABSTRACT

FinTech, or financial technologies, are revolutionizing the financial services industry by increasing its productivity and efficiency. This involves effective risk management, fund allocation, and transaction speed, which enhanced investor engagement in mutual funds. Disruptive technologies such as robotics, big data, robo-analytics, robo-advisors, artificial intelligence, and blockchain are transforming the industries around the world and helping asset management firms to become more productive and efficient. The purpose of this article is to explain how mutual funds and financial technology are interconnected. This article also conducts a review of the relevant literature in both fields. This study indicates that next-generation technology is transforming the investment process, making it paperless, efficient, and accessible. Globally, asset management firms are embracing AI and machine learning, which will boost operational and financial system efficiency, and the development of robo-advisors will allow them to evaluate the risk and needs of each customer and provide appropriate investment solutions. Asset management firms are being reorganized as a result of this change. Along with making procedures more efficient, these advancements are encouraging a customized approach to investment. Firms that adapt to technology changes are more likely to attract a wider range of customers and increase overall market competitiveness. The future of asset management is currently being redefined by blockchain technology, big data, analytics, and fintech.

KEYWORDS: *FinTech, Financial Technologies, Robo-Advisor, Risk Management, Artificial Intelligence.*

Introduction

Rapid technological advancements over the last decade or so have altered the way individuals save and invest. Digital innovation has ushered in a new era in mutual fund investment. The technology trend in mutual funds is constantly revolutionizing the way investors interact with their financial portfolios by facilitating access, giving analytics, and allowing for informed decision-making. These innovations are not only enhancing efficiency and accessibility but also redefining the traditional banking paradigms. As FinTech continues to expand, it holds the potential to democratize financial services, offering new opportunities for growth and inclusion across diverse markets. Understanding these dynamics is crucial for stakeholders aiming to navigate the shifting landscape of finance. The rise of financial technology has significantly impacted mutual fund investments, making them more accessible and efficient for a broader audience. Innovations such as robo-advisors leverage algorithms to provide tailored investment

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strategies, allowing individuals to invest in mutual funds with minimal fees. Additionally, big data analytics enables asset managers to make informed decisions by analyzing market trends and investor behaviors, ultimately enhancing portfolio performance. As blockchain technology gains traction, it promises to streamline transactions and improve transparency in mutual fund operations, further attracting investors seeking security and efficiency in their financial ventures. Investors can combine their money and purchase various securities through these funds, which are operated by asset management companies (AMCs). Professionals who want to sell mutual funds must hold a Securities and Exchange Commission (SEC) license and follow its rules. AMCs and financial intermediaries, including branches, independent agents, and digital distributors, offer mutual fund purchase and sell services. Because it enables the transition from traditional to digital services, technology use—also referred to as financial technology or fintech—has grown in significance within the financial sector. As a result, mutual fund distributors, especially brokerages, are now more competitive, and mutual fund distribution channels have grown. Acceptance of using digital investment services becomes a crucial factor to take into account as distributor-investor interactions shift more and more toward online or remote services. The various kinds of services that distributors offer should be understood by individual investors, especially as described in investment articles. Although Fintech has the potential to greatly enhance the provision of financial services, including investments in mutual funds, distributors' adoption of the technology is still a major problem. Several factors are important determinants of technology adoption, including behavioral intention (BI), perceived usefulness (PU), and perceived ease of use (PEOU). Developing successful tactics to boost acceptance among mutual fund distributors requires an understanding of these elements.

In this article, we will examine how mutual funds and financial technology are interconnected, how mutual funds are changing in the modern age, including the influence of digital advancement, how next-generation technology is transforming the investment process and affecting the future of mutual fund management.

Research Methodology

The purpose of this paper is to provide a comprehensive overview of the studies already done on the topic of technology and investment by various researchers at national and international levels. Research work published in the most relevant databases along with relevant books on the topic was reviewed. In this study, several research papers have been reviewed from the existing literature available worldwide from the year 2008-2024. The existing research has been reviewed in terms of innovation and emerging trends of technology on the growth of mutual funds. The analysis is done as per the objectives discussed.

Literature Review

The growing adoption of AI and robot-based systems has a significant influence on employment, society, and the economy. AI creates mechanical, analytical, and intuitive intelligence. Additionally, human jobs will eventually be replaced by AI, causing people to specialize in less automated fields. Online services known as robo-advisors use artificial intelligence to guide consumers through an automated investing advisory process. They use questionnaires to assess customer profiles, just like a human financial advisor, and make recommendations based on expectations for returns, risks, and goals. Robo-advisors offer a wider range of investing options, reduced fees, and improved accessibility.

Abdullah et al. (2008) performed a regression study on Malaysian mutual fund awareness and Fintech adoption. Their study revealed that there is no meaningful correlation between age and social influence, facilitating conditions, performance expectancy, or effort expectancy. The correlation between performance in mutual fund selection criteria and gender yielded the same outcome. Their study found that investors' primary criterion for choosing mutual funds was performance. According to one of their findings, people with higher levels of education are more likely to use technology for investing in mutual funds and online banking.

Teo, ErnieG.S. and Chuen, David Lee Kuo (2015) proposed using the LASIC (Low Margin, Asset Light, Scalable, Innovative, and Compliance Easy) Principles to examine how different internal and external factors affect the development of emerging fintech companies. Alibaba and M-Pesa are two of China's most successful financial technology companies. According to their findings, Connectedness is crucial for individualized financial choices, as financial institutions communicate more through social media and phones than in person, ensuring sustainable growth for businesses.

Daniel O'Keefe et al. (2016) from KPMG asked 1,500 bank customers if they were interested in and aware of digital wealth management. They found that 8 to 15 percent of investors knew about robo-advisories, but it was equally shocking to learn that 51.8% of investors knew about intelligent portfolio management and 48 percent knew about personal advisor services. Additionally, they noted a growing trend of both new and current investors turning to robo-advisory; their research suggests that by 2020, robo-advisory might have a valuation of $2.2 trillion.

Alexandra Andhov (2018) concluded that financial technology is still in its infancy and that most of its potential for development rests on the development of smart algorithms, large data storage capabilities, and computing capacity. Establishing a trusting environment for investors that allows them to participate regardless of their nation of origin has proven to be difficult for the EU. Fintech, according to the author, might assist the EU in fostering the trust that has long been a worry of the EU.

Prasada Rao et al. (2018) shows that blockchain technology's transparency, decentralization, tamper-resistance, accountability, and privacy can benefit all parties involved in the mutual fund sector. Investor trust will rise with greater openness, which will help boost productivity in the workplace by reducing paperwork through digitization. Belanche et. al. (2019) to understand how consumers are utilizing robo-advisors. Adoption of robo-advisors is impacted by mass media, consumer attitudes, and subjective norms, as well as perceived utility and attitude. Online services known as robo-advisors use artificial intelligence to guide consumers through an automated investing advisory process. They use questionnaires to assess customer profiles and make recommendations based on expectations for goals, risks, and returns, just like a human financial advisor would.

Das and Ali (2020) looks at how India's financial services sector is affected by the quick developments in financial technology, emphasizing both the advantages—such as higher Asset Under Management and better client satisfaction—and the difficulties for regulators.

Nicolescu & Tudorache (2020) examine the elements that influence decisions and evaluate the degree to which these judgments are guided by knowledge in order to understand the investment behavior of mutual funds. The study shows that knowledge plays a role in the investment behavior of CEE (Central and Eastern Europe) investors, with Hungarian investors having more experience and knowledge than other investors.

Lee, J. (2020) investigates the legal and regulatory framework for applying artificial intelligence (AI) in financial services to improve financial inclusion. It covers risk management, manipulation, investment advice, compliance, and regulation. The study also discusses ethical, privacy, and data security issues, emphasizing the need for more study on AI governance in urban planning and financial services.

Influence of Technology Over the Mutual Fund Industry

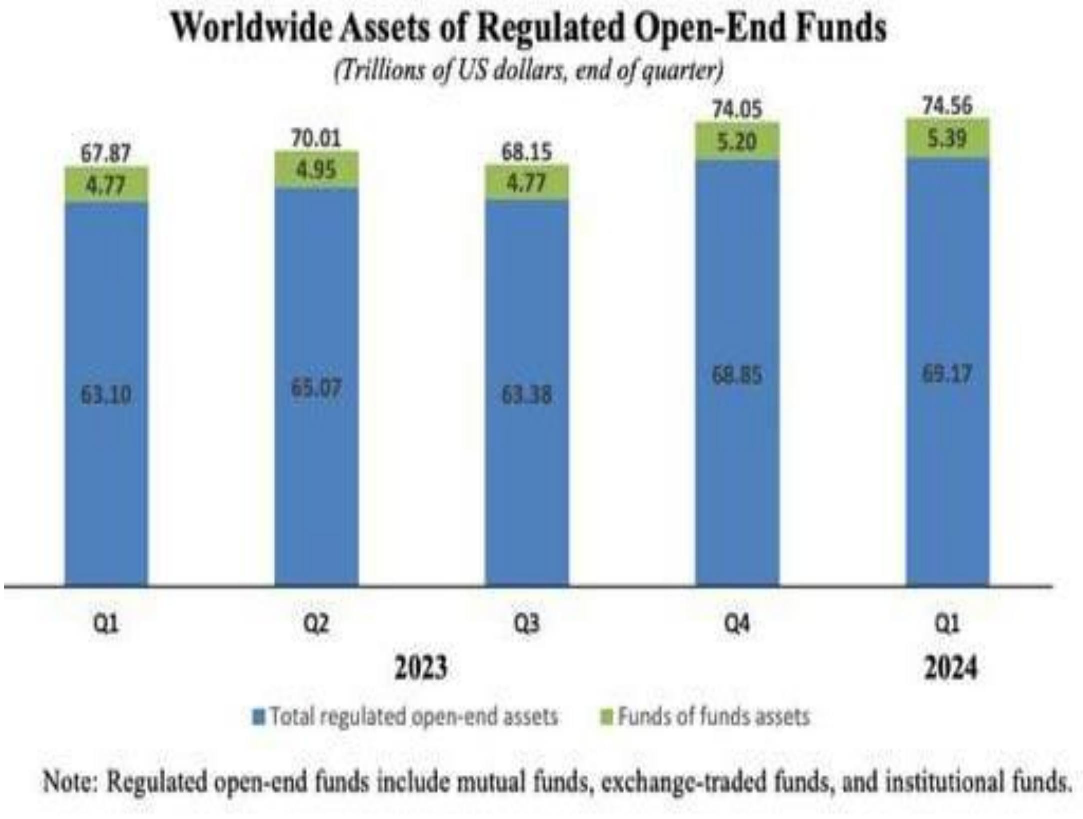
The mutual fund industry is going through a paradigm transformation as we ride the technological wave. Investors benefit from digital platforms' ease of use, accessibility, and real-time information. Robo-advisors simplify financial advice, whereas AI transforms fund management through superior data analysis and automation.

- **Digital Onboarding and Transactions:** The procedure of investing in mutual funds has changed from using traditional approaches to using digital platforms. Investors can now use websites or mobile apps to complete the onboarding procedure and carry out transactions, such as purchasing or selling mutual fund units, with a few clicks. This convenience greatly shortens transaction processing times by doing away with the requirement for physical paperwork and in-person meetings.
- **Rise of Robo-Advisors:** Automated systems known as robo-advisors use investor profiles to generate algorithm-driven financial recommendations. These tools make investment decisions more affordable and accessible for a wider audience by analyzing personal risk tolerances and financial objectives to suggest appropriate investment portfolios. With the help of this innovation, asset management companies may now concentrate on deeper activities while regular advisory responsibilities are managed digitally.
- **Enhanced Data Analytics:** Companies that offer mutual funds are using data analytics to learn more about the tastes and behavior of their investors. This feature improves the overall investor experience by allowing them to provide customized suggestions based on each investor's unique financial objectives. Additionally, data analytics helps with risk management and assessment, enabling fund managers to base their choices on market trends.

- **Increased Accessibility through Mobile Technology:** The advent of smartphones has made mutual fund investments more accessible to a broader demographic, particularly younger generations who prefer mobile options. From any location at any time, investors may perform transactions, keep an eye on their portfolios, and get real-time notifications. Due to this change, more people are investing in mutual funds.
- **Security Enhancements:** The mutual fund industry's security protocols are evolving along with technology. Businesses are putting strong cybersecurity measures in place to shield private investor data and transactions from possible dangers, which will increase investor trust.

Trends on the Growth of Mutual Funds

- The International Investment Funds Association (IIFA), which is made up of national fund associations, commissions the Investment Company Institute to produce information on globally regulated open-end funds.At the end of the first quarter of 2024, the total assets of regulated open-end funds worldwide, excluding funds of funds, rose by 0.5% to $69.17 trillion. The first quarter of 2023 saw a global net cash inflow of $814 billion to all funds, while the fourth quarter saw net inflows of $674 billion.



(Source: - The International Investment Funds Association;

Worldwide Regulated Open-End Fund Assets And Flows First Quarter 2024)

Note: Regulated open-end funds include mutual funds, exchange-traded funds, and institutional funds.

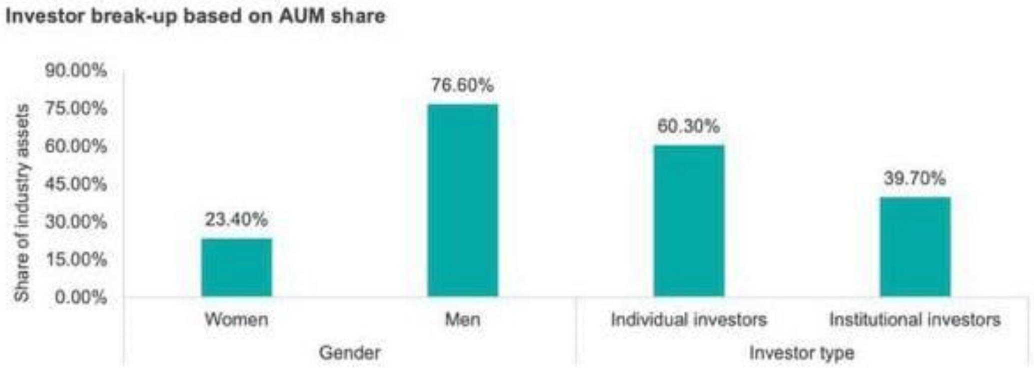
- The average assets under management (AAUM) of the Indian mutual fund industry increased sixfold from ₹10.90 trillion in 2014 to ₹68.08 trillion in November 2024, reaching ₹68.05 Lakh Crore (INR 68.05 Trillion). In just five years, the industry's AUM has doubled, rising from ₹27.05 trillion in 2019 to ₹68.08 trillion in 2024. Additionally, in May 2021, the sector reached a milestone of 10 crore folios. As of November 30, 2024, there were 22.08 crore accounts in all.

- In fiscal 2024, mutual fund assets rose 35% to an all-time high. The domestic mutual fund industry had one of its best years in fiscal 2024, as assets under management (AUM) increased by about Rs 14 lakh crore to a record Rs 53.40 lakh crore as of March 2024, up from Rs 39.42 lakh crore in March 2023. It was the largest percentage growth since fiscal 2021, when the industry grew 41%, at more than 35%.

Source:- Indian mutual fund industry; Association of Mutual Funds in India (AMFI) website (www.amfiindia.com)

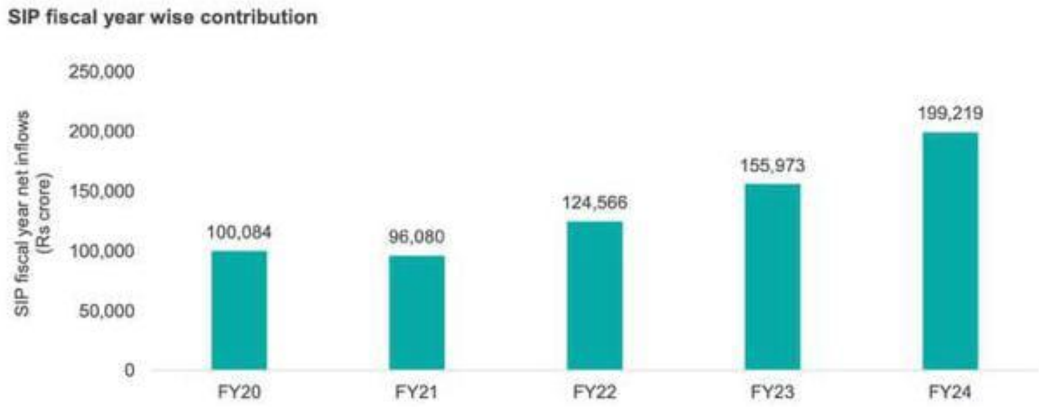
Note: Excludes domestic fund of funds (FoFs)

- According to their percentage of AUM, women made up about 23% of investors, men about 77%, and individual investors around 60%; institutional investors made up about 40%.



Source: - Indian mutual fund industry; Association of Mutual Funds in India (AMFI) website (www.amfiindia.com)

- Systematic investment plans (SIPs) are becoming more and more popular among investors; in March 2024, monthly net inflows were Rs 19,300 crore, and in the fiscal year 2024, they approached Rs 2 lakh crore.



Source: - Indian mutual fund industry; Association of Mutual Funds in India (AMFI) website (www.amfiindia.com)

Regulatory Considerations Regarding use of Artificial Intelligence in Financial Industry

Regulating artificial intelligence is sometimes known as supervision. Financial institutions are already using AI to automate client interactions, assess risk, analyze credit, maximize capital, find trading opportunities, and optimize trade execution. Regulation is necessary in situations when there is a third-party dependency. Artificial intelligence presents both advantages and hazards within the financial services industry, necessitating regulation that prioritizes market safety, investor protection, and integrity. Through the use of robo-advisers, AI can expedite KYC procedures, optimize money on peer-to-peer networks, and offer more affordable information access. More specific regulations are required to address privacy and data rights, certify algorithms, and improve individual protection.

AI should provide investors greater protection and choice. It can facilitate financial access by offering more cost-effective investment guidance to customers who are otherwise unable to take advantage of investment possibilities due to a lack of knowledge. This offers a chance to utilize AI to offer customers services for investment advice or execution through robo-advisers.

Conclusion

In conclusion, technology is an intermediary for growth in the mutual fund sector as well as an enabler. Investors' interactions with their financial portfolios are being redefined by the continuous integration of technology and innovations, which enhances accessibility, efficiency, and personalization of investment. The mutual fund sector is undergoing a paradigm transition as we ride the technological wave. Investors benefit from digital platforms' ease of use, accessibility, and real-time information. While AI revolutionizes fund administration through sophisticated data analysis and automation, robo-advisors simplify investing advice. Despite these advancements, investors still need to be educated in order to properly comprehend the digital world. The industry must prioritize preserving investor education and regulatory compliance in addition to embracing these technology innovations in order to guarantee a safe investment environment. In order to create the conditions for long-term growth and improved investor experiences, mutual funds must strike a balance between innovation and trust.

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HOW IS CORPORATE SOCIAL RESPONSIBILITY RELATED TO GREEN MARKETING?

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ABSTRACT

In today's world, both manufacturers and consumers are increasingly mindful of the environmental impact of products. They have shifted their focus toward green or eco-friendly products that do not harm the environment. This concept has gained significant attention in recent times. Green products are designed to be energy-efficient, include organic foods, lead-free paints, recycled paper, and phosphate-free detergents. Indian marketers have also recognized the importance of such products. Given the urgent need to prioritize environmentally friendly solutions, efforts are being made to design green products and raise awareness about them through various promotional campaigns. Initiatives such as environmental protection, the green revolution, sustainable development, and the "go green" movement collectively contribute to safeguarding the planet. This approach includes decisions such as redesigning and rebranding products and their packaging to minimize environmental impact. It has created opportunities for investors to collaborate and introduce eco-friendly product lines, encouraging a shift toward sustainability and promoting green practices. The government has introduced various initiatives to promote green marketing, including mandating that businesses allocate 2% of their average net profits over the previous three years toward Corporate Social Responsibility (CSR) activities. This requirement applies to companies with a net worth exceeding ₹500 crores, a turnover of ₹1,000 crores, or net profits of ₹5 crores. Such measures play a pivotal role in fostering a greener economy by encouraging businesses to invest in sustainable and eco-friendly practices. Corporate Social Responsibility (CSR) and green marketing are interconnected, both focusing on sustainability and ethical business conduct. CSR encourages companies to evaluate their social and environmental effects, prompting the adoption of eco-friendly practices. Green marketing amplifies these actions by promoting environmentally responsible products and services, responding to consumer demand for sustainability. Companies involved in CSR often use green marketing to highlight initiatives like reducing waste, using renewable materials, or cutting emissions. Together, these strategies help businesses build a positive reputation, attract environmentally conscious consumers, and contribute to the preservation of the environment.

KEYWORDS*: Corporate Social Responsibility (CSR), Sustainability, Eco-friendly, Brand Reputation, Green Marketing.*

Introduction

Green marketing, often referred to as sustainable or environmental marketing, focuses on advertising products or services by highlighting their eco-friendly attributes. It encompasses various approaches, strategies, and practices aimed at promoting sustainability, efficient use of resources, and environmental preservation, while resonating with consumers' commitment to fostering a greener and healthier world.

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The idea of green marketing gained prominence in the late 20th century, driven by rising environmental awareness and growing global issues such as climate change, resource scarcity, and pollution. Companies started implementing eco-conscious marketing approaches to meet the needs of a shifting consumer demographic that valued sustainable and ethical consumption practices.

Green marketing involves several crucial components designed to encourage sustainability and environmentally conscious consumer behavior. A significant aspect is the creation of eco-friendly products and services that reduce environmental harm by incorporating sustainable materials, renewable energy, or biodegradable packaging. Examples of such products include energy-efficient appliances, electric vehicles, organic foods, and reusable packaging options. Another important element is the implementation of sustainable business practices, where companies prioritize reducing their carbon footprint, adopting recycling initiatives, and utilizing renewable energy, water-saving techniques, and ethically sourced materials to demonstrate their dedication to sustainability. Furthermore, green marketing highlights the environmental advantages of products, such as lower energy usage, reduced emissions, or biodegradability, to appeal to environmentally aware consumers. Lastly, educating consumers is an integral part of green marketing, as it seeks to increase awareness about the significance of sustainability and motivate individuals to make environmentally responsible choices.

History of Green Marketing

The history of green marketing dates back to the 1960s and 1970s, when environmental concerns began to rise globally due to issues such as pollution, deforestation, and the depletion of natural resources. The concept gained traction in the 1970s with the publication of works like Rachel Carson’s *Silent Spring* (1962), which raised awareness about the dangers of pesticide use, and the first Earth Day in 1970, which galvanized public concern about environmental degradation. In the 1980s, the idea of green marketing started to take shape as businesses began to recognize the growing demand for environmentally friendly products and services. Companies began to market products as “eco-friendly” or “green” to appeal to consumers who were becoming more conscious of environmental issues. By the 1990s, the rise of global environmental movements, along with stricter regulations on pollution and waste, led to an increased focus on sustainability in business practices. Green marketing expanded beyond product labeling to include initiatives like reducing carbon footprints, using renewable energy, and promoting ethical sourcing. In the 2000s and beyond, green marketing became a central component of many corporate strategies as both consumers and governments placed more emphasis on sustainability and corporate responsibility. Today, green marketing is a well-established field, with businesses across industries adopting green practices to meet consumer demand, adhere to regulations, and contribute to global sustainability efforts.

Green Marketing in India

The history of green marketing in India can be traced back to the early 1990s, when environmental concerns started to gain prominence on the global stage. As India’s industrialization accelerated, so did the environmental challenges such as pollution, deforestation, and resource depletion. In response, businesses began to recognize the need for eco-friendly products and sustainable practices. The concept of green marketing in India gained momentum in the mid-1990s when Indian companies, particularly in the manufacturing and FMCG (fast-moving consumer goods) sectors, started integrating environmental considerations into their business strategies. This was influenced by growing consumer awareness and pressure from environmental advocacy groups calling for more responsible business practices.

The late 1990s saw a more formal push towards environmental sustainability as Indian industries began adopting green marketing strategies. Companies like Godrej, ITC, and Tata started incorporating eco-friendly products, reducing their environmental footprints, and promoting sustainability through marketing campaigns. During this period, the focus was primarily on eco-labeling and advertising the environmental benefits of products such as energy-efficient appliances, organic food, and recyclable packaging.

In the early 2000s, with the rise of globalization, India began to see a surge in the demand for sustainable products as consumers became more aware of global environmental issues like climate change and resource depletion. This shift in consumer behavior pushed Indian companies to further refine their green marketing strategies, moving beyond just product promotion to include sustainable practices in their operations. Industries such as textiles, automobiles, and construction started adopting green marketing by promoting eco-friendly materials and energy-efficient solutions.

The government of India also played a significant role in fostering green marketing by introducing policies and regulations to promote environmental sustainability. The introduction of the National Action Plan on Climate Change in 2008, and the enforcement of stricter pollution control standards, pushed businesses to adopt cleaner production methods and eco-friendly products. Government initiatives, such as tax incentives for renewable energy and green technologies, also encouraged businesses to integrate sustainability into their operations.

In the 2010s, green marketing in India became more mainstream as several multinational corporations, such as Unilever, PepsiCo, and Coca-Cola, incorporated green marketing principles into their Indian operations. The rise of e-commerce and online platforms also contributed to the spread of green marketing by providing a direct channel for eco-conscious consumers to access and purchase sustainable products. By this time, Indian consumers were increasingly recognizing the importance of environmental preservation, and businesses began to offer products with green certifications, recyclable packaging, and energy-efficient features.

Today, green marketing in India is an integral part of corporate strategy across industries. It is driven by consumer demand for more sustainable products, government regulations, and the growing importance of corporate social responsibility (CSR). Companies like Patanjali, Infosys, and Mahindra have embraced green marketing by focusing on eco-friendly products, renewable energy, and waste reduction programs. However, challenges such as consumer awareness, cost barriers, and greenwashing remain, but the overall trend points toward a future where green marketing is likely to play an even more crucial role in shaping India’s business landscape.

Introduction of CSR

Corporate Social Responsibility (CSR) refers to the responsibility businesses have to address social, environmental, and economic issues through their operations and interactions with stakeholders. It goes beyond profit generation, encouraging companies to consider the broader effects of their actions on society. CSR can take various forms, such as contributing to community development, minimizing environmental impact, promoting fair labor practices, and supporting charitable causes. It demonstrates a company's dedication to making a positive impact on society and acting in ways that benefit not only shareholders but also employees, customers, local communities, and the environment. CSR initiatives might involve funding education, adopting sustainable practices, supporting charity work, or ensuring ethical sourcing of materials. Over time, CSR has shifted from being a voluntary activity to one that is expected by consumers, investors, and governments, with many businesses incorporating it into their core strategies. Ultimately, CSR seeks to align a company's actions with societal values, promoting long-term benefits for both the company and the community.

Corporate Social Responsibility (CSR) refers to the concept where businesses take responsibility for the impact of their actions on society, the environment, and the economy. It involves integrating ethical practices into their core operations and decision-making processes, aiming to contribute positively to the world beyond financial profits. CSR can encompass a wide range of activities, such as reducing environmental footprints, ensuring fair labor practices, supporting community development, and engaging in philanthropy. Over time, CSR has evolved from a voluntary business practice to an essential aspect of modern corporate strategies, driven by consumer demand, government regulations, and the growing recognition that companies must consider the broader social and environmental consequences of their operations. CSR is now seen as a way for businesses to demonstrate accountability, build a positive reputation, and foster long-term relationships with stakeholders, including customers, employees, investors, and local communities. By embracing CSR, businesses aim to create value not only for their shareholders but also for society as a whole, contributing to sustainable development and addressing global challenges.

History of CSR

The concept of Corporate Social Responsibility (CSR) has evolved over several decades, with its roots tracing back to the early 20th century. In the early years, businesses were primarily focused on profit generation, and there was little emphasis on their societal responsibilities. However, during the 1950s and 1960s, scholars and activists began to challenge this narrow view, advocating for businesses to consider their impact on society, the environment, and workers. The term "corporate social responsibility" gained traction in the 1950s, particularly through the work of economist Howard Bowen, who is often referred to as the "father of CSR." In his 1953 book, *Social Responsibilities of the Businessman*, Bowen argued that businesses have an obligation to act in the public interest and contribute to social welfare.

In the 1970s and 1980s, CSR began to gain wider acceptance, driven by growing environmental concerns, the rise of labor movements, and the increasing public awareness of social issues. During this period, companies started to implement charitable initiatives and engage in social causes as part of their business strategies. The 1990s saw CSR expand beyond philanthropy to include a focus on ethical business practices, environmental sustainability, and fair trade. Companies began to realize that their long-term success was tied to their ability to act responsibly and contribute to societal well-being.

The turn of the 21st century marked a significant shift in CSR, with businesses increasingly integrating sustainability into their core strategies. CSR became not only a way to improve a company's public image but also a tool for creating value, building consumer loyalty, and managing risks. Today, CSR is a widely recognized and expected practice in the business world, with companies being held accountable for their social and environmental impact. Governments, consumers, and investors now demand greater transparency, ethical behavior, and sustainable practices, making CSR an integral part of modern business operations.

CSR in India

The history of Corporate Social Responsibility (CSR) in India has evolved over several decades, deeply influenced by the country's cultural values, economic development, and social challenges. Traditionally, CSR in India has been closely linked with philanthropy and charitable activities, with a strong emphasis on social welfare, community development, and support for education and healthcare. In the early years of India's independence, several businesses, especially family-owned enterprises, engaged in philanthropic initiatives as part of their social obligations. Companies like the Tatas, Birlas, and Infosys laid the foundation for CSR practices in India through their involvement in community service, education, healthcare, and infrastructure development.

In the 1950s and 1960s, the Indian government began to emphasize the importance of corporate contributions to national development. During this time, India's economy was primarily state-controlled, and public sector enterprises played a significant role in economic activities. These enterprises were expected to contribute to social welfare through various programs. However, CSR remained relatively informal and was largely based on voluntary actions by businesses.

The 1990s marked a significant shift in CSR practices in India due to economic liberalization. As India opened up its economy and integrated more with the global market, Indian companies began to focus more on business performance, competition, and profitability. The concept of CSR began to evolve from mere philanthropy to a more strategic approach that integrated environmental, social, and governance (ESG) factors into business operations. Companies started to adopt sustainable practices, such as reducing pollution, promoting renewable energy, and ensuring fair labor practices. However, CSR was still voluntary, and there were no clear regulations or guidelines governing it.

The major turning point came in 2013, when India became the first country in the world to mandate CSR. The Companies Act of 2013 introduced a provision that made it compulsory for companies meeting certain criteria to spend at least 2% of their average net profits from the previous three years on CSR activities. This move formalized CSR in India and set a legal framework for companies to follow. The law also specified areas where CSR activities could be undertaken, such as promoting education, ensuring environmental sustainability, healthcare, rural development, and supporting gender equality.

Since the introduction of the Companies Act, CSR has gained significant traction in India. Many Indian companies, including the Tata Group, Reliance Industries, and Infosys, have expanded their CSR efforts, making long-term commitments to sustainability and social causes. Companies are increasingly aligning their CSR initiatives with the United Nations Sustainable Development Goals (SDGs), focusing on projects related to clean energy, water conservation, health, education, and poverty alleviation.

In recent years, CSR in India has evolved further, with businesses recognizing that CSR can drive not only social impact but also long-term business value. Companies are focusing on creating shared value, engaging with communities in a more meaningful way, and involving employees in CSR activities. Additionally, there is a growing awareness of the need for transparency and accountability in CSR reporting, with businesses increasingly adopting international standards for measuring the impact of their CSR initiatives.

Today, CSR in India is seen as an integral part of corporate strategy, driven by both legal obligations and a genuine commitment to societal well-being. While challenges remain, such as ensuring that CSR activities are impactful and addressing concerns about greenwashing, CSR continues to grow in importance as both an ethical practice and a strategic tool for business success in India. Corporate Social Responsibility (CSR) in India is governed by Section 135 of the Companies Act, 2013, along with the Companies (Corporate Social Responsibility Policy) Rules, 2014. The legislation mandates that companies meeting specific thresholds—such as a net worth of ₹500 crore or more, a turnover of ₹1,000 crore or more, or a net profit of ₹5 crore or more in a given financial year—must allocate at least 2% of their average net profits over the preceding three years to CSR activities. Companies are required to establish a CSR committee comprising members of the Board of Directors, which is responsible for formulating and recommending a CSR policy, identifying relevant projects, and ensuring implementation and monitoring. Permissible CSR activities are outlined in Schedule VII of the Act and include areas such as eradicating hunger, promoting education, ensuring environmental sustainability, and contributing to national heritage. Importantly, CSR funds cannot be used for activities undertaken in the normal course of business or for projects benefiting only the company's employees or their families. Moreover, companies must disclose their CSR expenditures and initiatives in their annual reports, ensuring transparency and accountability. This regulatory framework aims to foster a culture of social responsibility among businesses, encouraging them to contribute actively to sustainable development and societal well-being.

Review of Literature

The relationship between Corporate Social Responsibility (CSR) and green marketing has been extensively explored in academic and business literature, reflecting their growing significance in fostering sustainable development. CSR, as a concept, revolves around a company’s commitment to social, ethical, and environmental responsibilities beyond its economic and legal obligations. Green marketing, on the other hand, involves promoting products or services that are environmentally friendly, aligning with the principles of sustainability and addressing the demands of environmentally conscious consumers. The integration of CSR into green marketing strategies has become a key focus area for researchers and practitioners alike.

Early studies, such as those by Kotler and Lee (2005), emphasized that CSR activities could significantly enhance a company's public image and customer loyalty when combined with green marketing initiatives. They argued that integrating CSR practices with environmental marketing campaigns helps organizations align their business objectives with societal and environmental goals, thereby gaining a competitive advantage. Similarly, Peattie (1999) highlighted that green marketing, supported by a robust CSR framework, creates a strong value proposition for consumers by addressing their environmental concerns while demonstrating the company’s ethical responsibility.

Researchers like Menon and Menon (1997) introduced the concept of "enviropreneurial marketing," which connects CSR and green marketing by advocating for innovative and eco-friendly business strategies. Their work underscored that CSR-driven green marketing fosters not only consumer trust but also corporate sustainability by addressing the ecological impact of business operations. Furthermore, studies by Bhattacharya and Sen (2004) revealed that consumers are more likely to support brands that demonstrate a genuine commitment to CSR initiatives, especially those linked to environmental conservation, which is a core aspect of green marketing.

Recent literature has delved deeper into the synergies between CSR and green marketing. For instance, studies by D’Souza et al. (2020) revealed that companies adopting CSR as part of their green marketing strategies witness higher consumer engagement, especially among younger, environmentally conscious demographics. The research highlighted that transparency in communicating CSR initiatives, such as sustainable sourcing or carbon-neutral production processes, enhances brand credibility and drives purchase decisions. Moreover, Kumar et al. (2022) emphasized that CSR and green marketing, when integrated effectively, not only fulfill legal and ethical obligations but also position organizations as leaders in sustainability, attracting investments and stakeholder trust.

Another stream of research has focused on the challenges and criticisms of CSR-driven green marketing. Critics like Laufer (2003) cautioned against "greenwashing," where companies exaggerate or falsely claim environmental benefits to enhance their image without substantive action. Such practices can backfire, leading to reputational damage and consumer distrust. This underscores the importance of authenticity and measurable outcomes in CSR-related green marketing initiatives.

The role of technology and innovation in strengthening the CSR-green marketing nexus has also gained attention. Studies by Chen et al. (2019) demonstrated how advancements in digital marketing and big data analytics enable companies to design targeted green marketing campaigns based on consumer preferences and feedback. Integrating CSR principles into these campaigns ensures that organizations remain accountable and transparent about their environmental impact.

In summary, the literature on the connection between CSR and green marketing underscores how these two concepts work together to promote sustainable business practices and enhance customer loyalty. CSR serves as the ethical backbone and strategic guide, while green marketing functions as a means to convey these principles to stakeholders. Combined, they tackle global environmental issues and support the development of responsible and resilient organizations. Future studies could delve deeper into the dynamic interaction between CSR and green marketing, particularly in the context of new trends such as circular economy initiatives, climate resilience strategies, and advancements in technology.

Objectives of the Study

- To analyze the challenges and limitations in implementing CSR-related green marketing practices.
- To assess how businesses combine CSR initiatives and green marketing efforts to align with environmental and social goals.
- To assess how CSR contributes to the development of creative and impactful green marketing initiatives.

These objectives can serve as a framework for research or analysis, offering a comprehensive view of the intersection between CSR and green marketing.

Research Methodology

This study will follow a descriptive research design, aimed at exploring the relationship between Corporate Social Responsibility (CSR) and green marketing.

Descriptive Research is a type of research methodology that aims to describe characteristics, behaviors, or phenomena without manipulating or controlling the variables. It focuses on providing an accurate portrayal or account of a subject, often through observation, surveys, or case studies. Descriptive research answers "what" questions, such as "What are the CSR practices of companies in the petroleum industry?" or "What is the relationship between green marketing and CSR?" The key purpose is to describe a situation or problem as it exists, offering a detailed picture without drawing causal conclusions.

This research methodology provides a comprehensive plan for conducting a study on CSR and green marketing, incorporating both theoretical and practical elements to explore their relationship and impact.

Green Marketing

The principles of green marketing focus on promoting products and services in a way that aligns with environmental sustainability and ethical practices. One core principle is the commitment to offering products that have a minimal environmental impact throughout their lifecycle, from production to disposal. This includes using sustainable materials, reducing waste, and ensuring that products are recyclable or biodegradable. Another key principle is transparency, where companies are open about the environmental attributes of their products, ensuring that consumers are well-informed about their eco-friendly qualities. Additionally, green marketing encourages businesses to adopt environmentally responsible practices, such as reducing their carbon footprint, conserving natural resources, and supporting ethical sourcing. A crucial principle is also fostering consumer education, helping individuals understand the benefits of sustainable choices and the role they play in protecting the environment. Ultimately, green marketing principles aim to create a balance between business success and environmental stewardship, promoting both profit and planet preservation.

Green marketing provides numerous advantages for businesses, consumers, and the environment. For businesses, it helps improve brand image and appeal to a growing base of environmentally conscious consumers who prioritize sustainability in their buying choices. By adopting green practices, companies can lower operational expenses, such as energy costs and waste management, resulting in long-term financial benefits. Furthermore, green marketing allows businesses to stand out in a competitive market by positioning themselves as pioneers in sustainability. For consumers, it offers access to products and services that support a healthier planet, giving them confidence that their purchases align with their ethical values. From an environmental perspective, green marketing helps reduce waste, energy usage, and carbon emissions, aiding in the conservation of natural resources and the reduction of pollution. Overall, green marketing promotes sustainable consumption and production, benefiting businesses, consumers, and the planet.

Challenges of Green Marketing and CSR Implementation in India

Green marketing in India encounters several challenges that hinder its broader adoption and success. A primary issue is the high production cost of eco-friendly products, which often results in them being more expensive than traditional alternatives. This price gap can discourage consumers, especially in cost-sensitive markets, from choosing sustainable options. Another challenge is the limited awareness and understanding among both consumers and businesses about the advantages of green products and sustainable practices. Many consumers are unaware of the environmental impact of their purchases, while businesses may lack the knowledge or resources to implement green marketing strategies. Additionally, the absence of uniform regulations and certifications for green products in India leads to confusion and skepticism, as some companies may falsely market their products as environmentally friendly. The scarcity of eco-friendly materials and technologies, coupled with inadequate recycling and waste management infrastructure, also restricts the expansion of green marketing. Lastly, cultural and economic factors, such as a preference for conventional products and a focus on short-term financial gains, further impede the widespread adoption of green marketing in India.

Implementing Corporate Social Responsibility (CSR) in India faces several challenges, despite the growing recognition of its importance in the corporate sector. One of the primary challenges is the lack of clear guidelines and standardization in CSR activities. While the Companies Act of 2013 mandates that certain companies allocate funds for CSR, there is still ambiguity in how these funds should be spent and how companies should measure the impact of their initiatives. This lack of standardized reporting can lead to inconsistent practices and make it difficult for stakeholders to assess the effectiveness of CSR efforts.

Another challenge is the limited understanding of CSR among some companies, especially smaller businesses and those in the public sector. While large corporations may have dedicated CSR departments, smaller businesses often view CSR as a mere obligation rather than a strategic tool for long-term growth. This lack of awareness can result in poorly planned CSR initiatives that do not align with the company's core business objectives or fail to deliver meaningful social impact.

Additionally, there is often a gap between the CSR projects implemented and the actual needs of the communities they aim to serve. In many cases, companies may focus on projects that provide short-term benefits or are more visible, rather than addressing long-term social challenges or the root causes of problems. This can lead to CSR efforts being seen as superficial or disconnected from the community's real needs.

Resource constraints, both in terms of finances and human capital, also pose a significant challenge. While large corporations may have the resources to invest in comprehensive CSR programs, smaller firms may struggle to allocate sufficient funds or personnel for effective CSR implementation. Furthermore, in some cases, companies may divert funds meant for CSR into other areas, undermining the intended social impact.

Another challenge is the issue of transparency and accountability. Companies often face criticism for their CSR activities being used as a marketing tool or for "greenwashing" – exaggerating their contributions to social causes to improve their public image. Without clear, transparent reporting and third-party assessments, it becomes difficult to hold companies accountable for the true impact of their CSR activities.

Finally, the regulatory and governance framework surrounding CSR in India, although improving, still faces challenges. The enforcement of CSR rules is inconsistent, and there are gaps in monitoring and auditing CSR activities. This lack of effective oversight means that some companies may not fully comply with the CSR requirements or may mismanage the allocated funds, reducing the potential social impact.

Overall, while CSR in India has made significant strides, these challenges need to be addressed to ensure that CSR efforts are effective, impactful, and aligned with the broader goals of sustainable development.

Future of Green Marketing and CSR

The future of green marketing looks bright as environmental awareness increases and sustainability becomes more crucial to both consumers and businesses. With climate change and resource depletion continuing to be major concerns, consumers are expected to seek out more eco-friendly products and services, driving companies to innovate and adopt greener practices. Technological advancements in areas like renewable energy, sustainable materials, and eco-efficient production methods will allow businesses to reduce their environmental footprint while staying profitable. Additionally, tougher environmental regulations and government incentives will likely encourage companies to embrace sustainable practices and promote their green efforts. The growth of the circular economy, which focuses on reusing and recycling products, will also significantly influence the future of green marketing. Moreover, businesses that are transparent and honest in their environmental claims will earn consumer trust, as people become more cautious about greenwashing. In conclusion, as the global push for sustainability strengthens, green marketing is set to become a core component of business strategies, offering long-term advantages for both the environment and the economy.

The future of green marketing in India looks promising as environmental awareness continues to rise and sustainability becomes increasingly important to both consumers and businesses. With the growing concerns about climate change, pollution, and resource depletion, Indian consumers are expected to increasingly seek eco-friendly products and services, prompting companies to adopt more sustainable practices. Advances in technology, such as renewable energy, waste management, and sustainable materials, will help businesses reduce their environmental impact while staying competitive. Government policies and incentives supporting green initiatives are likely to encourage businesses to embrace sustainability and highlight their environmentally friendly products. As the circular economy concept, focused on reuse and recycling, gains popularity in India, green marketing will become a more integral part of business strategies. However, for green marketing to reach its full potential, businesses must address challenges such as high costs, low consumer awareness, and the absence of standardized eco-certifications. Once these issues are overcome, green marketing in India is set to thrive, promoting both environmental sustainability and economic growth.

The future of Corporate Social Responsibility (CSR) in India looks promising, with the increasing emphasis on sustainability, social impact, and ethical business practices shaping its evolution. As India continues to face pressing social and environmental challenges, such as poverty, inequality, pollution, and climate change, CSR is expected to play a critical role in addressing these issues. Companies in India are likely to place greater focus on long-term, sustainable solutions rather than short-term charitable initiatives, with an emphasis on creating shared value for both businesses and society.

In the coming years, CSR in India will likely see a stronger alignment with the United Nations Sustainable Development Goals (SDGs), with businesses focusing on areas such as clean energy, water conservation, education, healthcare, gender equality, and rural development. This shift will not only contribute to societal well-being but also open new business opportunities, as companies recognize the potential for innovation in addressing social challenges.

Another key aspect of the future of CSR in India is the growing importance of transparency and accountability. With increasing consumer awareness and demand for ethical business practices, businesses will be under pressure to demonstrate the tangible impact of their CSR activities. Companies are expected to adopt more robust CSR reporting frameworks, using standardized metrics to measure and communicate their contributions to social and environmental causes.

The role of technology in CSR is also set to increase. Businesses will likely use digital tools, data analytics, and innovative technologies to improve the efficiency and reach of their CSR initiatives, especially in sectors like education, healthcare, and environmental sustainability. Technology will also enable companies to better engage with communities, track the progress of projects, and ensure greater accountability. Additionally, the Indian government is expected to continue its support for CSR by creating an enabling regulatory environment, providing incentives for businesses that go above and beyond legal requirements, and encouraging private-public partnerships for social development. This support will further drive corporate participation in addressing the country's developmental challenges.

Overall, CSR in India is poised to evolve from a compliance-driven activity to a core business strategy that contributes to sustainable development and drives long-term value creation. As businesses increasingly embrace the role of responsible corporate citizens, CSR will become an integral part of India's journey towards a more inclusive, equitable, and sustainable future.

Relationship between CSR and Green Marketing

Corporate Social Responsibility (CSR) and green marketing are closely intertwined, as both prioritize promoting responsible, sustainable, and eco-friendly business practices. CSR involves a company's dedication to making a positive impact on society and the environment by addressing social, economic, and environmental issues within its operations and relationships with stakeholders. It includes a wide range of activities, such as ethical labor practices, community engagement, environmental sustainability, and transparent governance. On the other hand, green marketing focuses on promoting products, services, or practices that offer environmental benefits, aiming to appeal to eco-conscious consumers by showcasing their sustainability and ecological advantages.

The connection between CSR and green marketing stems from their mutual goal of advancing environmental sustainability. Businesses that engage in CSR often use green marketing strategies to communicate their eco-friendly initiatives to the public, positioning themselves as responsible and forward-thinking. By integrating CSR into green marketing, companies can demonstrate their commitment to reducing environmental impact through initiatives like using renewable energy, minimizing waste, offering eco-friendly packaging, and supporting conservation efforts.

When CSR principles are woven into green marketing campaigns, it creates a mutually beneficial effect for both the company and society. For example, a company that adopts sustainable production methods, like using recycled materials, can incorporate these practices into their green marketing to highlight the environmental benefits of their products. This not only boosts the company's brand image but also builds customer trust and loyalty. Today's consumers are increasingly looking for brands that reflect their values, particularly those focused on environmental protection and social responsibility. As a result, CSR-driven green marketing can attract a loyal customer base that values sustainable and ethical business practices.

Additionally, CSR and green marketing can have a positive impact on a company's financial success. As more consumers become environmentally aware, they are more likely to support brands that genuinely commit to sustainability. Green marketing campaigns aligned with CSR initiatives can also help businesses comply with environmental regulations and sustainability standards. By prioritizing CSR in their green marketing efforts, companies can contribute to a cleaner, more sustainable world while gaining a competitive edge in a marketplace that increasingly values environmental responsibility.

However, the success of CSR-driven green marketing hinges on authenticity. Consumers are becoming more skeptical of companies that engage in "greenwashing," or making misleading claims about their environmental efforts. Therefore, for CSR-related green marketing to be effective, businesses must ensure that their claims are backed by real, measurable actions. Transparency and accountability in reporting CSR activities—such as publishing sustainability reports or participating in third-party environmental certifications—are essential to building consumer trust.

Conclusion

In conclusion, CSR and green marketing are closely connected, with CSR providing the ethical foundation for green marketing strategies. Together, they form a powerful framework for businesses to demonstrate their commitment to sustainability while attracting eco-conscious consumers. By genuinely adopting CSR practices and aligning them with green marketing efforts, companies can strengthen relationships with customers, enhance their reputation, and contribute to a more sustainable future.

Corporate Social Responsibility (CSR) and green marketing are inherently connected, as both focus on ethical practices, sustainability, and environmental responsibility. CSR represents a company's dedication to addressing social, environmental, and economic challenges through its operations and stakeholder engagement. Conversely, green marketing highlights the environmental advantages of products or services, targeting consumers who value sustainability. When companies incorporate CSR principles into their green marketing efforts, they showcase their commitment to protecting the environment, strengthening their brand reputation, and building consumer trust. For instance, a business might reduce its carbon emissions by using renewable energy and then promote this initiative as part of its green marketing strategy. This synergy not only ensures compliance with regulations and societal expectations but also creates a competitive advantage by appealing to environmentally conscious customers. Additionally, CSR-driven green marketing fosters lasting customer loyalty, as modern consumers increasingly prefer brands that reflect their values of social responsibility and environmental consciousness. Essentially, CSR establishes the guiding principles, while green marketing communicates and amplifies these values, resulting in a sustainable business model that balances growth with stakeholder satisfaction.

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MERGING VALUES: ANALYZING THE IMPACT OF BANK MERGERS ON CSR INITIATIVES

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ABSTRACT

Bank mergers are transformative events that not only influence financial performance but also impact corporate social responsibility (CSR) initiatives. This study explores the evolving dynamics of CSR in the context of bank mergers, focusing on how mergers reshape the strategies, scope, and execution of CSR activities. For this study Punjab national bank merger with union bank of India and Oriental bank of commerce is taken as sample. By examining sample and data from bank mergers, the research identifies trends in CSR prioritization, resource allocation, and alignment with stakeholder expectations. The findings reveal both opportunities and challenges, such as potential synergy in CSR objectives versus dilution of focus on community-centric activities. The paper emphasizes the need for integrating CSR into the strategic framework of merging entities to ensure sustainable growth and societal impact. This study contributes to understanding the intersection of corporate consolidation and social responsibility, offering insights for policymakers, banking institutions, and stakeholders.

***KEYWORDS**: Corporate Social Responsibility (CSR), Bank Merger, CSR Activities, Training and Livelihood, Education, Sports.*

Introduction

In the dynamic landscape of modern banking, mergers and acquisitions (M&A) serve as powerful tools for enhancing institutional growth, market reach, and operational efficiency. Globally, the banking sector has witnessed waves of consolidation, driven by the pursuit of financial stability, increased profitability, and enhanced competitiveness. In India, the phenomenon has been particularly prominent in the public sector banking domain, where mergers are often orchestrated by the government to strengthen weak entities and streamline operations. Among the most notable examples of such consolidations is the merger of Punjab National Bank (PNB) with Oriental Bank of Commerce (OBC) and United Bank of India (UBI) in 2020, creating one of the largest banking entities in the country. After merger Punjab National bank becomes the second largest Indian public Sector bank. While the financial and operational outcomes of such mergers have been extensively analyzed, their implications on non-financial aspects, particularly Corporate Social Responsibility (CSR), remain underexplored.

CSR has become an integral aspect of corporate governance and sustainability in recent decades, especially in the banking sector. Beyond its regulatory mandate under Section 135 of the Indian Companies Act, 2013, CSR reflects a corporation's commitment to societal welfare, environmental stewardship, and inclusive development. For banks, CSR initiatives are not merely altruistic endeavors; they play a critical role in building trust, fostering financial inclusion, and supporting community development. However, mergers often disrupt the established CSR strategies of participating entities, necessitating a re-evaluation of priorities, resource allocation, and project execution. These disruptions pose significant challenges, as well as opportunities, for merged entities to redefine their CSR approach.

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The merger of Punjab National Bank with OBC and UBI provides a compelling case study to investigate the impact of bank mergers on CSR expenditure. As one of India's oldest and most established public sector banks, PNB has a long history of undertaking significant CSR initiatives. The merger, however, brought together three institutions with distinct organizational cultures, operational strategies, and stakeholder expectations. This convergence necessitated the integration of not only financial systems and human resources but also CSR frameworks. Analyzing how this merger influenced CSR expenditure—its allocation, focus areas, and overall effectiveness—can offer valuable insights into the broader implications of bank consolidations on sustainability and societal commitments.

The Importance of CSR in the Banking Sector

The banking industry occupies a unique position in the economy, serving as an intermediary that channels resources towards productive sectors while fostering financial inclusion and economic development. Banks are also key stakeholders in promoting sustainability and social equity, given their influence on industries and communities through lending and investment decisions. In the Indian context, CSR has become a regulatory obligation for banks, requiring them to allocate their profits to CSR activities. These activities often focus on areas such as education, healthcare, rural development, environmental conservation, and financial literacy.

CSR initiatives by banks not only enhance their brand reputation but also contribute to economic stability by addressing societal challenges. For instance, investments in rural development programs improve agricultural productivity, while financial literacy initiatives empower underserved populations to participate in the formal financial system. However, the realization of these benefits depends significantly on the stability and consistency of CSR policies and expenditures, which can be disrupted during mergers.

Bank Mergers and CSR: A Complex Relationship

Bank mergers, while aimed at achieving financial and operational synergies, often lead to significant changes in corporate policies, including CSR strategies. The integration of merged entities involves aligning their priorities, systems, and stakeholder expectations, which can temporarily shift focus away from CSR. Moreover, differences in pre-merger CSR commitments, organizational cultures, and resource allocation strategies can complicate the harmonization process. For example, one merging bank may prioritize education and skill development, while another may focus on healthcare and environmental projects. Reconciling these differences to create a unified CSR framework requires careful planning and negotiation.

The literature on M&A in the banking sector highlights several potential outcomes for CSR post-merger. Some studies suggest that mergers lead to increased CSR expenditure due to the combined resources of the merged entity, while others argue that the initial focus on financial integration can lead to a decline in CSR activities. These contradictory findings underscore the need for empirical studies that examine specific cases to identify patterns and determinants of CSR performance post-merger.

Why Punjab National Bank?

Punjab National Bank, established in 1894, is one of India's oldest and most trusted financial institutions. Its merger with OBC and UBI in 2020 was part of the Indian government's broader agenda to consolidate public sector banks and create larger, more resilient institutions. This merger was significant not only because of the scale of the combined entity but also due to its potential implications for CSR. Each of the three banks had a distinct history of CSR activities, with varied focus areas and levels of expenditure. The integration of these diverse approaches presented both challenges and opportunities for redefining CSR strategies.

Analyzing the impact of this merger on CSR expenditure is particularly relevant given the regulatory and societal expectations for public sector banks in India. As government-owned institutions, these banks are expected to lead by example in fulfilling their CSR obligations. Any disruption or enhancement in their CSR performance can have broader implications for the banking sector's role in promoting sustainability and social welfare.

Focus Areas of Punjab National Bank

- Farmer's training centers (FTC)/ Financial Literacy Centers
- Rural Self Employment Training Institute

- PNB Ladli (Girls education)
- PNB Kisan Balak Siksha protsahan
- PNB Vikas (adopting village)
- Sports etc.

Review of Literature

Kabir and chowdhury (2023), The study on corporate social responsibility (CSR) in Bangladesh highlights a growing trend in CSR activities within the banking sector, despite the nation's historically low social trust and limited corporate philanthropy. The relationship between CSR and corporate financial performance (CFP) remains debated, with no clear consensus in existing research. While CSR is often revered from an emotional perspective, its financial benefits are rarely critically analyzed. This study aims to address this gap by examining 30 listed banks in Bangladesh from 2006 to 2018, employing advanced methodology, including Panel Vector Autoregression, to explore the bidirectional causality between CSR and financial returns. The findings indicate that while better financial performance leads to increased CSR expenditure, CSR spending does not necessarily improve financial performance. The study also identifies key determinants of CSR, such as net income, total deposits, return on assets, and prior CSR expenditure, all of which have a positive relationship with CSR, while firm age negatively affects CSR spending.

Rajul Dutt and Himani Grewal (2018), The research highlights the significant role of the State Bank of India (SBI) in driving social impact through its CSR initiatives, particularly in healthcare, skill development, and livelihood creation. While SBI has made notable investments in these areas, especially skill development, it is suggested that the bank should broaden its focus to include other sectors. The study also points out that while media coverage of CSR activities is high, the actual implementation of these initiatives needs improvement, and recommends that SBI's CSR committee better align its efforts with the broader societal needs to promote overall national development.

Pooja Rani and MS khan (2015), The study highlights that Indian banks prioritize CSR activities in rural development, women empowerment, and education, with significant contributions to vocational training, microfinance, and educational welfare. However, banks show limited focus on customer and employee welfare, as many employees view these as business activities rather than CSR. Key challenges to CSR implementation include limited employee awareness and knowledge, while the main benefits include improved stakeholder relationships and enhanced corporate reputation. Ethical and moral considerations drive banks' involvement in CSR activities.

Anjali Kulkarni (2014), The study emphasizes the importance of Corporate Social Responsibility (CSR) for businesses, especially banks, which play a significant role in the financial sector. It suggests that banks should be mindful of the socio-economic impact of their products and services on society and the environment. The Reserve Bank of India has issued guidelines for banks to adopt CSR policies that promote sustainable development and non-financial reporting. The chapter analyze CSR activities of 19 public and private sector banks over three financial years, focusing on the social issues addressed, strategies employed, staff involvement, and the sustainability of these initiatives. It will also review CSR, social development, and non-financial reporting by banks.

Eliza Sharma and M. Mani (2013), The analysis reveals that while Indian banks are making efforts in CSR, many fall short of regulatory requirements such as priority sector lending and financial literacy programs. Public sector banks lead in CSR contributions, while private and foreign banks lag behind. Top-performing banks like ICICI, HDFC, and SBI in profitability are not leaders in CSR activities. The study highlights the need for banks to improve CSR efforts, particularly in women welfare and education, and for policymakers to evaluate banking performance beyond financial metrics. However, the study is limited by its sample size and timeframe, suggesting the need for further research on the relationship between CSR and financial performance.

Sarita Moharana (2013),The researcher reveals that the effectiveness of CSR initiatives in Indian banks remains unsatisfactory due to a lack of coordination among banks, government, and NGOs. Banks need structured CSR policies, prioritized activities, dedicated funding, and regular monitoring and reporting to their boards. While CSR is often used as a marketing tool, better awareness and training for managers on social issues are required. The changing perspective of Indian businesses toward CSR reflects growing international competition. Suggested measures include increased government involvement, development of CSR consultancy, and enhanced media engagement to strengthen CSR efforts.

Manisha Saxena and A S Kohli (2012), The paper explores whether integrating CSR from the start enhances organizational sustainability. It finds weak support for a direct link between CSR and financial performance, challenging previous studies that suggest a positive correlation. The study highlights that while CSR efforts are actively reported, their impact on financial outcomes may be limited if not closely aligned with core business operations.

S.K. Chaudhury, S.K. Das and P.K. Sahoo (2012), The study reveals that, The 21st century demands mandatory implementation of CSR, requiring coordination between corporates, the government, and NGOs to align business practices with societal needs. In India, CSR efforts remain limited due to a lack of structured policies and accountability. It is recommended that corporates allocate a specific percentage of net profit towards CSR, with mandatory annual reporting based on regulatory guidelines emphasizing stakeholder care, ethical practices, and inclusive growth. Indian banking companies focus on education, rural development, and socio-economic support for vulnerable groups, but need to establish structured CSR policies, prioritize activities, allocate dedicated funds, and ensure regular monitoring and reporting for impactful social spending.

Research Significance

This study seeks to address a critical gap in the literature by examining how bank mergers influence CSR expenditure and strategies, using the PNB merger as a case study. By employing a panel data analysis, the research will quantify changes in CSR spending patterns before and after the merger, identify key determinants of these changes, and evaluate the implications for stakeholders. The findings will contribute to the broader discourse on the intersection of corporate restructuring and sustainability, offering practical insights for policymakers, banking executives, and CSR practitioners.

In a rapidly evolving financial landscape, understanding the relationship between mergers and CSR is essential for ensuring that economic growth is aligned with social and environmental priorities. This research aims to provide actionable recommendations for enhancing the effectiveness and resilience of CSR strategies in the context of bank consolidations, thereby contributing to the broader goal of sustainable developmen

Research Objectives

- To study the CSR practices of Punjab National Bank.
- To assess the trends in CSR expenditure before and after mergers in selected sample.
- To evaluate the alignment of CSR expenditure over various activities are being carried by Punjab national bank.
- To evaluate the changes in CSR focus areas Post Merger.

Research Methodology

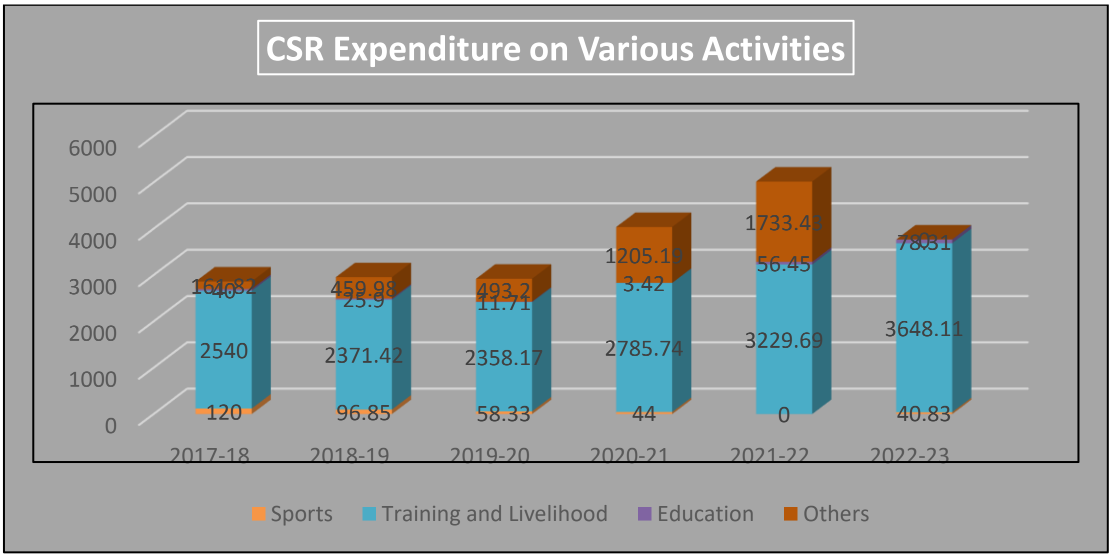
- **Sample Unit:** In 2020 Finance minister Nirmala sitaraman announced the Mega merger in which 10 public sector Banks merged into four. In that merger Union bank of India (UBI) and Oriental bank of Commerce (OBC) (amalgamating banks) merged with Punjab national bank (Anchor bank) and after this merger Punjab National Bank became the second largest Indian PSB after state bank of India. For the current study Punjab National Bank is selected as sample.
- **Study Period:** 6 years from 2018 to 2023 i.e. Financial Year 2017-18 to 2022-23. Three years (2017-18 to 2019-20) before the merger and three years (2020-21 to 2022-23) post-merger.
- **Data Source**: For present study Secondary data has been used collected from the annual report, business Responsibility and sustainability report, corporate social responsibility report, official website of respective bank, online directories, journals, related literature etc.
- **Data Analysis Tool:** Gathered data analysed by statistical tools like percentage, average, trend analysis. Tables, graphs and charts used for effective presentation and better understanding of this study.

Data Analysis and Findings

CSR Expenditure by Punjab National Bank and Trend Analysis

CSR Expenditure and Growth Rate					
Pre-Merger			**Post-Merger**		
Year	**Expenditure (in lacs)**	**Growth Rate**	**Year**	**Expenditure (in lacs)**	**Growth Rate**
2017-18	2861.82	-	2020-21	4038.35	38.23%
2018-19	2954.15	3.23%	2021-22	5019.57	24.30%
2019-20	2921.41	-1.11%	2022-23	3767.25	-24.95%
Average	2912.46		Average	4275.06	

Table 1



Graph 1

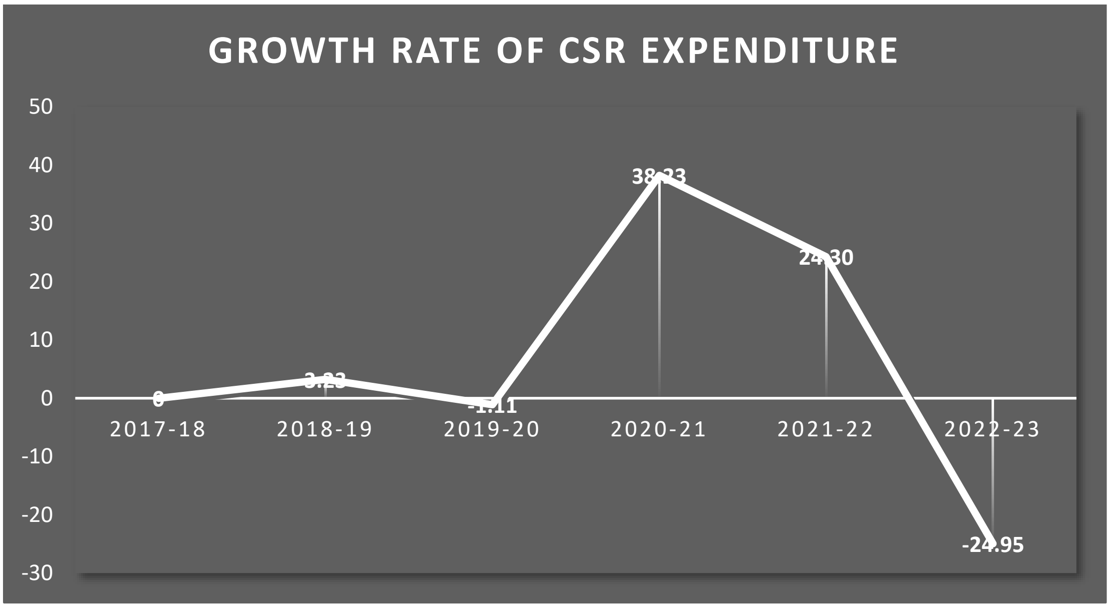


Chart 1

Interpretation

CSR initiatives aim to foster sustainable and inclusive growth by contributing to societal welfare through investments in education, healthcare, environmental conservation, and community development. The data provided offers a comprehensive overview of PNB's CSR expenditure and growth trends over two distinct periods: pre-merger (2017-2020) and post-merger (2020-2023). This analysis explores the patterns, contextual factors, and potential implications for the bank's CSR strategy.

From the above table 1 and graph PNB bank's CSR expenditure constantly increased. The pre merger period shows steady CSR expenditure, with average spending of Rs. 2912.46 lakhs annually. From the above trend analysis, Year-on-year changes in expenditure were relatively minor. The data reflects a consistent commitment to CSR activities, albeit with modest growth. The growth rate in CSR spending improved in 2018-19 (+3.23%) but declined slightly in 2019-20 (-1.11%).

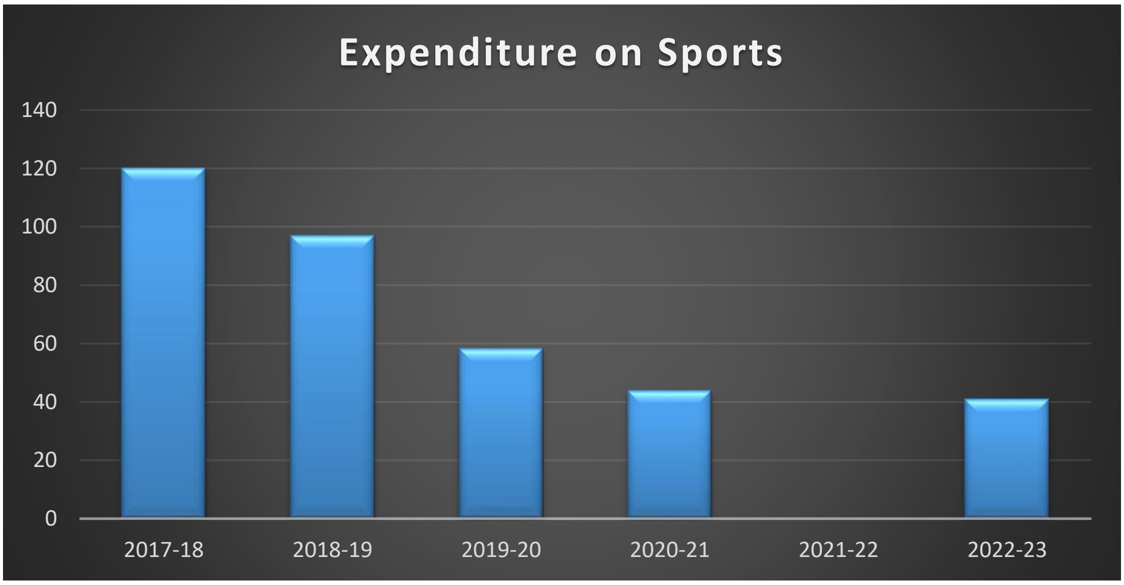
Post-merger, PNB's average CSR expenditure increased significantly to ₹4275.06 lakhs annually, reflecting a notable 46.7% rise compared to the pre-merger average. This sharp increase shows a heightened focus on CSR initiatives following the merger. The merger of PNB with Oriental Bank of Commerce and United Bank of India in 2020 expanded its operations, customer base, and financial resources, enabling higher CSR spending. Growth rate for the year 2020-21, first year after merger, peaked at 38.23%, marking a strong post-merger commitment to CSR. In 2021-22 growth continued at 24.03% but in 2022-23 the growth rate declined to -24.95% which is not a good indicator.

Average CSR expenditure following the merger (Rs. 4275.06 Lakhs) is more than the pre merger average (Rs. 2912.46 Lakhs). The merger have positively influenced PNB's CSR capacity and ambition. Pre-merger growth rates were relatively stable, with minor fluctuations. Post-merger growth rates showed greater volatility, reflecting both enthusiasm and challenges in scaling up CSR initiatives.

CSR Expenditure by Punjab National Bank on Sports

Table 2

CSR Expenditure on Sports			
Pre -Merger		**Post -Merger**	
Year	**Expenditure (in lacs)**	**Year**	**Expenditure (in lacs)**
2017-18	120	2020-21	44
2018-19	96.85	2021-22	0
2019-20	58.33	2022-23	40.83
Average	91.73	Average	28.28



Graph 2

Interpretation

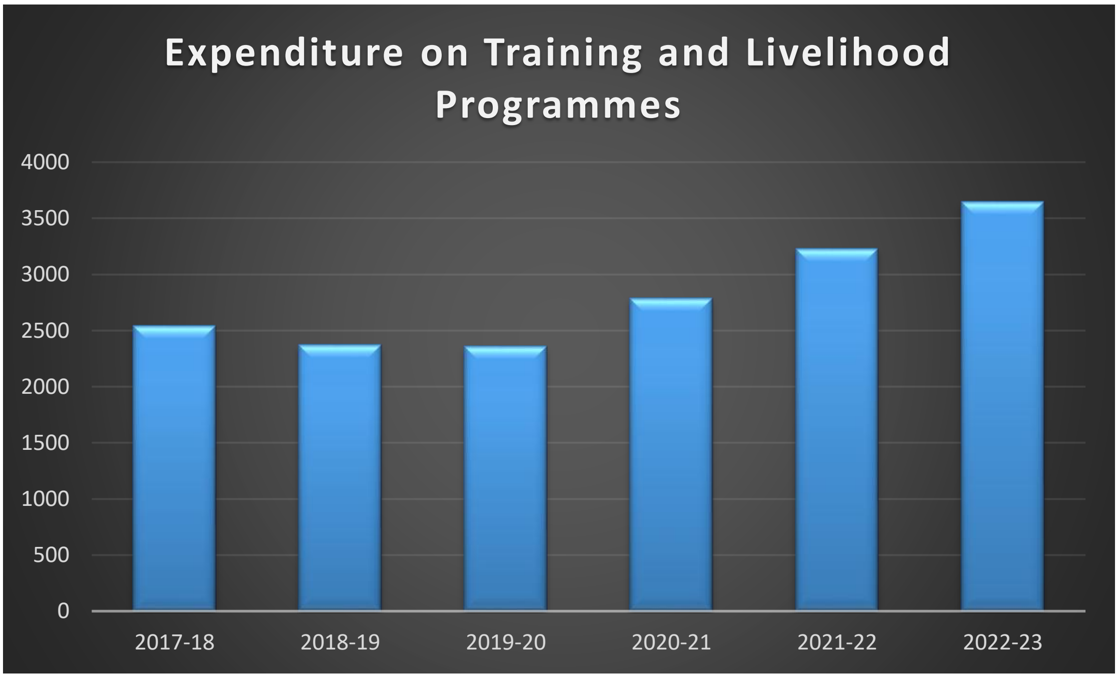
The data on CSR expenditure by Punjab National Bank (PNB) on sports reveals a significant decline in allocations post-merger compared to pre-merger levels. During the pre-merger period (2017-2020), PNB spent an average of ₹91.73 lakhs annually on sports-related CSR activities, with the highest expenditure recorded in 2017-18 at ₹120 lakhs. This reflects a consistent commitment to promoting sports as part of its CSR agenda, aligning with national priorities of fostering sports culture and supporting athletic talent.

However, in the post-merger period (2020-2023), the average annual expenditure on sports dropped sharply to ₹28.28 lakhs, marking a decline of over 69%. In 2020-21, PNB allocated ₹44 lakhs for sports, but this fell to zero in 2021-22 and slightly recovered to ₹40.83 lakhs in 2022-23. The steep reduction in spending post-merger may be attributed to a strategic shift in CSR priorities, focusing more on other critical areas.

CSR Expenditure by Punjab National Bank on Training and Livelihood Programmes

Table3

CSR Expenditure on Training and livelihood			
Pre-Merger		**Post-Merger**	
Year	**Expenditure (in lacs)**	**Year**	**Expenditure (in lacs)**
2017-18	2540	2020-21	2785.74
2018-19	2371.42	2021-22	3229.69
2019-20	2358.17	2022-23	3648.11
Average	2423.20	Average	3221.18



Graph 3

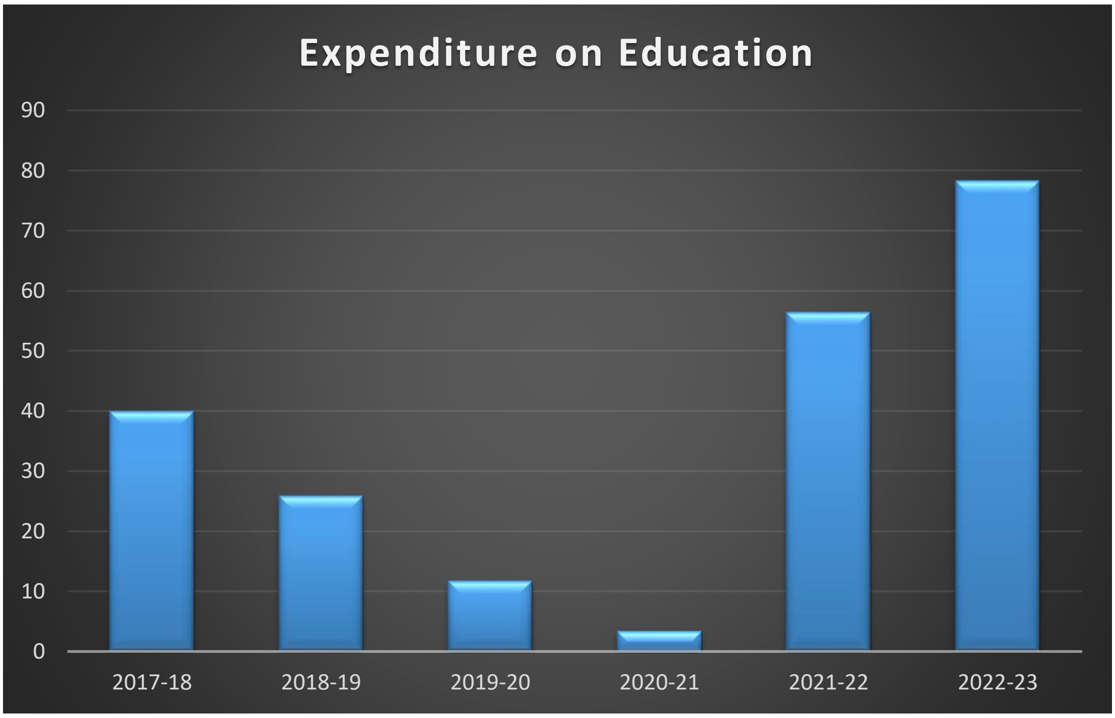
Interpretation

From the above table-3, during the pre-merger period, PNB allocated an average of ₹2423.20 lakhs annually to training and livelihood initiatives. Post-merger, PNB significantly increased its average annual expenditure to ₹3221.18 lakhs, marking a 32.9% rise compared to the pre-merger average. Before the merger, expenses on training and livelihood programmes has decreasing trend which was highest in the year 2017-18, Rs. 2540 lakhs but after the merger it has increasing trend in 2022-23 PNB spends Rs. 3648.11 Lakhs which was highest in selected six years.

CSR Expenditure by Punjab National Bank on Education

Table 4

CSR Expenditure on Education			
Pre-Merger		**Post-Merger**	
Year	**Expenditure (in lacs)**	**Year**	**Expenditure (in lacs)**
2017-18	40	2020-21	3.42
2018-19	25.9	2021-22	56.45
2019-20	11.71	2022-23	78.31
Average	25.87	Average	46.06



Graph 4

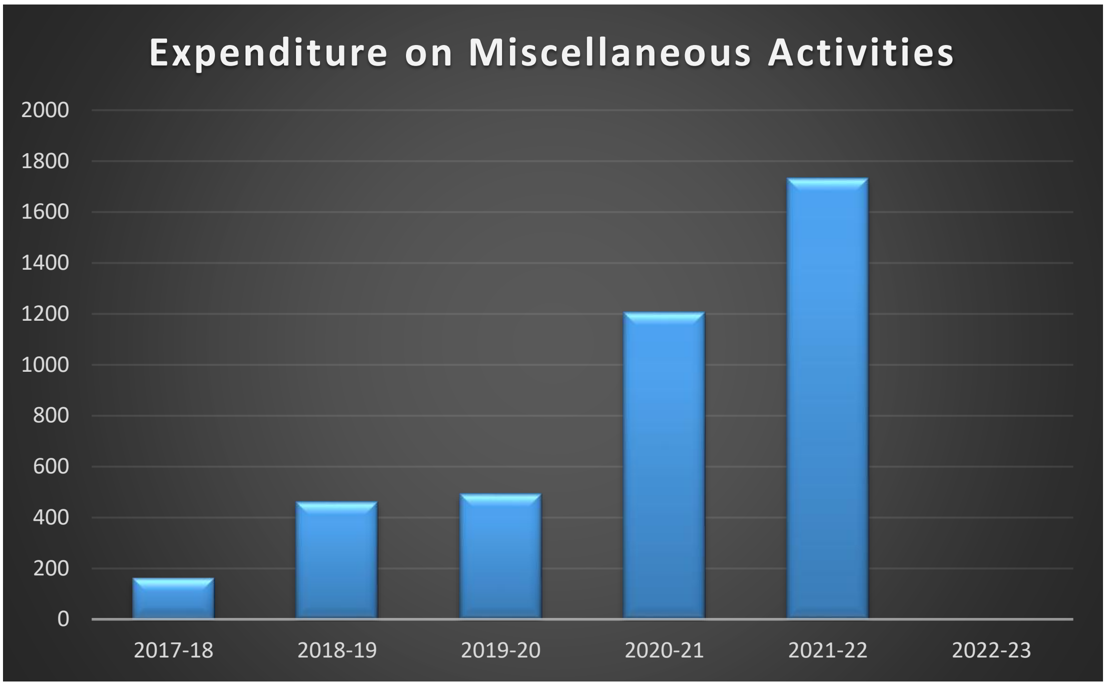
Interpretation

The data of Punjab National Bank's (PNB) CSR expenditure on education reveals an overall increase in focus on educational initiatives post-merger compared to the pre-merger period. However, the expenditure patterns show some fluctuations. During the pre-merger period, PNB allocated an average of ₹25.87 lakhs annually for educational CSR activities. The figures from above table shows declining trend in spending on education during the pre-merger period. Post-merger, PNB increased its average annual expenditure on education to ₹46.06 lakhs, marking a growth of approximately 78% compared to the pre-merger period. The significant rise in 2021-22 and 2022-23 indicates an increasing emphasis on education as a priority area within the bank's CSR strategy.

Table 5

CSR Expenditure on Miscellaneous Activities			
Pre-Merger		**Post-Merger**	
Year	**Expenditure (in lacs)**	**Year**	**Expenditure (in lacs)**
2017-18	161.82	2020-21	1205.19
2018-19	459.98	2021-22	1733.43
2019-20	493.2	2022-23	0
Average	371.67	Average	979.54

CSR Expenditure by Punjab National Bank on Miscellaneous Activity



Graph 5

Interpretation

In miscellaneous activities data are taken from PNB's spending on various activities such as Rogi kalyan samitis, covid-19 assistance, green initiatives etc. The data on Punjab National Bank's (PNB) CSR expenditure on miscellaneous activities reflects a substantial increase in spending post-merger compared to the pre-merger period, though with significant variability across the years. During the pre-merger period, PNB allocated an average of ₹371.67 lakhs annually to miscellaneous CSR activities. This period demonstrates a steady upward trend in expenditure, with nearly a threefold increase from 2017-18 to 2019-20. Post-merger, the average annual expenditure rose sharply to ₹979.54 lakhs, reflecting a 163.5% increase compared to the pre-merger period. The expenditure surge in 2020-21 and 2021-22 indicates a strong emphasis on miscellaneous CSR activities immediately following the merger.

Conclusion

The analysis of Punjab National Bank's (PNB) Corporate Social Responsibility (CSR) expenditure before and after its merger provides valuable insights into the bank's evolving priorities, strategic realignments, and commitment to societal development. The comparison of pre-merger and post-merger CSR activities reveals distinct patterns of growth, adaptation and reallocation of resources in response to changing societal needs and operational scale. The study shows a significant transformation in PNB's CSR strategy post-merger. While the pre-merger period focused on steady compliance and modest growth in expenditure, the post-merger era witnessed a substantial increase in spending and a realignment of priorities. The bank has shifted its focus from sports to livelihood and education, demonstrating adaptability to changing societal needs and leveraging its expanded resources to make a broader impact. Moving forward, PNB's CSR strategy can further benefit from balancing short-term priorities with long-term goals to maximize its contribution to sustainable development. In conclusion, PNB's CSR expenditure demonstrates a significant evolution post-merger, with increased spending, strategic realignment, and a sharpened focus on critical areas like livelihood development and education. These shifts underscore the bank's commitment to addressing pressing societal challenges while ensuring long-term developmental impact. Moving forward, maintaining a balanced approach—combining focus with flexibility—will be essential for sustaining its role as a key driver of inclusive and sustainable growth in India.

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IMPACT AND CHALLENGES OF GST ON SMALL SCALE INDUSTRIES

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Nisha Chopra**

ABSTRACT

This research paper deals with the study of small scale industries and Goods and Services Tax (GST). GST is the most important tax reform in India which has been pending for a long time. It was to be implemented from April 2010 but was delayed due to political issues and conflicting views of various stakeholders. It is a comprehensive tax system which amalgamates all indirect taxes of the Central and State Governments and integrates the economy into a seamless national market. It is expected to eliminate the shortcomings of the existing indirect tax system and play an important role in the development of India. GST is still in its initial stage in India which is based on the views of government agenda, financial advisors, CAs, business men, industrialists and many scholars. This research paper is related to a quantitative study. This paper, along with knowing the positive and negative effects on small scale industries after the implementation of GST Act on 1st July, 2017, also sheds light on the possibilities affected by GST in the development of small scale industries and the challenges that small scale industries will have to face in future.

KEYWORDS: *GST, Indirect Tax, Small Scale Industries, Manufacturing Sector, Service Sector, Tax Reform.*

Introduction

Small Scale Industries: By small scale industries we mean small scale businesses like jaggery making, poultry farming, candle making, soap making, sewing, goat farming, milk production etc. That is, such works which are started on a small scale and can even be started from home are called small scale industries. Industries can be divided into two sectors.

- **Construction Sector:** Industries in the construction sector (excluding land and building expenses) which are established by investing Rs. 25 lakh or less come under the category of very small scale industries. Those industries which are established by investing more than 25 lakhs and less than 5 crores come under the category of small scale industries. And those industries which are established by investing more than 5 crores and less than 10 crores are included in middle class industries.
- **Service Sector:** Those industries (excluding land and building expenses) which have established a company by investing less than 10 lakhs come under the category of micro industries. Those industries which have established a company by investing more than 10 lakhs and less than 2 crores come under the category of small scale industries. And such industries which have invested more than 2 crores and less than 5 crores are considered to be included in middle class industries.

The historic, much awaited and much discussed 'Constitution (122nd Amendment) Bill 2014' is the bill which implements goods and services tax and is considered important in the development of Indian economy. Goods and Services Tax is considered to be the biggest tax reform after 1947. It has

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been mentioned for the first time in the general budget of 2006-07 in India. This bill was passed in the Lok Sabha on 6 May 2015, which was passed by the Rajya Sabha on 3 August 2016. Goods and Services Tax (GST) is a major step in reforming the tax structure of India. Goods and Services Tax (GSST) is an indirect tax law. GST is an integrated tax which will be levied on both goods and services. Currently, the indirect tax system in India is complex. So, with the implementation of GST, the whole country will be transformed into a unified market and most of the indirect taxes like Central Excise Duty (Central Excise Duty), Service Tax (SST), VAT, Entertainment, Luxury, Lottery Tax etc. will be subsumed in GST. This will make the same type of indirect tax applicable all over India. GST was first introduced by France in 1954 and now it has been implemented by 140 countries. Most of the countries followed the unified GST while some countries like Brazil, Canada follow the dual GST system where tax is levied by both the centre and the state. Dual system of GST is proposed in India. This includes CGST and SGST. After the implementation of GST, there are 3 types of taxes:

- **CGST:** Where it is collected by the central government.
- **SGST:** Revenue is collected by the state governments for sales within the state.
- **IGST:** Where revenue is collected by the central government for inter-state sales.

Literature Review

Ehtiyam Ahmed and Satya Poddar (2019) published “Goods and Services Tax Reforms in India and Intergovernmental Considerations” and found that GST introduction will provide a simple and transparent tax system in India along with increasing production and productivity of the economy. But the benefits of GST depend critically on the rational design of the goods and services tax.

Dr. R. Vasanthagopal (2021) in his study “GST in India: A Big Leap Forward in Indirect Tax System” concluded that a seamless GST would be a positive step to boost the Indian economy by replacing the current complex indirect tax system in India. The success of GST will lead to the acceptance of GST as a new preferred form of indirect tax system in more than 130 countries in the world and Asia.

Gogo Mauli (2024) in his study “Goods and Services Tax: An Evaluation” concluded that GST is not good for low-income countries and does not provide a broad base in poor countries. If these countries still want to implement GST, the GST rate should be less than 10% for growth.

Nitin Kumar (2024) conducted a study on “Goods and Services Tax A Forward” and concluded that the implementation of GST in India has helped in removing the economic distortions caused by the current indirect tax system. This is expected to incentivize a relatively indirect tax structure that is indifferent to geographical locations.

Research Methodology

This being an analytical research, is based on secondary data collected from various books, national and international journals, articles, newspapers and magazines and publications of various websites.

Objectives

- To study the impact of GST on MSMEs.
- To study the role of GST in the development of small scale industries.
- To study the challenges faced by small scale industries after GST.

Limitations of the Study

The first limitation of the study is that GST is still in its initial stage in India which is based on the ideas of government's agenda, financial advisors, CAs, business men, industrialists and many scholars, and not in practical form.

Impacts

- **One Tax Market:** The biggest benefit of GST to the citizens of the country is that they will have to pay only one tax on goods across the country. Due to this, the price of goods remains the same across the country. There is uniformity in indirect taxes in the country through goods and service tax.
- **Reduction in Indirect Taxes:** GST is such a tax, which is imposed on the manufacturing, sale and use of any goods or service at the national level. Tax disputes will be reduced and there will

be no hassle of laws and regulators. After the implementation of this tax, customs duty, central sales tax (CST), state level sales tax or VAT, entry tax, stamp duty, telecom license fee, turnover tax, taxes on the use or sale of electricity, taxes on the transportation of goods etc. were abolished.

- **Simplification of Tax System:** With the implementation of GST, the tax structure improved. Paying tax became easy. This also stopped tax evasion. The tax levied on any similar product became the same. This had a direct impact on the GDP of the country. The country's economy improved.
- **Reduction in the Complexity of Tax Payment:** With the implementation of GST, the problems and expenses of the companies reduced. One does not have to pay different taxes for the same product. Traders do not face any problem in taking goods from one place to another. This reduced the cost of manufacturing goods.
- **Pros and Cons:** GST has both negative and positive aspects. After its implementation, goods became cheaper, but some services became expensive. Earlier, 14.5 percent tax was levied on services, whereas after GST it has become 18 percent or more. On the other hand, consumers got relief in those goods on which 25 to 30 percent tax was levied.
- **Stability in the Cost of Goods and Services:** After the implementation of GST, only one type of indirect tax is levied all over India. Due to which the cost of goods and services became stable and the same rate of tax was imposed all over India, due to which the price of goods and services became the same in all the states. Earlier, different types of taxes were imposed on the same goods, but with the advent of GST, the same type of tax is imposed on all goods and services, which reduced the cost of goods. Although the cost of services increased due to this, but the most important benefit was that with the implementation of GST, Central Sales Tax (CST) was included in GST, which reduced the prices of goods.
- **There will be no Scope for Hara Pheri:** Actually the problem is about formal and informal. Till now a lot of work was being done informally, whereas in the new system, if you want to take credit of tax, then you have to make a formal bill. The new system is completely computerized, in which there will be complete record and there is no scope of fraud.
- **Reduction in Tax Evasion:** Goods and Service Tax (GST) has helped small and medium industries in reducing tax evasion and ending inspector raj, that is, along with curbing tax evasion, tax collection is also done. Industries need not be afraid of anything. We are working across the country to resolve all issues. The government has created GST cells to resolve all the problems related to the new tax system.
- **Improvement in Tax Structure:** This will eliminate the cascading effect of taxes on the customers and will bring efficiency in the prices of products. GST has brought transparency in the tax rates as everything will be online. GST as a whole has proved to be decisive for most industries and especially e-commerce.
- **Benefits of GST up to a Certain Extent:** The implementation of GST has not affected the traders having turnover up to Rs 20 lakh annually. They are doing their business in the same way as they have been doing it, there is no need to panic. “There have been some problems in the initial phase but later everyone has benefited from it.

Challenges

The implementation of GST is one of those decisions of independent India which will be considered a historic decision in the future. If any problem arises, the government will also have to be responsible for it. Use of computers and technology is necessary in GST. If it is not computerized, it cannot be implemented. There are many kinds of problems in computerization which are coming to the fore. In the border areas of Rajasthan and Punjab, all work is done through ledgers only. It will take time for them to work on computers. In the old tax system, every state had the opportunity to decide the tax according to its needs.

After the implementation of GST, many sectors have stopped sending and importing goods because they are still assessing the effects of GST. It definitely had an impact on the market. Traders do not want to be in the computer records.

Country's leading industry body Assocham said that the Goods and Services Tax (GST) has increased the competition among the Micro, Small and Medium Enterprises (MSMEs). Assocham has also released a report on this indirect tax system which has been implemented across the country. GST has many positive features as compared to the previous tax system. These include facility of getting input credit, single point tax, elimination of multi-level taxation and easy process of paying tax. Assocham, however, also said that GST, which was introduced with the objective of bringing more and more population of the country under the tax system and increasing its reach to more and more MSME industries, has also increased the burden of paying taxes and the associated cost.

Suggestion

The parameter of development of any city depends on its industrial development. The more industries are operated there, the better it will be. The growth rate there will be that much higher, whether it is a large scale industry or a small scale industry. With the implementation of GST system, there have been some problems in the beginning on the industrial development of rural and urban areas, import-export business, but later its benefits have started to appear. This system has curbed Jugaad Baazi in the country and the transactions without accounting have reduced which is in the interest of the country. Hence, there is a need for the government to organize proper training, seminars and workshops on GST. Hence, with the help of the trained employees, awareness should be spread among the public and industrialists, traders and the advantages and disadvantages of GST should also be told. So that GST can be made successful in the context of the Indian economy.

Conclusion

From the above discussion, it can be concluded that the Goods and Services Tax Act is the most important tax reform in India till date. After the implementation of GST on 1st July, 2017, its condition today is the same as it was during the beginning of demonetization. Along with positive results, GST has not brought any major negative results. With the implementation of GST, there is one country one tax market. Due to which there is freedom from unnecessary indirect taxes. Along with this, there is equality in the tax rates on goods and services in the center and the state. Due to repeated imposition of taxes, the cost of goods and services used to increase, due to which goods and services used to become expensive. Now with the implementation of GST, goods are becoming cheaper and services are becoming expensive.

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A STUDY ON CONSUMER ELECTRONIC PRODUCTS USAGE AND E-WASTE MANAGEMENT PRACTICES

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ABSTRACT

The manner of living of humans in modern era has profoundly influenced by waste management, with technological breakthroughs which creates both environmental challenges and economic opportunities. E-waste, which results from the disposal or validity of electronic products, has emerged as one of the blooming domestic waste streams. Effective E-waste management and monitoring are crucial for optimizing resource use and mitigating the negative impacts of E-waste in alignment with the Sustainable Development Goals. With the pollution control board acting as the main oversight and enforcement body, India has put rules and regulations into place to guarantee the safe handling, management, and treatment of e-waste. E-waste encompasses all types of discarded electrical and electronic devices. While the use of new electronic products has surged, there is often little focus on their proper disposal. Recycling e-waste is vital for safeguarding the environment and public health. This paper concentrates on how individual consumers manage portable device e-waste and reviews government initiatives aimed at raising public awareness of e-waste management. The study evaluates consumer usage behaviour and awareness through a questionnaire, revealing the advantages of establishing an e-waste collection system and enhancing waste management policies.

***KEYWORDS**: E-waste, Govt. Legislations, e-Waste Management, Consumer Awareness.*

Introduction

Electrical and electronic equipment (EEE) plays a critical role in modern life, enhancing global living standards through its broad range of applications. India, one of the largest electronics consumer markets in the Asia-Pacific, has emerged as a global leader in electronic system design and manufacturing (ESDM), with its share of the global electronics system manufacturing industry rising from 1.3% in 2012 to 3.6% by 2019 [1]. The rapid technological growth has resulted in a surge of EEE products, but traditional economic models have significantly increased e-waste, a growing global issue [2]. Advances in material science have led to the creation of feature-rich products that are difficult to recycle with current technologies, causing many to end up in landfills or incineration plants [3]. According to the Basel Convention, waste refers to materials that are discarded, intended for disposal, or legally mandated for disposal [4]. Although electronic devices are designed to enhance human life, their disposal poses serious environmental risks due to toxic substances [5]. This unsustainable production, use, and disposal cycle generates large amounts of e-waste [6].

The circular economy (CE) promotes a restorative and regenerative industrial system, replacing the concept of end-of-life with regeneration, encouraging renewable energy use, and eliminating harmful chemicals that obstruct reuse [7]. E-waste includes everything from kitchen appliances to computers and smart phones, as well as equipment used in transportation, security, energy, and healthcare systems, all integral to modern society [8]. Technological advancements have rapidly altered the nature of e-waste,

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with faster innovation, obsolescence, and higher waste generation, emphasizing the need for life cycle impact assessment and end-of-life solutions [9]. Currently, the economy operates on a linear model, following a "take-make-dispose" approach. To mitigate environmental and health risks from informal e-waste recycling, the Government of India's Ministry of Electronics and Information Technology (MEIT) initiated an e-waste awareness program [10]. Recycling e-waste offers environmental benefits and can create job opportunities, particularly for disadvantaged rural communities. The Indian government has recognized the importance of scientific e-waste recycling through the Swachha Digital initiative, as part of the broader Swachha Bharat mission [11].

Definitions of E-Waste

E-waste encompasses all discarded electrical and electronic equipment (EEE), along with its components, no longer intended for reuse by their owners [12]. This includes devices slated for refurbishment, recycling, reuse, or disposal, such as personal computers, televisions, and smart phones [13]. Additionally, e-waste includes subassemblies, parts, and consumables that have been stored or discarded by their original users [14].

Global total E-waste break downs

Table 1: Global total E-waste break downs

Categories	Full name	Percentage
1	Temperature Exchange Equipment	20.10%
2	Screens, Monitors, and Equipment Containing Screens	12.50%
3	Lamps	1.70%
4a &4b	Large Equipment (excluding photovoltaic panels)	24.40%
5	Small Equipment	32.50%
6	Small IT and Telecommunication Equipment	8.80%
	Total	100.00%

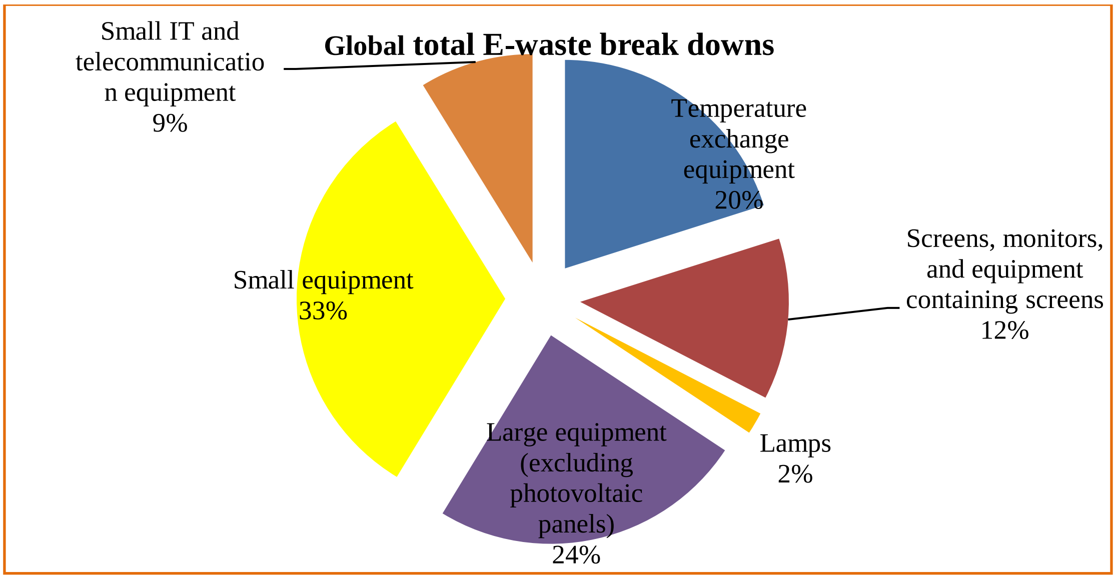


Figure 1: Global total E-waste break downs

Source: Global E-waste monitor- 2019

Importance of E-waste Management

E-waste management aims to create a sustainable circular economy, requiring collaboration between governments, businesses, and consumers. Effective strategies are needed for responsible electronics use and disposal to support a healthy global economy. The importance of proper e-waste management emphasised due to its hazardous nature and suggested adopting best practices from other countries [21].

E-waste & its Negative Effects on the Environment

A study in India found high levels of lead and mercury contamination in areas processing e-waste. Loni's soil had 150 times more lead than control samples, and Mandoli's water had mercury levels 710 times the recommended limit. Both regions showed heavy metal pollution in their water supplies. Improper e-waste disposal releases harmful toxins into the environment, affecting air, soil, and water. This contamination poses risks to human health and future generations. Effective e-waste management depends on raising awareness and education [15].

The environmental impacts of improper waste management are significant and far-reaching. Toxic chemical releases, such as lead and mercury, pose severe risks to ecosystems and public health [42]. Soil contamination occurs when toxic compounds leach into the soil, affecting agricultural productivity and food safety [43]. Water pollution results from the contamination of groundwater by hazardous leachate, causing long-term ecological damage [44]. Air pollution is exacerbated by harmful gas emissions from waste incineration, degrading air quality and affecting public health [43]. Additionally, greenhouse gas emissions during manufacturing and disposal contribute significantly to climate change [42]. Resource depletion arises from the loss of valuable metals due to improper disposal, driving increased mining activities [46]. Biodiversity is also threatened by habitat destruction from resource extraction and pollution [45]. Moreover, communities near waste processing sites face elevated health risks due to toxic exposure [44], and they often bear the economic burden of environmental remediation and health expenses [42].

Review of Literature

In Asia Pacific countries reviewed past studies on e-waste management from 2005 to 2020, highlighting the need for improved practices [18]. Another study reviewed waste management in countries like Canada, France, the US, the UK, Nigeria, and South Africa, suggesting best practices and recommending further research to address country-specific challenges [19]. Globally in 2019 reported that 53.6 million tonnes of e-waste were generated, with Asia producing the most at 2.9 million ns. Only 17% of this waste was recycled, leaving the fate of the rest unknown. The World E-waste Monitor indicated that e-waste increased by 21% from 2014 to 2019 and is expected to reach 74 million tonnes by 2030 [10].

Deloitte's 2022 Global TMT study predicts that India will become the second-largest smart phone manufacturer by 2026, with a billion users. In the UAE, the analytic hierarchy process identified recycling as the best e-waste management option in 2022. To tackle challenges like low electricity supply and limited environmental awareness, accelerating system operations to meet national and global standards is essential.

A survey conducted among engineering students in India and found gaps in the processes for generating and handling e-waste. Although there is growing support for increased producer responsibility, public awareness of e-waste management remains limited despite the efforts of authorities [16]. The effects of e-waste management examined on the environment and human health, concluding that effective control requires an inventory of obsolete electronics and the establishment of an environmentally sound recycling regulatory system [17].

E-waste issues reviewed in Nigeria, highlighting the sources and dangers of e-waste. They recommended appropriate treatment methods to ensure environmental safety, noting that everyone has a role in e-waste generation [22]. Challenges identified in e-waste management in India, noting poor practices and inadequate policy implementation. They stressed the urgent need to address these issues to avoid future harm [23]. It is observed that electronic waste is rapidly increasing in Mumbai and Thane due to technological advancements and lower prices [24]. A sustainable model suggested to bridge the knowledge gap between e-waste producers and the recycling industry, advocating for awareness campaigns through various media and community collection centre [25].

- **Consumer Awareness on E-waste**

Consumer awareness of e-waste is high found in Pune, India, there are few effective disposal practices. They recommended adopting a reuse and repair strategy to manage e-waste sustainably. Without awareness and willingness to participate, implementing e-waste management systems is difficult [20]. Education and income levels significantly affect consumer awareness of e-waste management [26]. Over 60% of Kolkata resident’s dispose of e-waste through local scrap dealers, and 84% are unaware of its negative impacts [27]. Understanding consumer disposal methods is crucial for designing effective e-waste management solutions [28].In Indonesia, 77% of respondents are aware of e-waste, and 58% are willing to participate in recycling [29]. Most European and North American consumers believe recycling mitigates environmental degradation [30]. Majority of study participants were knowledgeable about the impacts of e-waste, consistent with previous research [31] [32]. In Kolkata, lower-income groups (SEC C) had higher e-waste obsolescence rates, with low awareness of safe disposal [33]. E-waste management in Kuala Lumpur is positively influenced by awareness, knowledge, and risk perception, impacting recycling behavior [34].

In Ghana, a significant number of respondents demonstrate awareness of e-waste and its health risks, correlating with their educational qualifications. Despite this, many institutions remain uninformed about the country's e-waste regulations, mirroring findings [35] [36]. In Ghana, found that e-waste contaminants significantly affect waterways, confirming the substantial impact of these pollutants [37]. Additionally, [38] noted that while about half of their survey respondents were aware of e-waste, many supported e-waste management policies only if they did not involve additional levies.

Research Methodology

Research Design

The research design began with an exploratory approach to understand consumer awareness of e-waste in Vizag city, involving literature review, objective setting, and hypothesis formation. Primary data was collected through a structured questionnaire using a five-point Likert scale and yes or no type questions. A conclusive design incorporated descriptive methods to characterize the population through questionnaires and interviews, along with causal methods to examine cause-and-effect relationships between variables.

Statement of the Problem

Effective e-waste management is crucial for removing electronic waste from the environment, and recycling plays a key role in this process. However, consumers face difficulties in disposing of electronic scrap due to the lack of recycling facilities and proper collection centers. This study was conducted to examine how consumers manage electronic waste.

Importance of the Study

This study emphasizes the importance of proper e-waste management to prevent harmful toxins from damaging the environment and posing health risks. It also highlights the benefits of recycling to conserve raw materials, reduce emissions, and promote public awareness on correct disposal methods.

Objectives of the Study

- To identify the current electronic and electrical equipment's usage of consumers.
- To assess the current level of e-waste awareness and disposal practices in the selected area.

Sampling Design

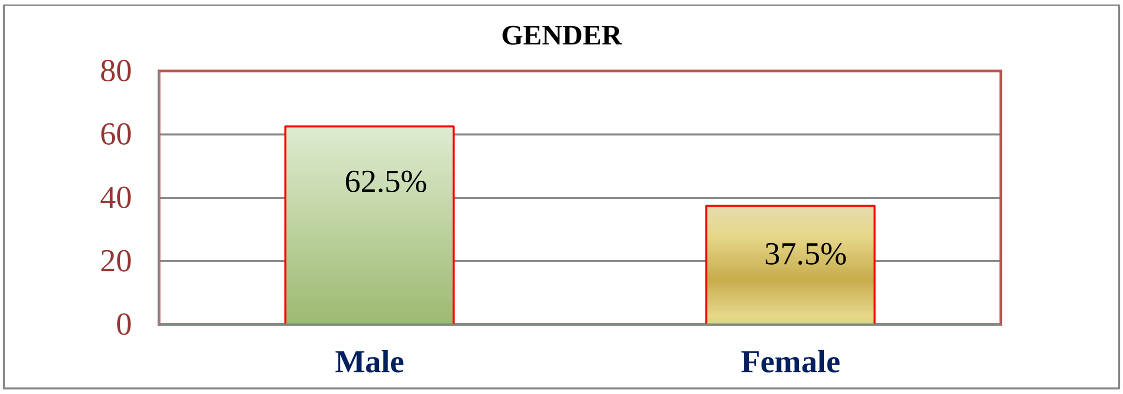
The sampling design for this study incorporated several essential components. Initially, a comprehensive sampling frame was created to provide a complete list of potential sampling units within the target population. Primary data was collected through a structured questionnaire and secondary data sourced from journals and websites. For research purposes, we selected each sampling unit, whether it is a geographic location or a consumer. The overall approach aimed to estimate population characteristics by selecting a smaller, representative sample. A total of 160 consumers from Vizag were surveyed using the cluster sampling method, with all responses successfully collected. Data analysis was conducted using SPSS, employing statistical techniques such as the percentages and ANOVA to derive accurate conclusions.

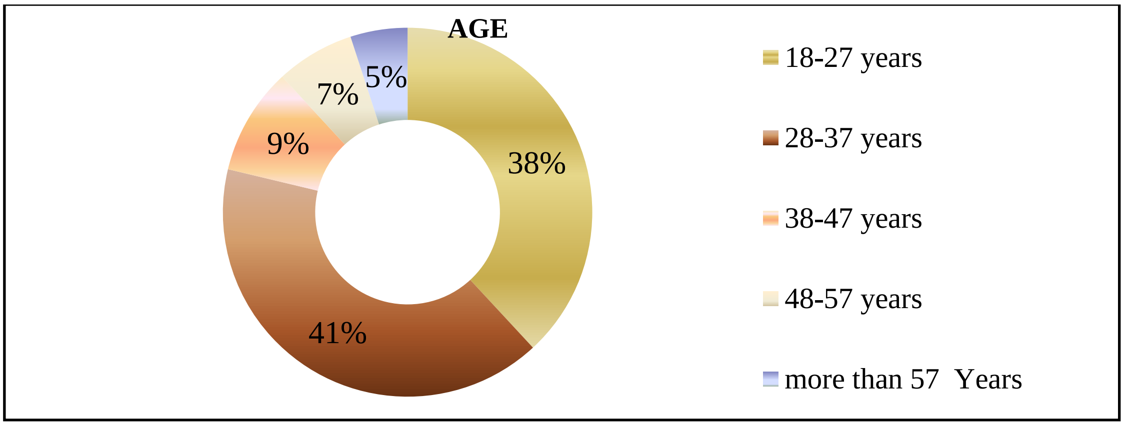
Analysis and Interpretation

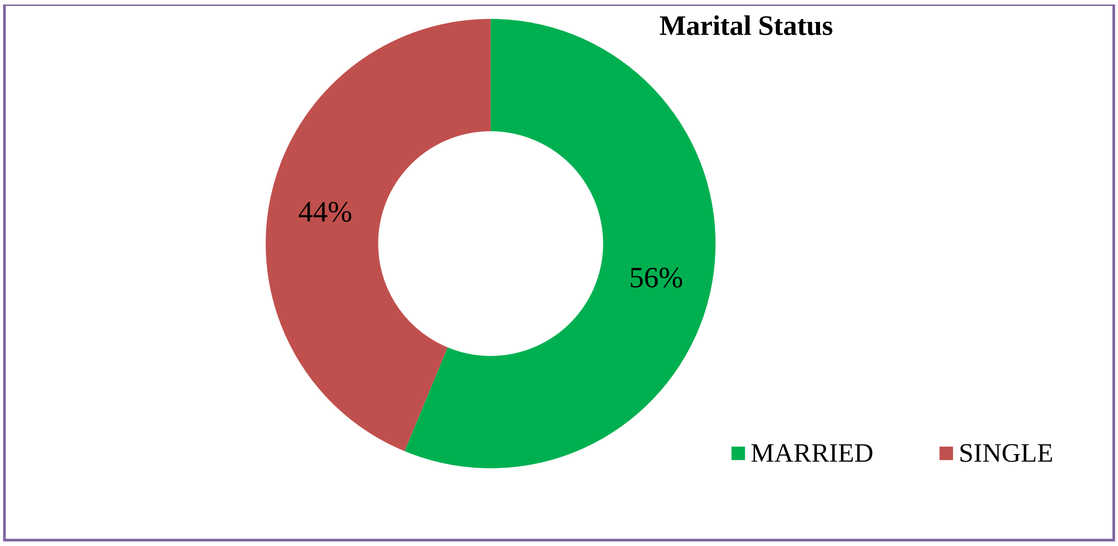
Table 2: Demographic and socio-economic characteristics of consumer

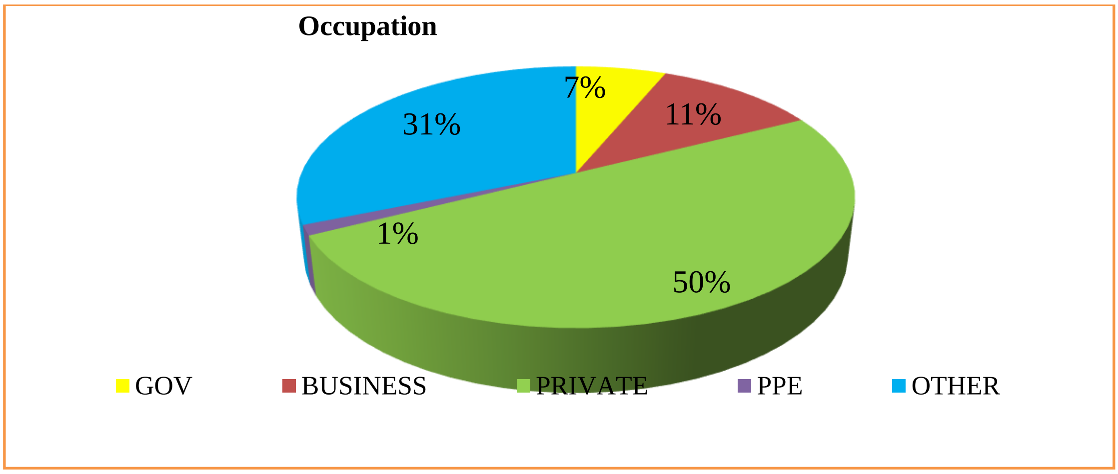
Characteristics	Category	Frequency	Percentage
Gender	Male	100	62.5
	Female	60	37.5
	Total	160	100.0
Age	18-27 years	61	38.1
	28-37 years	65	40.6
	38-47 years	15	9.4

	48-57 years	11	6.9
	More Than 57 years	8	5.0
	Total	160	100.0
Educational Qualification	SSC	8	5.0
	Inter	6	3.8
	Graduate	30	18.8
	Postgraduate	100	62.5
	Doctorate	6	3.8
	Others	10	6.3
	Total	160	100.0
Occupation	Government employee	10	6.3
	Business	18	11.3
	Private employee	80	50.0
	Private professional	2	1.3
	Others	50	31.3
	Total	160	100.0
Income	10000-30000	97	60.6
	30001- 50000	34	21.3
	50001-70000	13	8.1
	More than 70000	16	10
	Total	160	100.0
Marital Status	Married	90	56.3
	Unmarried	70	43.7
	Total	160	100.0






Marital Status
44%
56%
MARRIED
SINGLE


Occupation
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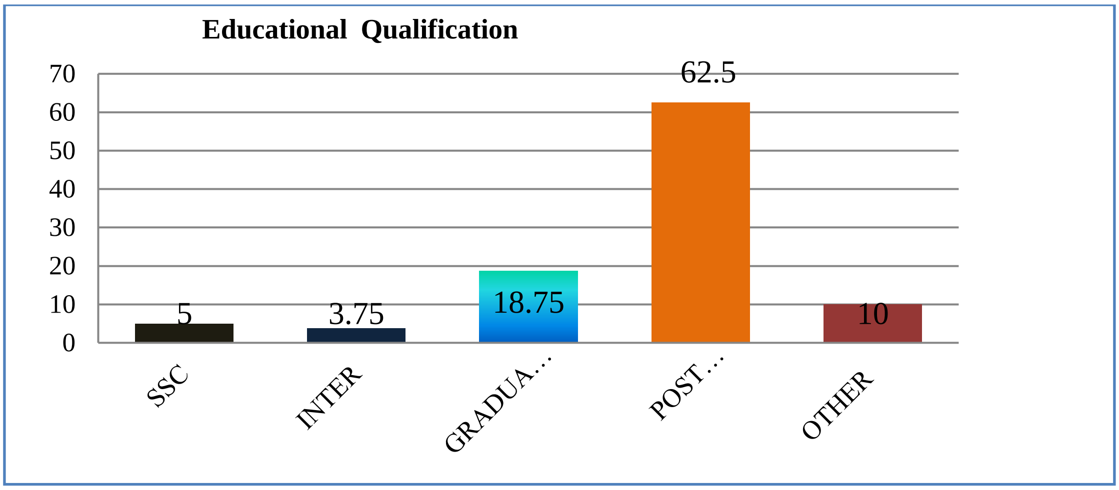
31%
1%
50%
GOV
BUSINESS
PRIVATE
PPE
OTHER


Educational Qualification
70
60
50
40
30
20
10
0
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3.75
18.75
62.5
10
SSC
INTER
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POST …
OTHER

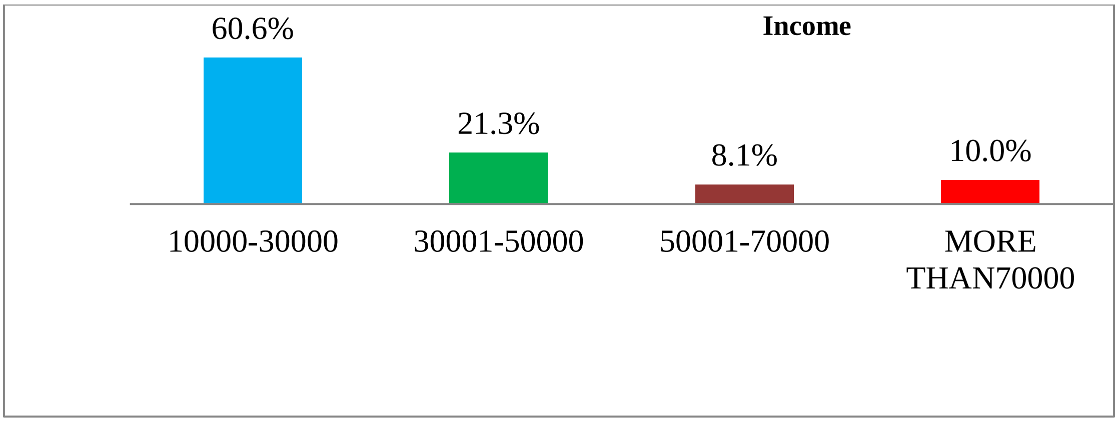


Figure 2: Demographic Profile of Respondents

Table 2 presents the demographic data of the 160 respondents. Among them, 62.5% were men and 37.5% were women. The majority (41%) were aged 28 to 37 years, followed by 38% in the 18 to 27 age group. Most respondents (62.5%) held a postgraduate degree, while 18.75% had completed their graduation, and 10% had other qualifications. Regarding marital status, 56.3% were married, and 43.7% were unmarried. In terms of income, 60.6% earned between 10,000 and 30,000, while 21.3% earned 30,001 to 50,000. Occupation-wise, 50% were private employees, 31% were in other professions, and 11% were government employees. This demographic profile highlights a relatively young, educated population with a significant representation of private sector employees.

- **Electronic Gadgets Usage of Consumers**

Table 3: Present usages of electronic devices

Electronic Gadgets	No of Households Using	(%)
Personal computer	98	69%
Laptop	110	75%
Mobile Phone	150	95%
Tab	40	44%
Television	152	94%
Refrigerator	130	82%
Air conditioner	90	57%
Washing Machine	95	60%

Figure 3: Present usage of electronic gadgets

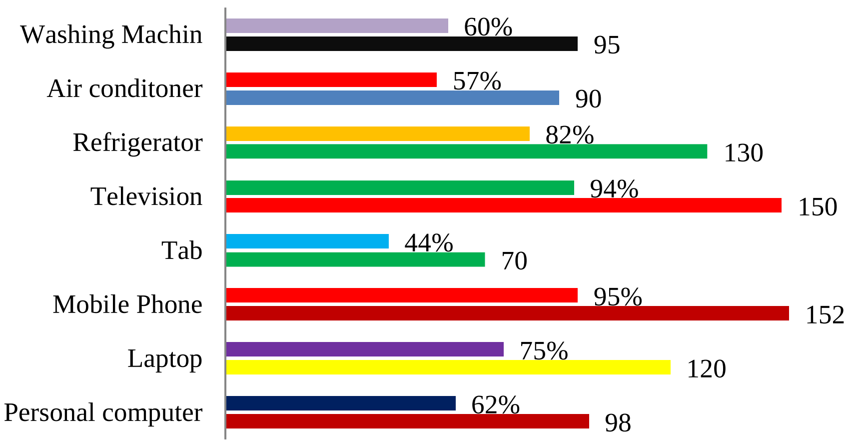
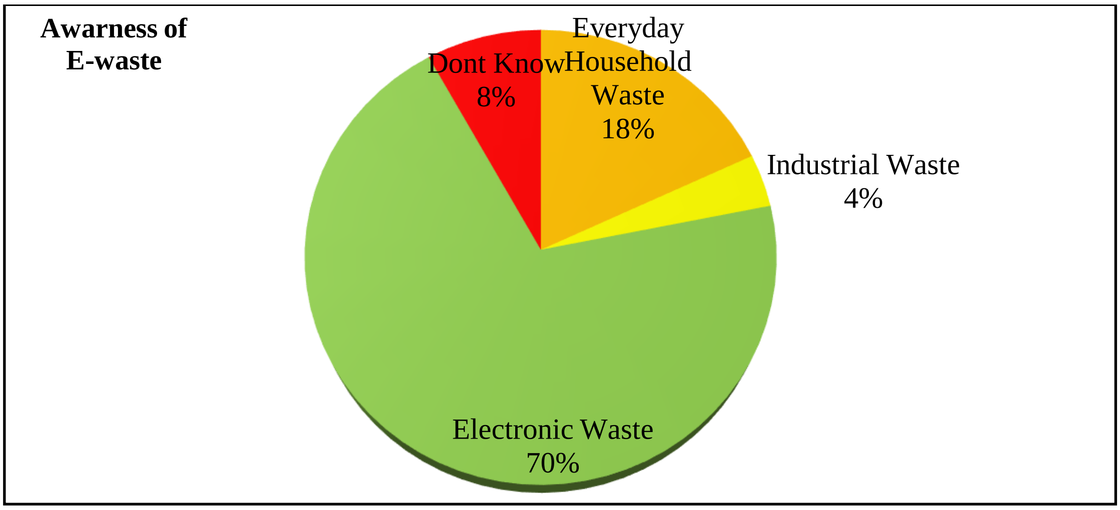


Figure 3 interprets the data Out of 160 household respondents, the highest 95% percentage of respondents were using mobile phones, whereas 94% of respondents were using televisions, 82% of respondents were using refrigerators, 75% of respondents were using laptops,44% of respondents fewer were using tabs.

- **Awareness of consumers regarding e-waste**

Table 4

	Responses	Frequency	Percentage
According to you what is E-waste?	Everyday household waste	29	18.1
	Industrial waste	6	3.8
	Electronic waste	112	70.0
	Don't know	13	8.1
	Total	160	100.0
What is the source of awareness to dispose?	Internet	107	66.9%
	TV	14	9.8%
	Friends	27	16.8%
	User manuals	12	7.5%
	Total	160	100.0



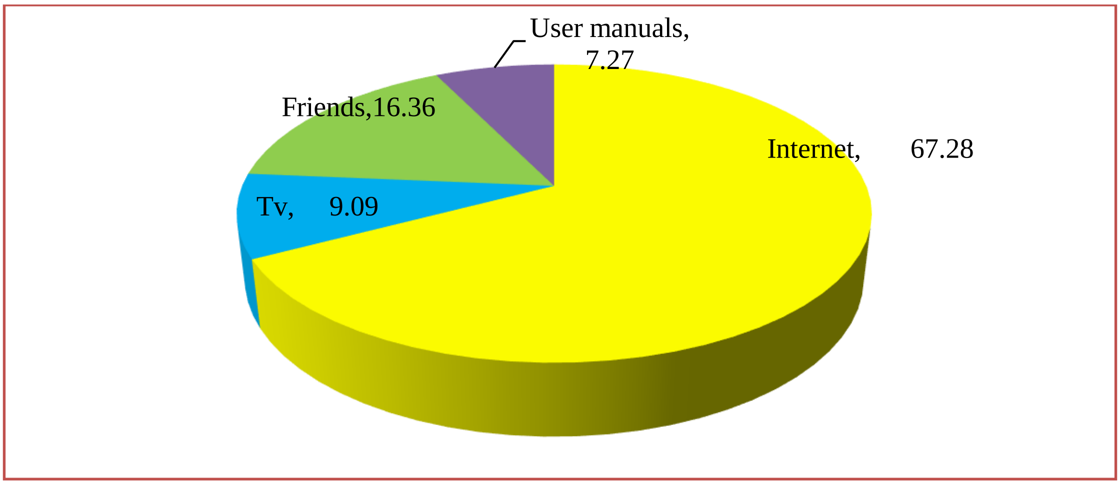


Figure 4

Figure 4 shows the respondents' general awareness of e-waste. About 70% of respondents recognized what electronic waste is, while 18% thought e-waste was just regular household waste. Additionally, 8% were unsure about e-waste, and only 4% considered it to be industrial waste. Regarding the sources of their knowledge, over 71% learned about e-waste disposal awareness from the Internet, 17% from friends, and 9% from television, making these the main sources of information to dispose.

- **Options adopted disposing the gadgets**

Table 5: Options adopted disposing the gadgets

Responses	Frequency	Percentage
Stores it in home	48	30.0
Through it in dustbins along with other wastes	6	3.8
Donate to others	26	16.3
Return to the seller for exchange	37	23.1
Scrap dealers	4	2.5
Others	13	8.1
Not applicable	26	16.3
Total	160	100.0

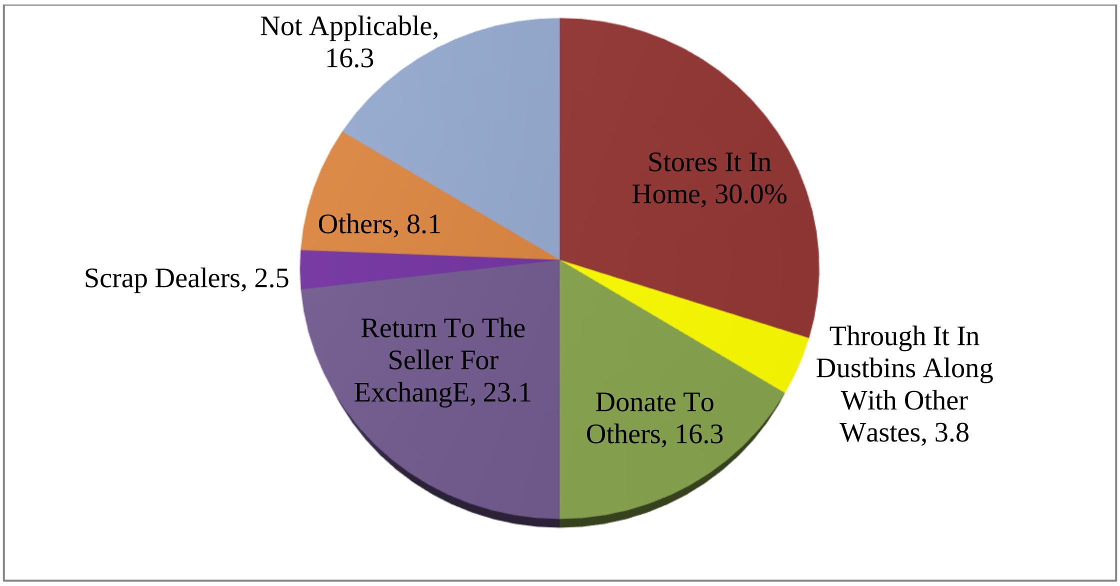


Figure 5: Options adopted disposing the gadgets

Figure 5 interprets that e-waste disposal practices of consumers 30% of respondents have storing e-waste in homes, 23% of the respondents giving return to exchange, 16.3% of the members have donating to friends,8% respondents disposing e-waste with other sources, 2.5% of the respondents have giving scrap dealers.

Null hypothesis (H0): There is no association between gender and disposal method

Table 6: ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.	Hypothesis
Personal computers * gender	B/W Groups	1.307	1	1.307	.225	.636	**H0: Accepted**
	Within Groups	918.293	158	5.812			
	Total	919.600	159				
Laptops * gender	B/W Groups	34.082	1	34.082	7.652	.006	**H0: Rejected**
	Within Groups	703.693	158	4.454			
	Total	737.775	159				

Mobile phones * gender	B/W Groups	.240	1	.240	.042	.837	**H0: Accepted**
	Within Groups	895.360	158	5.667			
	Total	895.600	159				
Tab * gender	B/W Groups	2.282	1	2.282	.395	.530	**H0: Accepted**
	Within Groups	911.693	158	5.770			
	Total	913.975	159				
Television * gender	B/W Groups	57.042	1	57.042	27.500	.000	**H0: Rejected**
	Within Groups	327.733	158	2.074			
	Total	384.775	159				

Summary: Reject the null hypothesis for laptops and televisions; accept it for personal computers, mobile phones, and tablets.

Null hypothesis (H0): There is no coalition between Age and disposal method

Table 7: ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.	Hypothesis
Personal computers * age	B/W Groups	27.095	4	6.774	1.176	.323	**H0: Accepted**
	Within Groups	892.505	155	5.758			
	Total	919.600	159				
Laptops * age	B/W Groups	50.491	4	12.623	2.847	.026	**H0: Rejected**
	Within Groups	687.284	155	4.434			
	Total	737.775	159				
Mobile phones * age	B/W Groups	56.938	4	14.234	2.631	.036	**H0: Rejected**
	Within Groups	838.662	155	5.411			
	Total	895.600	159				
Tab * age	B/W Groups	50.179	4	12.545	2.251	.066	**H0: Accepted**
	Within Groups	863.796	155	5.573			
	Total	913.975	159				
Television * age	B/W Groups	32.436	4	8.109	3.567	.008	**H0: Rejected**
	Within Groups	352.339	155	2.273			
	Total	384.775	159				

Summary: Reject the null hypothesis for laptops, mobile phones, and televisions, indicating that age significantly affects disposal practices. Accept the null hypothesis for tablets and personal computers, showing no significant effect of age.

Null hypothesis (H0): No coalition identified between marital status and disposal method

Table 8: ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.	Hypothesis
Personal computer * marital status	B/W Groups	1.095	1	1.095	.188	.665	**H0: Accepted**
	Within Groups	918.505	158	5.813			
	Total	919.600	159				
Laptop * marital status	B/W Groups	5.879	1	5.879	1.269	.262	**H0: Accepted**
	Within Groups	731.896	158	4.632			
	Total	737.775	159				
Mobile phones * marital status	B/W Groups	5.637	1	5.637	1.001	.319	**H0: Accepted**
	Within Groups	889.963	158	5.633			
	Total	895.600	159				
Tab * marital status	B/W Groups	1.790	1	1.790	.310	.578	**H0: Accepted**
	Within Groups	912.185	158	5.773			
	Total	913.975	159				
Television * marital status	B/W Groups	36.803	1	36.803	16.711	.000	**H0: Rejected**
	Within Groups	347.972	158	2.202			
	Total	384.775	159				

Summary: Reject the null hypothesis for televisions, indicating a significant influence of marital status. Accept the null hypothesis for personal computers, laptops, mobile phones, and tablets, showing no significant effect of marital status on these devices.

Null hypothesis (H0): No association found between education and disposal method

Table 9: ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.	Hypothesis
Personal computer * education	B/W Groups	21.682	5	4.336	.744	.592	**H0: Accepted**
	Within Groups	897.918	154	5.831			
	Total	919.600	159				
Laptop * education	B/W Groups	15.027	5	3.005	.640	.669	**H0: Accepted**
	Within Groups	722.748	154	4.693			
	Total	737.775	159				
Mobile phone * education	B/W Groups	21.798	5	4.360	.768	.574	**H0: Accepted**
	Within Groups	873.802	154	5.674			
	Total	895.600	159				
Tab * education	B/W Groups	21.910	5	4.382	.756	.583	**H0: Accepted**
	Within Groups	892.065	154	5.793			
	Total	913.975	159				
Television * education	B/W Groups	2.392	5	.478	.193	.965	**H0: Accepted**
	Within Groups	382.383	154	2.483			
	Total	384.775	159				

Summary: results indicate that there are no significant differences in the means of any variables based on education levels.

Null hypothesis (H0): There is no association between type of residence and disposal method

Table 10: ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.	Hypothesis
Personal computer * residence	B/W Groups	(Combined)	2.357	1	2.357	.406	.525	**H0: Accepted**
	Within Groups		917.243	158	5.805			
	Total		919.600	159				
Laptop * residence	B/W Groups	(Combined)	7.877	1	7.877	1.705	.194	**H0: Accepted**
	Within Groups		729.898	158	4.620			
	Total		737.775	159				
Mobile phone * residence	B/W Groups	(Combined)	.065	1	.065	.012	.915	**H0: Accepted**
	Within Groups		895.535	158	5.668			
	Total		895.600	159				
Tab * residence	B/W Groups	(Combined)	2.003	1	2.003	.347	.557	**H0: Accepted**
	Within Groups		911.972	158	5.772			
	Total		913.975	159				
Television * residence	B/W Groups	(Combined)	.107	1	.107	.044	.834	**H0: Accepted**
	Within Groups		384.668	158	2.435			
	Total		384.775	159				

Summary: results indicate that there are no significant differences in the means of any variables based on residence.

Null hypothesis(Ho): There is no association between size of family and disposal method

Table 11: ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.	Hypothesis
Personal computers* size of family	B/W Groups	34.058	3	11.353	2.000	.116	**H0: Accepted**
	Within Groups	885.542	156	5.677			
	Total	919.600	159				
Laptops * size of family	B/W Groups	17.233	3	5.744	1.244	.296	**H0: Accepted**
	Within Groups	720.542	156	4.619			
	Total	737.775	159				
Mobile phones * size of family	B/W Groups	18.183	3	6.061	1.078	.360	**H0: Accepted**
	Within Groups	877.417	156	5.624			
	Total	895.600	159				

Tab * size of family	B/W Groups	8.825	3	2.942	.507	.678	**H0: Accepted**
	Within Groups	905.150	156	5.802			
	Total	913.975	159				
Television * size of family	B/W Groups	2.283	3	.761	.310	.818	**H0: Accepted**
	Within Groups	382.492	156	2.452			
	Total	384.775	159				

Summary: results reveal that there are no significant differences in the means of the variables across different sizes of family.

Null hypothesis (H0): There is no association between type of employment and disposal method.

Table 12: ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.	Hypothesis
Personal computer * employment	B/W Groups	(Combined)	27.096	4	6.774	1.176	.323	**H0: Accepted**
	Within Groups		892.504	155	5.758			
	Total		919.600	159				
Laptop * employment	B/W Groups	(Combined)	10.858	4	2.715	.579	.678	**H0: Accepted**
	Within Groups		726.917	155	4.690			
	Total		737.775	159				
Mobile phone * employment	B/W Groups	(Combined)	50.233	4	12.558	2.303	.061	**H0: Accepted**
	Within Groups		845.367	155	5.454			
	Total		895.600	159				
Tab * employment	B/W Groups	(Combined)	32.708	4	8.177	1.438	.224	**H0: Accepted**
	Within Groups		881.267	155	5.686			
	Total		913.975	159				
Television * employment	B/W Groups	(Combined)	12.246	4	3.061	1.274	.283	**H0: Accepted**
	Within Groups		372.529	155	2.403			
	Total		384.775	159				

Summary: The ANOVA results indicate that there are no statistically significant differences between the groups defined by "employment" for any of the variables

Null Hypothesis (Ho): There is no association between income and disposal method

Table 13: ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.	Hypothesis
Personal computers * income	Between Groups	(Combined)	17.922	3	5.974	1.034	.379	**H0: Accepted**
	Within Groups		901.678	156	5.780			
	Total		919.600	159				
laptops * income	Between Groups	(Combined)	22.059	3	7.353	1.603	.191	**H0: Accepted**
	Within Groups		715.716	156	4.588			
	Total		737.775	159				
Mobiles * income	Between Groups	(Combined)	10.784	3	3.595	.634	.594	**H0: Accepted**
	Within Groups		884.816	156	5.672			
	Total		895.600	159				
Tabs * income	Between Groups	(Combined)	24.242	3	8.081	1.417	.240	**H0: Accepted**
	Within Groups		889.733	156	5.703			
	Total		913.975	159				
Television * income	Between Groups	(Combined)	12.153	3	4.051	1.696	.170	**H0: Accepted**
	Within Groups		372.622	156	2.389			
	Total		384.775	159				

Summary: The ANOVA results show no significant differences in the means of any of the variables across different income groups.

Findings and Suggestions

Findings

- The demographic data of respondents Out of 160 respondents 62.5% of respondents are the male respondents 37.5% of respondents are female. Education is one of the essential tools for raising awareness, especially in developing countries [40]**.** According to the results Most of the respondent consumers are completed their post-graduation, they are married and living with four family members in their houses.
- **Usage of electronic equipments:** The respondents were asked to select the electronic devices they use. 94% reported using mobile phones. The list included eight devices: televisions, personal computers, laptops, tablets, mobile phones, washing machines, air conditioners, and refrigerators. These devices were grouped into categories: "At least 1," "At least 3," "At least 5," and "All." As shown in Figure 4.2, 69% of respondents use at least 5 of these devices, while only 40% use all of them. A very small proportion, 0.5%, use at least 1, and none selected "at least 3."
- The study shows that the main sources of information about e-waste are the Internet, friends, TV, and user manuals.
- Only 25% of consumers properly dispose of their e-waste, while 16.3% donate it to friends and family. A large number of people (34%) store e-waste at home, and some throw it out with household trash.
- The study reveals distinct e-waste disposal practices based on demographic preferences. Marital status significantly influences television disposal, with married individuals more likely to engage in proper e-waste management for TVs, while it shows no impact on personal computers, laptops, mobile phones, or tablets. Age is another key factor, with older respondents demonstrating significant differences in the disposal of laptops, mobile phones, and televisions, but showing no effect on the disposal of tablets and personal computers. However, no significant differences in e-waste disposal practices are found across income, employment status, family size, residence, or education levels. This suggests that while marital status and age influence specific device disposal behaviors, other demographic factors do not significantly impact consumer e-waste practices.
- About 45% of consumers are unaware of e-waste management policies in India. Many believe that a lack of awareness about the harmful effects of e-waste is the biggest barrier to proper management.
- As a result, 95% of respondents are willing to pay more for eco-friendly products.
- The cost of repairing a product compared to replacing it is a key factor in deciding whether to fix or discard it. Many people sell e-waste to scrap dealers for a small price, and regular waste collectors often mix e-waste with regular garbage. Most respondents are aware of the dangers of improper e-waste handling, especially the harmful chemicals in electronics.

Suggestions

Waste minimization is a key principle that must be researched, tested and implemented in terms of sustainability. Most of the respondents are graduates and post graduates, if provide awareness campaigns, households felt that facilities are not available to discard e-waste, if local authoritative bodies provide those resources; they are willing to dispose them properly. People should be educated and should be increase recycling centers for recycling otherwise after some days due to e-waste our future generation will suffer. These are not only options for solving local problems, but also suitable for solving global e-waste problems.People are replacing electronic products quickly due to higher income, standard of living and professional requirement. In case of any damage, return the item to the store. If you upgrade your technology; sell your unused old product on platforms like OLX or eBay, which are great places to sell.

Municipal Corporations are suggested to collect, treat, store and disposal service of e-waste and set the goal of e-waste free city to reduce e-waste. Based on previous studies, the incentive system will promote consumers' participation, which is one of an important factor in e-waste management. Recycling centers are required to minimize the waste and government is suggested to setup at least one recycling center, where huge production of e-waste occurs.

Conclusion

The study highlights insufficient consumer awareness and practices regarding e-waste management. While separating e-waste is crucial for reducing environmental harm, gaps remain despite governmental regulations and awareness efforts. The findings emphasize the need for better infrastructure, operational assessments, and expanded initiatives to address these challenges. Although general awareness is relatively high, there is a lack of knowledge about proper disposal methods, collection centers, and regulations, leading to improper handling. Promoting a culture of reuse, repair, and recycling across the e-waste supply chain is essential. Key strategies include advanced product tracking, take-back models, and improving recycling efficiency. Additionally, effective promotion of disposal facilities is crucial for guiding consumers towards proper e-waste disposal practices.

Scope for Further Research

This paper explores the factors influencing consumer awareness and preferences for proper e-waste disposal and management. Future research could empirically analyze the relationships between these awareness factors and examine the role of demographics such as age, income, gender, and education in shaping consumer behavior. As the study was limited to Vizag, expanding research to other regions in India is essential to enhance the study's reliability and validity.

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EVALUATING FINANCIAL OUTCOMES OF BANK MERGERS: A CASE STUDY OF PUNJAB NATIONAL BANK, ORIENTAL BANK OF COMMERCE AND UNITED BANK OF INDIA

Kanchan Pareek*

ABSTRACT

Mergers in the Indian banking sector have become a vital strategic tool for consolidating financial institutions, strengthening capital bases, enhancing financial stability, and facilitating geographic and financial growth. This study examines the financial performance of the merger involving Punjab National Bank (PNB), Oriental Bank of Commerce (OBC), and United Bank of India (UBI), effective from April 1, 2020. The research evaluates pre- and post-merger performance using key financial ratios such as Net Profit Margin, Operating Profit Margin, Return on Net Worth, Return on Assets, Return on Capital Employed, Current Ratio, Quick Ratio, Earnings Per Share, and Dividend Per Share. A paired t-test, conducted through MS Excel, was employed to assess the statistical significance of the observed changes in profitability, liquidity, and market position. The results indicate that while the merger aimed to achieve financial and operational synergies, there was no statistically significant improvement in the financial position, liquidity, or market standing post-merger. The analysis revealed only marginal variations in the examined financial metrics, suggesting that the merger's transformative impact on financial performance may require a longer time frame to materialize. This study underscores the complexities of achieving immediate financial gains through banking sector mergers in a dynamic and competitive environment like India. It highlights the importance of effective post-merger integration, operational efficiency, and robust risk management in realizing the intended strategic benefits. These findings provide valuable insights into the financial implications of mergers and offer a foundation for evaluating their success in achieving long-term objectives.

KEYWORDS*: Risk Management, Return on Net Worth, Financial Performance, Bank Mergers, Profitability.*

Introduction

Indian economy has faced several changes throughout the decades. It is known for its perseverance, over the years it has witnessed continuous fluctuation, global economic depression and recent reforms of the government with ease. The banking system is one among the prominent indicators of an economy. It is considered as the lifeline of an economy. The banking sector plays a crucial role in every economy and stands out as one of the fastest-growing industries in India. Indian banking sector has its own reputation in the global world. The Indian banking system is vital to the nation's economic growth and development. It is also among the fastest-growing and most dynamic sectors in the

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country.The banking system in India has beyond any doubt various outstanding achievement, Within a relatively short span, it has achieved remarkable progress in the world's largest and most diverse democracy. The banking system in any nation must be both effective and efficient, as it holds a critical position in driving the country's economic growth. Intense competition within the banking sector highlights the significance of mergers and acquisitions. Despite the fierce challenges posed by multinational corporations, Indian banks are navigating this competition through strategic mergers and acquisitions.

Mergers and acquisitions have emerged as a widely embraced trend within the Indian banking sector. Numerous banks across the country actively engage in such activities. The primary goal of these mergers and acquisitions is to achieve the advantages associated with economies of scale.

Merger and acquisition are adopted by government for not only to increase the profits of public sector banks, but it also saves the banking company which is facing huge losses while carrying out merger and acquisition banks have to face many challenges as well. But in today's global world merger have become the means for long term survival. Mergers hold significant importance in driving economic growth, particularly in economies that are relatively stagnant and facing considerable uncertainty.

The purpose of a merger is to foster the company's growth. This growth can be accelerated by enhancing profitability through improved production processes and the efficient delivery of goods and services, while also expanding the business's operational scope. Additional objectives of mergers and acquisitions include achieving economies of scale, diversifying operations, gaining tax advantages, reducing competition, acquiring specific assets, lowering advertising costs, fostering corporate goodwill, eliminating hostility, reaching desired levels of integration, improving liquidity, boosting market share, enhancing customer satisfaction, securing supplies, accessing advanced production technologies and expertise, and liquidating outdated or surplus assets for cash flow within the merged entity.

Literature Under Review

Prajeesh P.and Dr. Kavitha S .(2020) in the paper "A STUDY ON THE CONSOLIDATION AND MERGER OF PSB's IN INDIA: ISSUES AND CHALLENGES – WITH SPECIAL REFERENCE TO PNB, OBC, UNITED BANK" opined that, "merger of banks is not an easy job with regards to management, accounts, marketing policies and infrastructure etc. Merger of banks will be successful only when issues of corporate governance, Structural issues are resolved."

Dr Anshu Choudhary, Dr.Neha Vashistha(2020) ,conducted a study named "A STUDY OF AMALGAMATION OF ORIENTAL BANK OF COMMERCE AND UNITED BANK OF INDIA INTO PUNJAB NATIONAL BANK". The study revealed that, "the merger of three banks seems to be a value creator. After this merger Punjab National Bank will become the second largest public sector bank in India. This merger will have a significant impact in making our nation $5 trillion economy. Because after this merger bank's lending capacity, market share will increase and this will improve their service delivery."

Pooja Sree Pombarla(2020) revealed in her study "RESTRUCTURING THROUGH MERGERS-A CASE STUDY ON MEGA MERGER OF BANKS 2020" expressed that, "mega merger of banks will reduce the cost of operating banking business and improve liquidity position due to economies of scale and this will result in the savings and higher profits. The burden on central government to recapitalize the public sector banks will be less and it will be easier for government to monitor and control a smaller number of banks."

Sandeepa K. and Santhosha (2020) in the research paper "EMERGING TRENDS IN BANKING SECTOR : ANALYTICAL STUDY ON MERGER OF PUNJAB NATIONAL BANK, ORIENTAL BANK OF COMMERCE AND UNITED BANK OF INDIA" opines that, "merger of public sector banks and capital infusion to banking sector will bring stability in public sector as well as economy. It helps to cover large area as well as scattered population. This will result in optimum utilization of deposits and effective disbursement of funds, reduction in NP and risking lending. It will also have a positive impact on economic growth of the country."

Mohmmad Mubarak (2021) in the research paper titled "RECENT MERGERS IN BANKING SECTOR – AN INDIAN SCENARIO" Concluded that, "new bank's net profit will decrease and stability of bank is uncertain. If the status of both the bank is not equal then merging will help the smaller bank to improve. A single bank would be exposed to instable and unexpected system risk. Failure of one bank would lead to failure of banking sector."

Dr. T. Christy (2021) in the study "MERGER OF PUBLIC SECTOR BANKS IN 2020-AN

OVERVIEW" explained that, "the mega merger of public sector bank by the central government of India was a needed action to strengthen the banking sector and after this our nation will have a wider reach and global presence for international trade. Some other positive impacts are reduced geographical concentration risk, increased ability to deal with external shocks, greater capacity to invest in technology etc."

Ishwarya J.(2019) in the paper "A STUDY ON MERGERS AND ACQUISITION OF BANKS AND A CASE STUDY ON SBI AND ITS ASSOCIATES" revealed that, "merger of SBI and associate banks have no greater change in profitability ratio. Some banks are satisfactory but in some banks performance is declined during the study period. Merger led to reduction in cost and it will result in increase in profit in future. Study also revealed that merger resulted in protection of interest of depositors of weak banks but stakeholders with the weak banks did not achieve any gain from merger."

Objectives

- To analyze the profitability of Punjab National Bank before and after the merger.
- To assess the financial performance of Punjab National Bank in the pre- and post-merger phases and its influence on the Indian economy.
- To identify the key factors impacting the performance of Punjab National Bank during the pre- and post-merger periods.
- To propose measures and strategies for improving the performance of Punjab National Bank.

Research Gap

Many studies have examined mergers and acquisitions in the banking sector and corporate world. However, this study specifically investigates the recent merger of Punjab National Bank with Oriental Bank of Commerce and United Bank of India. The analysis is based on key financial ratios such as Net Profit Margin, Operating Profit Margin, Return on Net Worth, Return on Assets, Return on Capital Employed, Current Ratio, Quick Ratio, Earnings per Share, and Dividend per Share. A paired t-test is applied to determine the t-value and significance using MS Excel. While earlier research has focused on this merger, it has overlooked the financial performance aspect, with a study period limited to just one year. In contrast, this research utilizes data spanning six years—three years prior to the merger and three years following it.

Methodology

This study analyzes six years of annual data to assess the performance of the banks before and after the merger. The pre-merger period spans from 2016-17 to 2018-19, while the post-merger period covers 2020-21 to 2022-23 for Punjab National Bank, United Bank of India, and Oriental Bank of Commerce. The research is based on secondary data obtained from the financial annual reports of the three banks, along with information from relevant websites. Financial performance is evaluated using key ratios, including Net Profit Margin, Operating Profit Margin, Return on Net Worth, Return on Assets, Return on Capital Employed, Current Ratio, Quick Ratio, Earnings per Share, and Dividend per Share. To determine the significance of the results, a paired t-test is employed using MS Excel.

Hypothesis

H_{01} : There is no significant impact of merger and acquisition on Profitability of Punjab National Bank.

H_{02}: There is no significant impact of merger and acquisition on Liquidity of Punjab National Bank.

H_{03}: There is no significant impact of merger and acquisition on Market position of Punjab National Bank.

Data Analysis and Interpretation

Table 1: Profitability Ratios of PNB, OBC and UBI (Pre Merger)

Ratios	PNB						OBC				UBI	
	2019	2018	2017	Avg	2019	2018	2017	Avg	2019	2018	2017	Avg
Net Profit Margin	-19.44	-25.59	2.80	-14.07	0.30	-33.74	-5.93	-13.12	-27.05	-17.43	2.32	-14.053

Operating Profit Margin	-33.81	-44.09	-16.13	-31.34	-14.63	-49.73	-20.95	-28.43	-54.91	-43.98	-20.86	-39.916
Return on Net worth	-24.20	-32.85	3.47	-17.86	0.31	-56.55	-8.63	-21.62	-21.89	-18.85	3.41	-12.443
Return on Assets	-1.28	-1.60	0.18	-0.9	0.02	-2.51	-0.43	-0.97	-1.52	-1.00	0.15	-0.79
Return on Capital Employed	1.70	1.38	2.06	1.71	1.41	1.61	1.68	1.57	0.94	0.72	1.13	0.93

Chart 1: Profitability Ratios of PNB, OBC and UBI (Pre Merger)

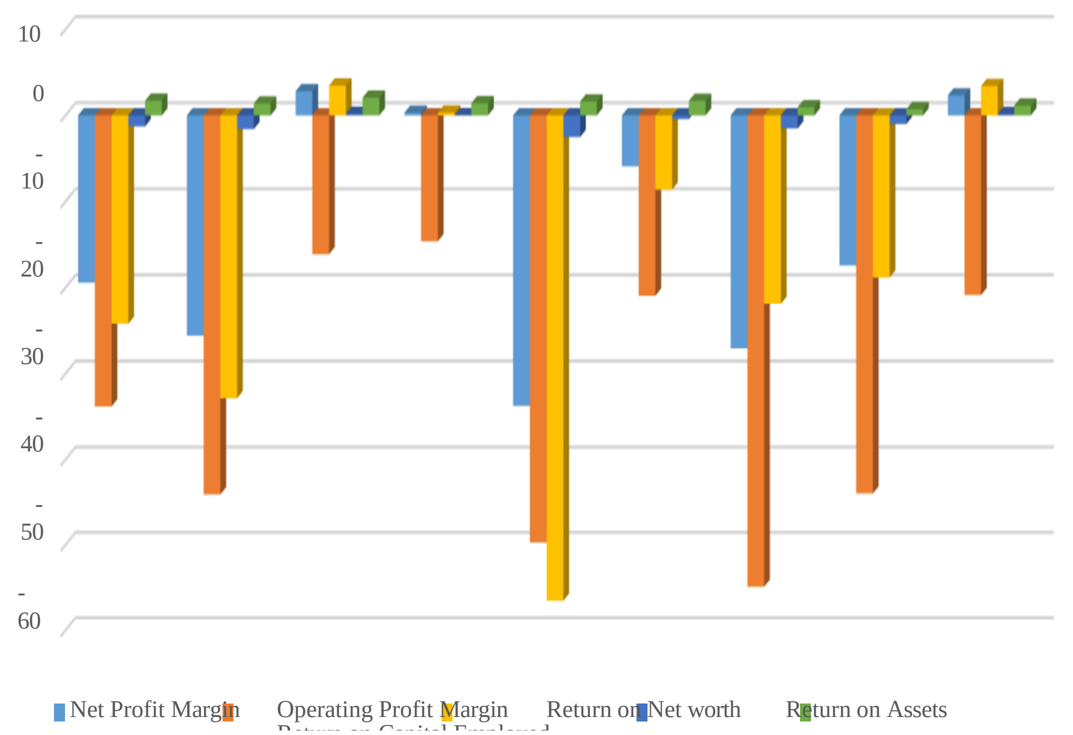
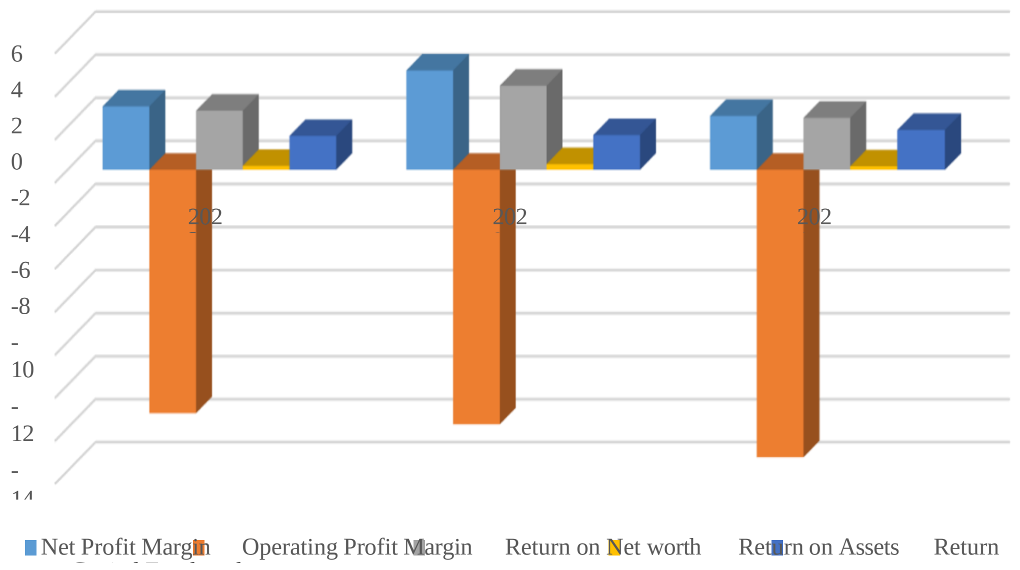


Table 2 : Profitability Ratios of PNB (Post Merger)

Ratio	2023	2022	2021	Average
Net Profit Margin	2.94	4.61	2.5	3.35
Operating Profit Margin	-11.31	-11.83	-13.36	-12.17
Return on Net worth	2.74	3.90	2.41	3.07
Return on Assets	0.18	0.26	0.16	0.2
Return on Capital Employed	1.57	1.61	1.85	1.68

Chart 2: Profitability ratio of PNB (Post merger)



Interpretation of Profitability Ratios

- Average Net Profit ratio before merger is -14.07% for Punjab National Bank where as it is -13.52% for Oriental Bank of Commerce and for United Bank of India it is -14.0533%. The Net profit ratio for Punjab National Bank after merger is 3.35%. This clearly depicts that the level of earnings is increased in 2023 by minimising the unnecessary expenses.
- Average Operating Profit ratio before merger is -31.34% for Punjab National Bank where as it is - 28.42% for Oriental Bank of Commerce and for United Bank of India it is -39.9167%. The Average Operating profit ratio for Punjab National Bank after merger is -12.17%. It clearly expresses that the efficiency of the bank is improving by reducing the unnecessary expenses such as NPA and other retirement benefits which improves the level of earnings and improve the operating profit ratio.
- Average Return on Net Worth before merger is -17.86% for Punjab National Bank where as it is - 21.62% for Oriental Bank of Commerce and for United Bank of India it is -12.443%. The Average Return on Net Worth ratio for Punjab National Bank after merger is 3.07%. It signifies that bank utilises the money taken from shareholders in an efficient manner.
- Average Return on Assets before merger is -0.9% for Punjab National Bank where as it is -0.97% for Oriental Bank of Commerce and for United Bank of India it is -0.79%. The Average Return on Assets ratio for Punjab National Bank after merger is 0.2%. This ratio evaluates the efficient utilisation of total assets deployed by organisation in comparison to revenue generated by the organisation. This ratio has improved in post-merger period which clearly shows that the bank has utilised the assets efficiently to generate revenue.
- Average Return on Capital Employed before merger is 1.71% for Punjab National Bank where as it is 1.57% for Oriental Bank of Commerce and for United Bank of India it is 0.93%. The Average Return on Assets ratio for Punjab National Bank after merger is 1.68%. Return on Capital Employed depicts the company's profitability in terms of all of its capital. This ratio shows the mix trend in pre and post-merger period.

H_0: There is no significant impact of merger and acquisition on Profitability of Punjab National Bank

Profitability Ratios of the Punjab National Bank in Pre and Post Merger

Ratios	Pre Profitability Ratios	Post Profitability Ratios
Net profit margin	-14.07	3.35
Operating profit margin	-31.34	-12.17
Return on net worth	-17.86	3.07
Return on Assets	-0.9	0.2
Return on Capital Employed	1.71	1.68

Paired t-test of the Profitability Ratios of the Punjab National Bank

	Pre Profitability Ratios	Post Profitability Ratios
Mean	-12.492	-0.774
Variance	180.656	42.15583
Observations	5	5
Pearson Correlation	0.669753	
Hypothesized Mean Difference	0	
df	4	
t Stat	-2.546	
P(T<=t) one-tail	0.031787	
t Critical one-tail	2.131847	
P(T<=t) two-tail	0.063575	
t Critical two-tail	2.776445	

Interpretation

Overall Profitability position in case of Indian banking system is determined on the basis of these five ratios – Net profit ratio, Operating Profit Ratio, Return on Net worth, Return on Assets and Return on Capital Employed. When t test were applied to these parameter, the calculated t value -2.546 of these parameter were less than the critical t value 2.776445 and p value 0.063575 of these factors were less than 0.05 which indicates that H_1 is rejected in the favour of H_0 and the difference between means was not significant.

Table 3: Liquidity Ratios of PNB, OBC and UBI (Pre Merger)

Ratios	PNB				OBC				UBI			
	2019	2018	2017	Avg	2019	2018	2017	Avg	2019	2018	2017	Avg
Current Ratio	0.05	0.05	0.05	0.05	0.06	0.05	0.07	0.06	0.09	0.08	0.06	0.077
Quick Ratio	35.12	22.71	28.56	28.79	29.59	35.30	36.89	33.92	30.18	22.97	21.07	24.74

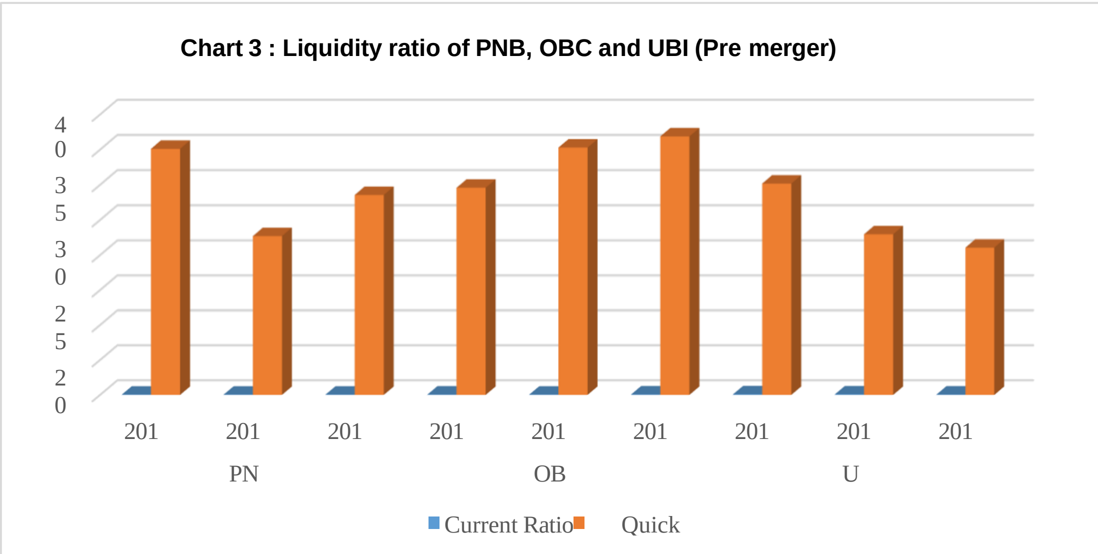
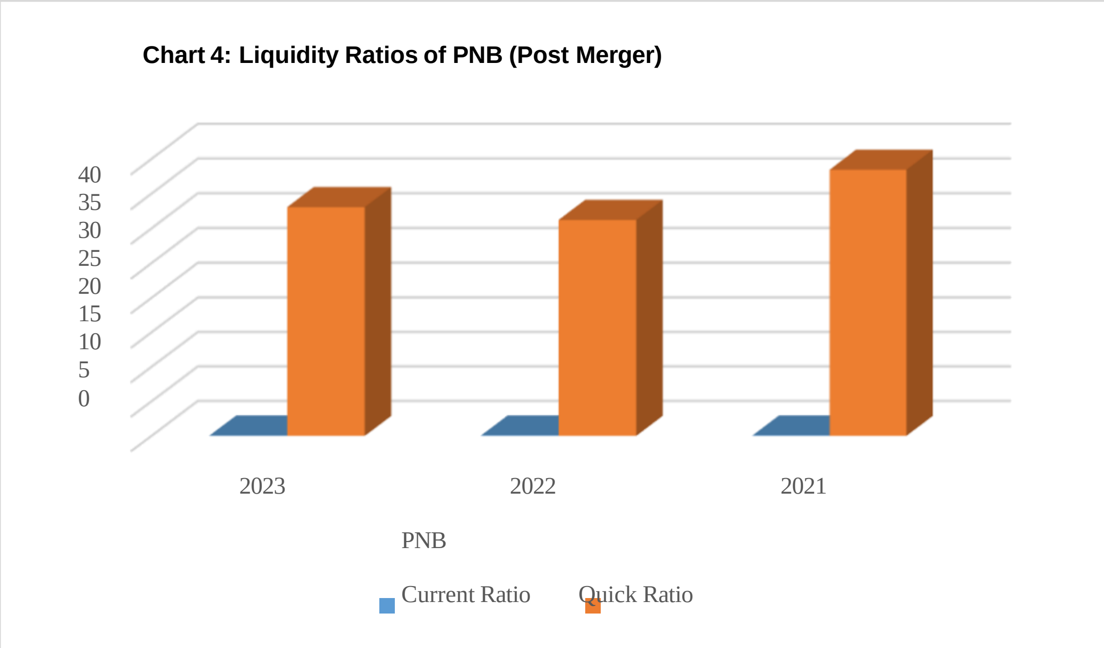


Table 4: Liquidity Ratios of PNB (Post Merger)

Ratios	PNB			
	2023	**2022**	**2021**	**Avg**
Current Ratio	0.05	0.06	0.06	0.057
Quick Ratio	33.06	31.22	38.44	34.24



Interpretation of Liquidity Ratio

- Average Current Ratio is 0.05 times for Punjab National Bank in pre-merger period where it is 0.06 times for Oriental Bank of Commerce and 0.077 times in case of United Bank of India. Post-merger ratio is .057 times for Punjab National Bank. Decline in current ratio helps in assessing the paying capacity of short-term obligation during a normal tenure of banking company.
- Average Quick Ratio is 28.79 times for Punjab National Bank in pre-merger period where as it is 33.92 for Oriental Bank of Commerce and 24.74 in case of United Bank of United bank of India. Post merger ratio is 34.24 times for Punjab National Bank. Increase in Quick ratio indicates the bank's capacity to pay off its short-term obligation has been increased.

H_0: There is no significant impact of merger and acquisition on Liquidity of Punjab National Bank.

Liquidity Performance of Punjab National Bank in before and after merger period:

Ratio	Pre Liquidity Performance	Post Liquidity Performance
Current Ratio	0.05	0.057
Quick Ratio	28.79	34.24

Paired t- test of the Liquidity Ratios of the Punjab National Bank in Before and after merger

	Pre Profitability ratios	Post Profitability ratios
Mean	14.42	17.1485
Variance	412.9938	584.2387
Observations	2	2
Pearson Correlation	1	
Hypothesized Mean Difference	0	
df	1	

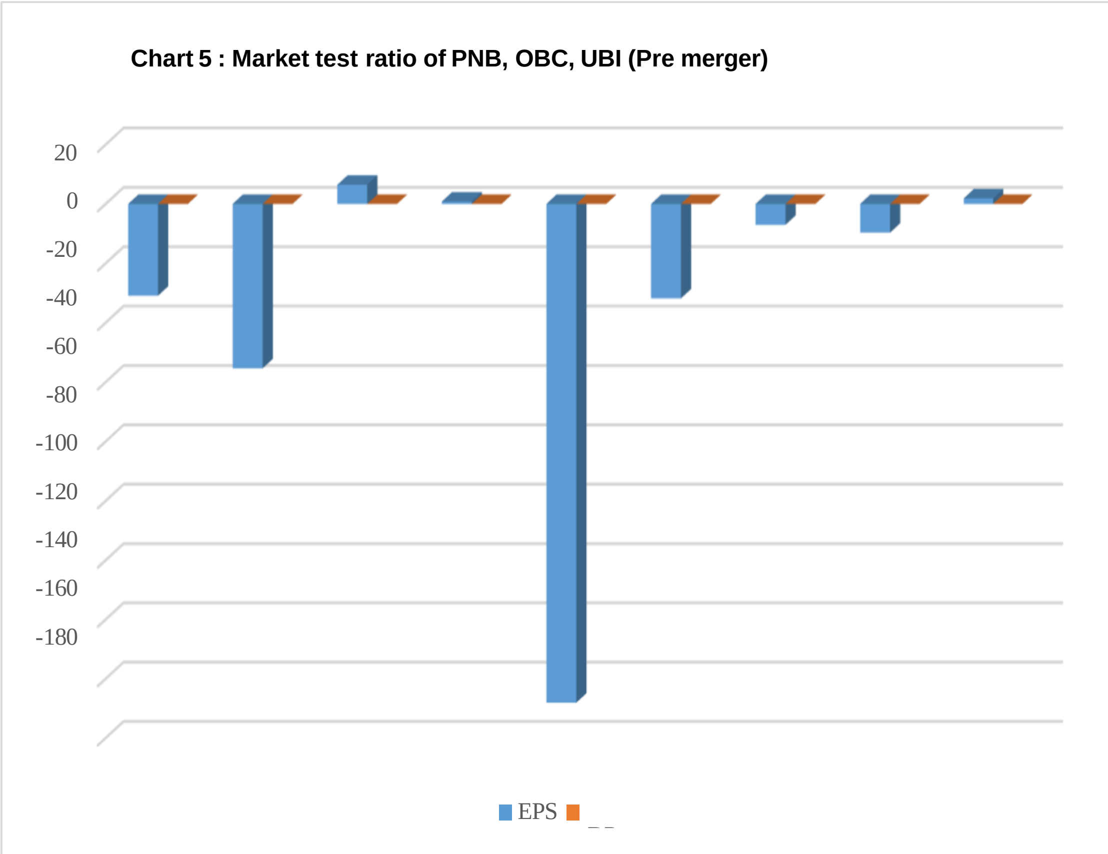
t Stat	-1.00257	
P(T<=t) one-tail	0.249591	
t Critical one-tail	6.313752	
P(T<=t) two-tail	0.499182	
t Critical two-tail	-1.00257	

Interpretation

Overall Liquidity position in case of Indian banking system is determined on the basis of these two ratios –Current ratio and Quick ratio. When t test was applied to these parameter, the calculated t value -1.00257 of these parameter were less than the critical t value -1.00257 and p value 0.499182 of these factors were less than 0.05 which indicates that H_1 is rejected in the favour of H_0 and the difference between means was not significant.

Table 5: Market Test Ratio of PNB, OBC and UBI (Pre Merger)

Ratio	PNB				OBC				UBI			
	2019	2018	2017	Avg	2019	2018	2017	Avg	2019	2018	2017	Avg
EPS	-30.94	-55.39	6.45	-26.63	0.77	-168.09	-31.82	-66.38	-7.04	-9.65	1.86	-4.94
DPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

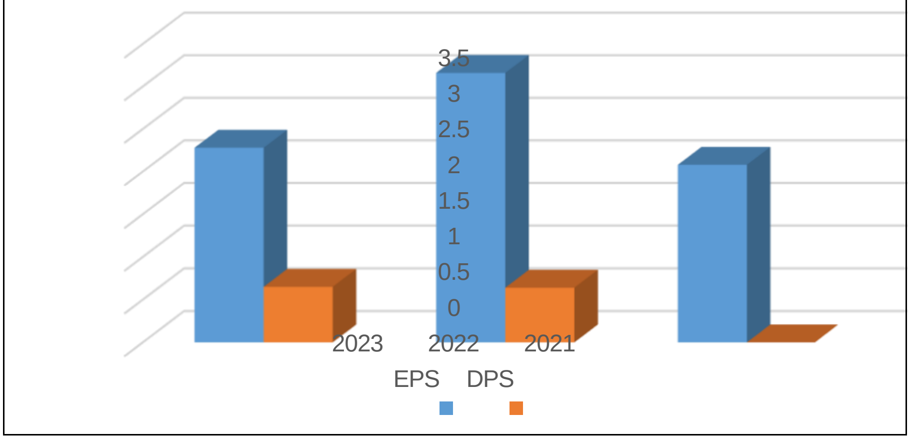


2019	2018	2017	2019	2018	2017	2019	2018	2017
	PNB			OBC			UBI	

Table 6: Market Test Ratios of PNB (Post Merger)

Ratio	2023	2022	2021		Avg
EPS	2.28	3.16	2.08		2.51
DPS	0.65	0.64	0.00		0.43

Chart 6 : Market test ratio of PNB (Post Merger)



Interpretation of Market Test Ratio

- Average Earning per share is Rs. -26.63 for Punjab National Bank in pre- merger period where as it is Rs. -66.38 in case of Oriental Bank of Commerce and Rs. -4.94 in case of United Bank of India. Post merger Ratio is Rs. 2.51. This ratio helps in determining the market price of share of equity in nature. This ratio increased after merger which means that bank is generating good amount of earnings and it also raise the market price of shares.
- There has been no dividend paid in pre-merger period by any of the bank because Earning per share is a negative value of all three banks. That is why it is 0 in pre-merger period. But in post-merger period the average dividend per share is Rs. 0.43. It has been increased after merger because of rise in earnings and equity shareholders have good amount of earnings that are distributable in form of dividend.

H_0: There is no significant impact of merger and acquisition on Market position of Punjab National Bank

Ratio	Pre-Liquidity Performance	Post-Liquidity Performance
EPS	-26.63	2.51
DPS	0.00	0.43

Paired t- test of the Market test Ratios of the Punjab National Bank in Before and after merger

	Pre Profitability ratios	Post Profitability ratios
Mean	-13.315	1.47
Variance	354.5785	2.1632
Observations	2	2
Pearson Correlation	-1	
Hypothesized Mean Difference	0	
df	1	
t Stat	-1.02995	
P(T<=t) one-tail	0.245303	
t Critical one-tail	6.313752	
P(T<=t) two-tail	0.490606	
t Critical two-tail	12.7062	

Interpretation

Overall Market position in case of Indian banking system is determined on the basis of these two ratios –Earning per share and Dividend per share. When t test were applied to these parameter, the calculated t value -1.02995 of these parameter were less then the critical t value 12.7062 and p value 0.490606 of these factors were less than 0.05 which indicates that H_1 is rejected in the favour of H0 and the difference between means was not significant.

Conclusion and Suggestion

The research was performed to test whether the merger of Punjab National Bank was proved to be beneficial or not for the Indian banking sector. The case of Punjab National Bank was examined. The evaluation was made in terms of profitability, asset utilization, solvency, operational efficiency, liquidity and market position.

The profitability ratio analysis revealed improvements in the average Net Profit Margin, Operating Profit Margin, Return on Assets, and Return on Net Worth following the merger. However, the trend in Return on Capital was mixed. Despite these improvements, a t-test indicated that the changes were statistically insignificant.

Similarly, liquidity ratio analysis showed an increase in the Current Ratio and Quick Ratio in the post-merger period for Punjab National Bank. Nevertheless, a t-test revealed that these improvements were not statistically significant.

To assess the market position of Punjab National Bank, Earnings per Share and Dividend per Share ratios were examined. Both ratios showed growth after the merger, but the t-test results suggested that the increases were insignificant.

The results of this study suggest that nationalized commercial banks should consider mergers with stronger commercial banks and finance companies to benefit from economies of scale, cost efficiency, and improved competitiveness. However, the study indicates that merging with smaller banks does not yield significant benefits.

A limitation of this study is its focus on a three-year period before and after the merger. The true long-term impact of the merger on the financial performance of Punjab National Bank will be clearer over time. Future research should employ a longer time frame to assess the overall effects of mergers, utilizing both qualitative and quantitative data.

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ANALYSIS OF NON-PERFORMING ASSETS OF INDIAN PRIVATE SECTOR BANKS

Kaushal Chhipa*

ABSTRACT

In the current scenario banking industries serves as the foundation of any nation's economy. Every Country's growth depends on a sound and wealthier banking system. The primary metric used to assess how well the banking system is performing is depending upon the NPAs. Non-Performing Assets (NPAs) are a major concern for the stability and profitability of Indian private sector banks, as they directly affect the financial health and operational efficiency of these institutions. An NPA is a loan or advance for which the principal or interest payment has remained overdue for a specified period, typically 90 days or more. The persistence of high NPAs in private banks can lead to a decrease in their lending capacity, impaired asset quality, and erosion of capital buffers. The growth of NPAs is the major concern for Indian banking system because it is adversely impacting the financial performance of the bank. In this context this study strives to assess the Gross NPAs of four Indian private sector banks. This research paper aims to provide a comprehensive analysis of the trends, causes, and consequence of NPAs Indian private sector banks, with a focus on their evolution and find if there is any significant difference among them through use of charts and statistical tools. The basis of the research is secondary data that has been collected from RBI website & annual reports of selected banks and the period of study is 6 year (2017-18 to 2022-23). The paper concludes with recommendations for improving NPA management, including enhancing credit risk assessment models, adopting more robust corporate governance practices, and leveraging technological innovations in credit monitoring. Ultimately, it suggests that effective NPA management is crucial for the long-term stability of Indian private sector banks and for sustaining investor confidence in the banking sector.

KEYWORDS*: Gross NPAs, GNPA Ratio, Indian Private Sector Banks, Anova.*

Introduction

In recent years, there has been an enormous development in the banking industry in India. The liberalization, privatization, and globalization (LPG) era that began in 1991 brought about a number of swift changes to the Indian banking sector. The correlation between bank performance and the economy is expected to be strong and positive. Banks are very important institution that influence a country's economic growth and serve as significant institutions that shape the hopes and aspirations of the general public. They are key drivers of economic growth.

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In the current situation, Non-Performing Assets (NPAs) are the central issue causing financial problems for banks. It is crucial to take substantial measures to enhance the recovery performance. The primary causes of the rising NPAs include a goal-driven approach that undermines the quality of credit of banks, intentionally fails to repay of loans, insufficient oversight of borrowers account, and absence of technical efficiency and follow by bank. The NPAs figure in the banking sector is increasing. Greater NPA will affect the interest rates and loan prices, which will impact the investor, lender, and depositor confidence. Higher interest rates have a direct effect on investors who require loans to create corporate and business projects, but they also result in poor fund recovery, which has an influence on the capacity of financial institutions to extend credit and generate income. The inability to repay debts has an impact on the issuance of credit and ultimately impacts the stability of an economy's finances. Thus, a bank's ability to manage its non-performing assets (NPAs) and keep them under the acceptance level will determine its success.

Non-Performing Assets (NPA)

According to an RBI circular from 2007, "An asset becomes non-performing when it fails to generate revenues for the bank."

The 90-day overdue standard for identifying NPAs was introduced by the RBI for the purpose to better align with global practices. A borrower's account is classified as NPAs in the following situations:

- The principle and late interest on a period loan are not paid after more than 90 days.
- The borrower's loan remains "Out of order" for more than 90 days in the event of an OD/CC.
- If a bill is purchased and discounted, it is overdue for a period longer than ninety days.
- In Agricultural loan both interest and principal amount outstanding for 2 cropping seasons for short period harvest or 1 cropping season for long period harvest.
- In case any sum outstanding for other accounts is not paid within a period of 90 days.

In summary, an asset becomes categorized as NPAs whenever it meets any of the above criteria, signifying that it is not performing as per the agreed terms and has become delinquent.

There is two metrics determine the number of NPAs.

- **GNPA:** GNPA denotes the absolute figure of NPA over a quarter or a fiscal year. It is the total of the principal plus interest that has been accrued.
- **NNPA:** NNPA subtracts the bank's provision from Gross NPA. It is the precise amount of NPA afterwards the bank's specific provision.

Review of Literature

"Chary and Fasi (2019) conduct an analysis on "Non-Performing Assets in public sector banks – A study" they examined the recent net profits of all selected Indian public banks & gross and net NPAs ratio for a sample of 10 year they conclude that selected Indian public sector banks are significantly suffering by NPAs as a performance barrier. The analysis also shows that although banks regularly offer advances but they are unable to carry out their obligations when it comes to collecting debts. It could be because bank branches have less power and higher authorities are occasionally transferred from one branch to another branch and due to the negligence but the overall positions indicate that NPA are seriously impacting the performance of Indian banking system."

"Kaur and Saddy (2011) analysis on "Non-Performing Assets: A Study of Public and Private Sector banks". They examined that India's banks have long been concerned about non-performing assets (NPAs). The banks are not the only ones affected the whole economy is negatively impacted. Banks' bottom lines suffer as a result of the money held in NPAs, which is not accessible for productive use. Public sector banks have a somewhat higher percentage of NPAs. The NPAs must be scheduled in order to increase productivity and profitability. The administration has implemented a number of measures to lower the NPAs. The amount of NPAs in the Indian banking industry has decreased as a result of this. However, much more work has to be done. Our banks' non-performing assets (NPAs) remain elevated in relation to global benchmarks. To have zero percent NPAs is quite impossible. To preserve international standards, Indian banks can, at the very least, attempt to compete with global banks. There is no denying that a portion of the drop in non-performing assets (NPAs) has been attributed to bank write-offs of NPAs. Since prevention is always preferable to treatment, so banks needs to be careful while lending funds."

"Malyadari and Sirisha (2011) over the course of the investigation, further advancements have been seen, according to the report. However, the drop in the NPA ratio shows that both Indian sector banks have improved asset quality. The investigation has shown that public sector banks in India are now handling NPAs with much greater efficiency. The analysis concludes by noting that effective regulation and standard provisions as well as other regulatory body initiatives have put pressure on banks to increase performance, which has reduced NPA and improved performance stability of the banking sector of India."

"In their analysis, **Mohnani and Deshmukh (2013)** found that PNB's gross non-performing asset ratio is lower than SBI's and has been declining over time. ICICI is not as successful as HDFC when it comes to private banks. Therefore, it's extremely important for banks to maintain the lowest NPA level which is below the standard level because nonperforming assets hinder banks growth and adversely effect on the bank's performance."

"Roy and samanta (2017) study on "The analysis of non-performing assets in public sector banks of India". The GNPA study conducted for this article demonstrates that all banks' total NPA status has been worse over time. This has now become a serious worry because there isstrong negative link between Gross NPAs and net profit, net profit decreasing slowly as gross NPAs increasing. In the banking sector in 2015-2016, profits of most institution decreased significantly. Some banks lost money Also. Losses due to increase in NPAs cannot be avoided simply by making provisions against NPAs. Making safeguards against NPAs is not enough to prevent losses resulting from a rise in NPAs. All selected PSBs Lending banks need to be careful to take context into account of borrowers and making recovery procedures more stringent. In addition, transparency in information disclosure Standards must be strictly followed by banks to maintain investor confidence."

"Tiwari 'et al' (2013) conducts a study on "NON PERFORMING ASSETS–A CAUSE OF CONCERN FOR BANKS". They observed that NPAs serve as an indicator of banks' overall performance. A high percentage of non-performing assets indicates a higher probability of multiple financial fail to pay, which can negatively affect the bank's profitability and liquidity. Managing NPA growth requires making provisions, which in turn lowers overall profits and shareholders' value. Branch managers must exercise due diligence and utmost caution when approving loans for clients. Essential steps such as selecting suitable borrowers, identifying viable economic activities, ensuring sufficient financing and prompt disbursement, verifying the appropriate use of funds, and ensuring timely loan recovery are indispensable prerequisites for preventing or minimizing the occurrence of new NPAs. By adhering to these measures, banks can bolster their credibility and achieve the objectives of a well-established financial system."

Objective of the Study

- To understand non-performing assets as a concept and as different kinds in the Indian banking sector.
- To examine and evaluate the GNPA positions and trends of particular banks in private sector.
- To examine the GNPA ratio of particular banks in private sector.
- To try to determine whether the GNPA ratios of a few chosen private sector banks differ significantly from one another.

Hypothesis

Null Hypothesis: There won't be any significant difference in GNPA ratio (Gross Non-performing assets/ total advance) within the chosen private banks between the years 2017-18 to 2022-23.

Alternate Hypothesis: There will be significant difference in GNPA ratio (Gross NPA/ total advance) within the chosen private banks between the years 2017-18 to 2022-23.

Research Methodology

For this study we have consider gross NPA of chosen private banks which are include in the 2nd schedule of the RBI Act. The sample is four top most Indian private banks. The secondary data used in the study and secondary data was gathered from RBI website and the yearly reports of chosen banks. The analysis uses overall collected data of six years, from 2017–18 to 2022–2023. The researcher has used multiple article and research paper. The theoretical structure of non-performing assets is examined in the article, along with the status and movements of gross NPAs of chosen private banks. Charts and tables were used by researcher to compare the gross NPA, total advance and GNPA ratio of banks and try to find whether there were any statistically significant variations in Gross NPAs ratio within chosen private banks by using ANOVA.

Analysis and Interpretation

The GNPA, total advance and GNPA ratio of four selected Indian private banks are taken for the 6 year from 2017-18 to 2022-23.

Gross Non- Performing Assets Positions of Banks

Table 1: Gross NPA

(in cr.)

Year\Bank	Hdfc	Icici	Axis	Indusind
2017-18	8606.97	53240.18	34248.64	1704.91
2018-19	11224.16	45676.04	29789.44	3947.41
2019-20	12649.97	40829.09	30233.82	5146.74
2020-21	15086	40841.42	22681.69	5794.99
2021-22	16140.96	33294.92	18565.63	5517.15
2022-23	18019.03	29986.07	17019.09	5826.27

Source: RBI reports and annual reports of selected banks

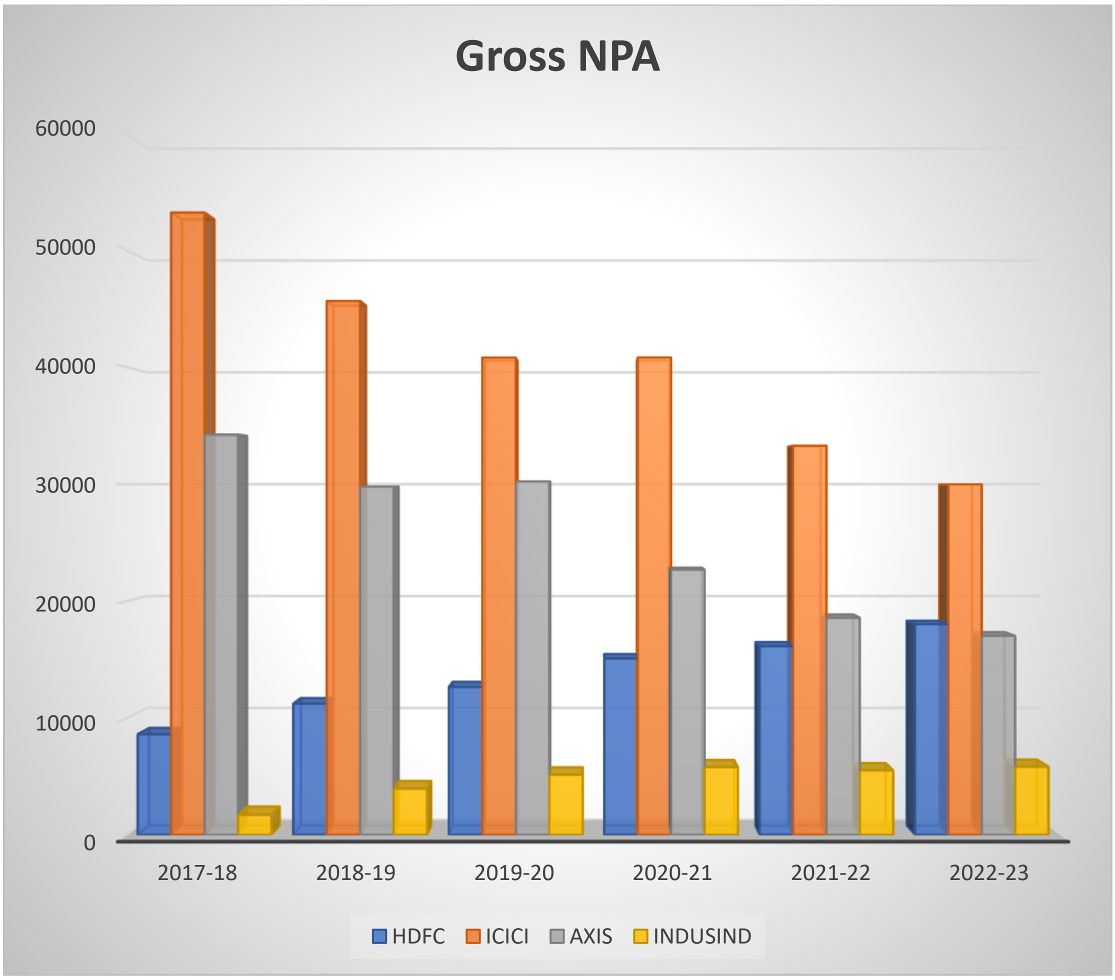

Chart 1: Gross NPA

Total Advance of Bank

Table 2: Total Advance

(In Cr.)

Year\ Bank	Hdfc	Icici	Axis	Indusind
2017-18	658333.09	512395.29	439650.3	144953.66
2018-19	819401.22	586646.58	494797.97	186393.5
2019-20	993702.87	645289.96	571424.15	206783.16
2020-21	1132836.63	733729.09	614399.4	212595.41
2021-22	1368820.93	859020.44	707946.59	239051.53
2022-23	1600585.9	1019638.31	845302.84	289923.68

Source: RBI reports and annual reports of selected banks

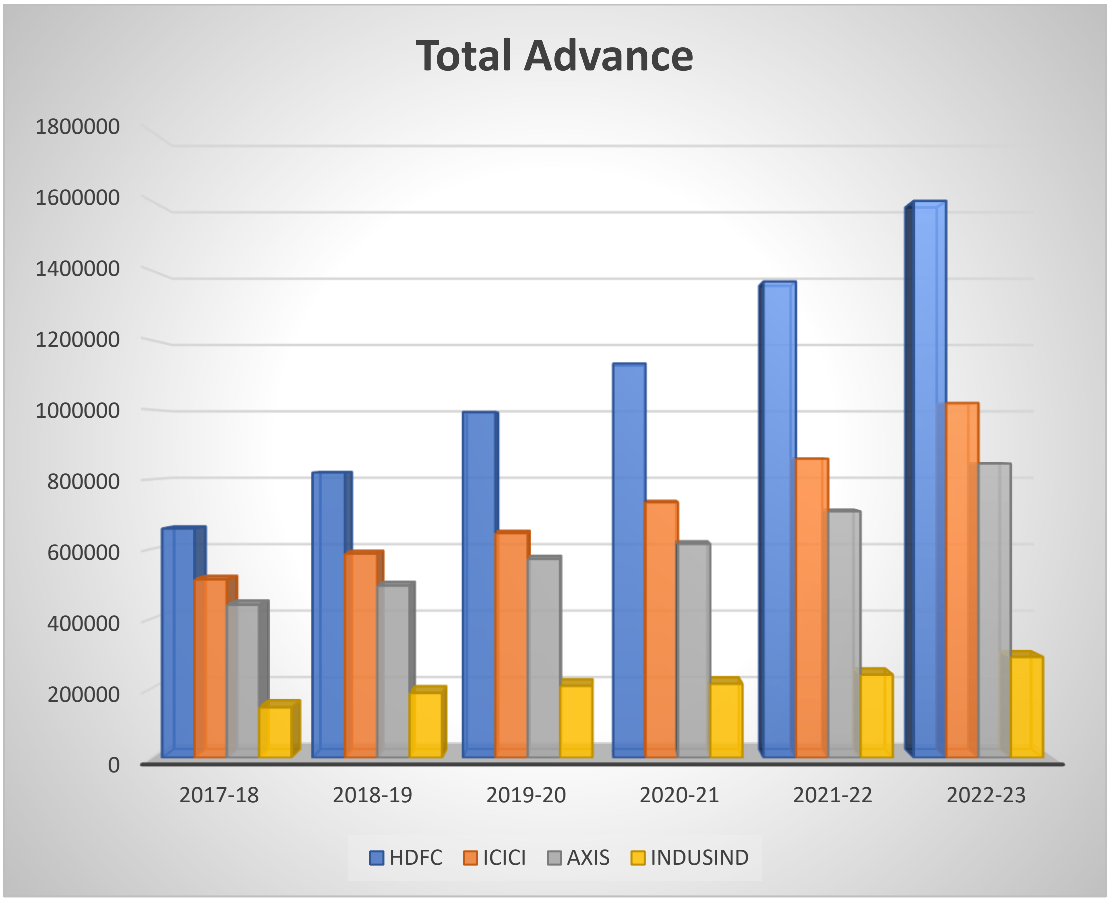

Chart 2: Total Advance

GNPA Ratio (Gross NPA/Total Advance) of Banks

Table 3: GNPA Ratio

Year\Bank	HDFC	ICICI	AXIS	INDUSIND
2017-18	1.30	10.39	7.79	1.18
2018-19	1.36	7.79	6.02	2.12
2019-20	1.26	6.33	5.29	2.49
2020-21	1.32	5.57	3.69	2.73
2021-22	1.18	3.88	2.62	2.31
2022-23	1.13	2.94	2.01	2.01

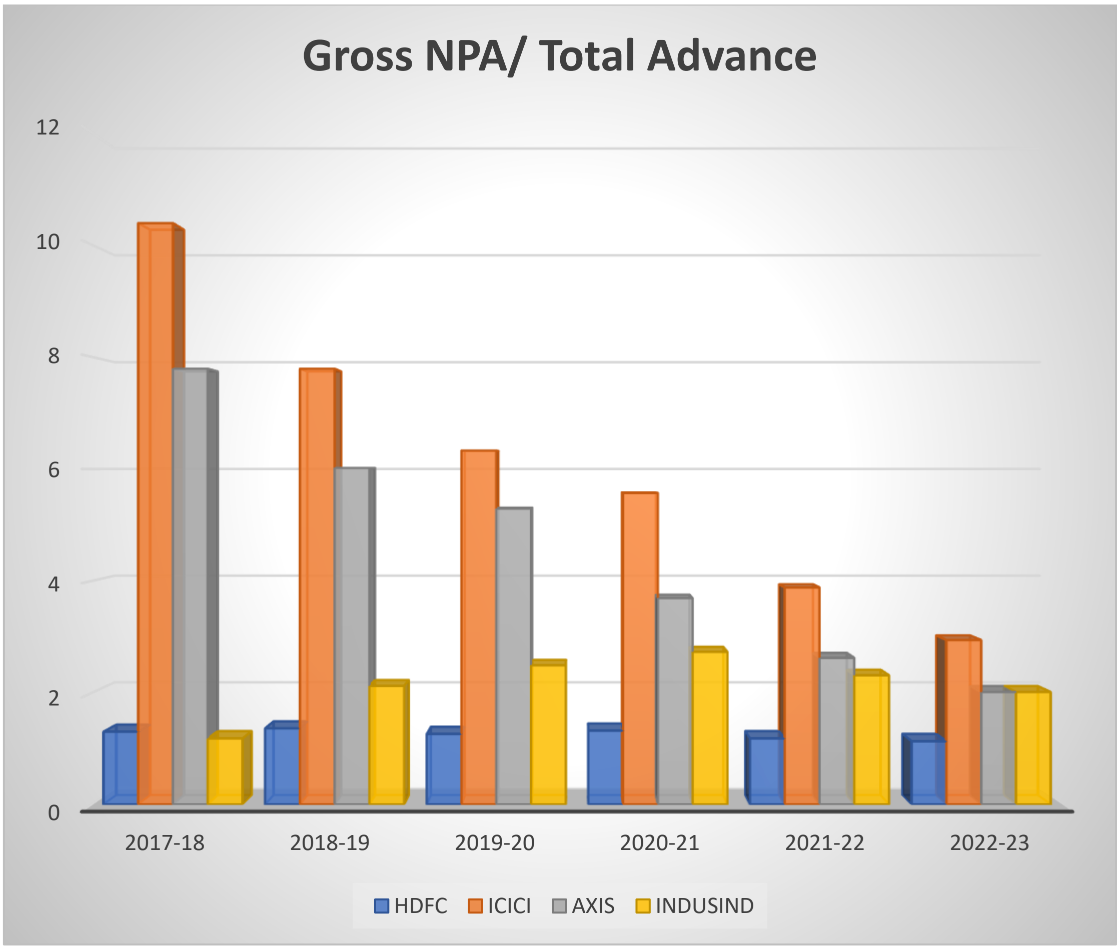

Chart 3. GNPA Ratio

Interpretation

Table 1 and chart 1 shows the gross NPA of HDFC and Indusind bank is continuously growing and ICICI and Axis bank Showed a declining trend but Gross NPA amount of ICICI and Axis bank is very high compare to HDFC and Indusind bank. In table 2 and chart 2 we can see the total advance of selected banks and we observed that all the banks shows an inclining trend in total advance and HDFC bank is leading in this aspect. To illustrate the patterns and status of the GNPA ratio (Gross NPA/total advance) for the chosen banks over the chosen years, Table 3 and Chart 3 were created. It has been noted that GNPA ratio of ICICI and Axis bank was declining but compare to HDFC and Indusind bank their GNPA ratio is very high. If we observe overall aspect of all four banks we can say that HDFC bank performance is very good among all of them.

Anova Analysis

Using Microsoft Excel, an ANOVA analysis was conducted to ascertain whether the GNPA ratios of the chosen banks differed significantly from one another.

ANOVA

Groups	Count	Sum	Average	Variance
HDFC	6	7.55	1.258333	0.007697
ICICI	6	36.9	6.15	7.2986
AXIS	6	27.42	4.57	4.82396
INDUSIND	6	12.84	2.14	0.28768

Source of Variation	Sum of Squares	Degree of freedom	Mean Squares	F	P-value	F crit
Variation Between Groups	90.2314125	3	30.0771375	9.68828825	0.000371651	3.09839121
Variation Within Groups	62.0896833	20	3.10448416			
Total	152.321095	23				

From the above anova analysis the null hypothesis is rejected because the F value 9.68828825, as determined by the anova analysis, is greater than the F critical value of 3.09839121. thus, it can be concluded that the chosen private sector banks' GNPA ratios differ significantly from one another.

Conclusion and Suggestion

For the banking sector of India, non-performing assets have always a significant financial problem. The study observed that overall GNPA position of selected private banks is not good. ICICI and Axis bank have hefty amount of GNPA which impact their creditworthiness and financial performance however the declining trend of GNPA indicates a notable improvement in the asset's quality and effective management of NPA. The study conducted for this article observed that Gross NPAS ratio of ICICI and axis bank also continuously falling and HDFC and Indusind bank has lower range of GNPA ratio which indicates that banks implement effective policies and management to reduce NPA level.

From ANOVA analysis it was found that the GNPA ratios of the chosen banks differ significantly from one another. The study's conclusion stated that non-performing assets (NPA) are a major problem for Indian banks. However, the RBI and other regulatory bodies have implemented effective rules, regulations, standard norms relating to provision and some additional measures that have put pressure on banks to perform better and Indian banking system has responded very positively in implement the provisions norms, fair recognition of borrower, credit appraisals, and update of technology which impact positively on banks financial performance and help to reduce NPA. Based on the aforementioned study, it is recommended that banks create new policies and methods and guidelines to enhance loan and advance recovery, and that the RBI update their credit assessment and tracking system. To ensure prompt payment, a fair borrower selection process and ongoing follow-up are required.

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A COMPARATIVE ANALYSIS OF ROCE AND ROA OF ENERGY COMPANIES IN INDIA

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Sumitra Bishnoi**

ABSTRACT

India is rapidly developing country with a growing demand for energy. To meet this demand India is investing heavily in clean energy sources such as solar, wind and hydropower. A number of companies both private, public and government owned are playing a key role in this development. This is helping to make energy more affordable and accessible for all Indians. It is also helping to reduce India's reliance on fossil fuels and mitigate its impact on climate change. The work of these companies is also very essential to India for achieving SDG 7 which is 'AFFORDABLE AND CLEAN ENERGY '. Clean energy is a subject undergoing intense study all over the word. The present study has been done with the rational to know the effectiveness of ratio. i.e. ROCE & ROA in energy companies. To analyse the performance of renewal energy sector it has taken 5 company and their last 5 year data from their annual reports respectively. To study correlation. pearson's coefficient of correlation is employed which shows that there is positive correlation among them, but some of have a significant correlation .That means that the use of their assets is efficiently and profitable manner. ROCE and ROA are key financial metrics that provides into company's capital efficiency and asset utilization, respectively. This analysis examines the performance of conventional and renewable energy companies over recent years, highlighting their capacity to generate returns for stakeholders while managing the challenges of a dynamic energy market. The findings indicates renewable energy firms demonstrate a steady improvement in ROA, reflecting efficient utilization of assets despite being in a capital-intensive phase of growth.

***KEYWORDS**: Renewable Energy, SDG 7, Energy Companies, Energy Policies.*

Introduction

The Sustainable Development Goals (SDG), also known as the global goals that are a set of 17 interconnected and ambitious objectives adopted by all United nations member states in September 2015. They represent a universal call to action to achieve their listed target. The SDGs build upon the earlier millennium development goals (MDGs) but encompass a broader and more comprehensive vision for sustainable development.

India, like other united nations member states, adopted the SDGs in 2015 and make efforts to achieve these global goals by the year 2030.

Clean energy \renewable energy is a fuel of the future. Above mention 17 SDGs there is SDG 7 which is about Affordable and clean energy. By working together it can be achieved and create a more sustainable and equitable future for all. This goal is essential for achieving all of the other SDGs, as energy is needed for everything from poverty alleviation to economic growth to climate change.

To achieve sustainable development and reduce carbon emission, then we should shift from fossil fuels to renewable energy resources. Renewable energy sources, such as solar, wind, hydro and geothermal energy are clean and sustainable. They do not produce greenhouse gases or other pollutants and they are not subject to the same price volatile as fossil fuel.

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Companies whether they are private or public or government who engage in production of clean energy can contribute to achieve SDGs 7. By increasing the share of renewable energy in the global energy mix. Improving energy efficiency. Expanding a access to affordable, reliable, modern energy services. So study on these companies profitability and financial performance is necessary. This can provide information or thorough knowledge of relative profitability of renewable energy companies. Comparative analysis is also a one aspect to know about the companies financial condition.

Comparative analysis on ratios is an process of comparing the ratios of different companies or of the same company over time. This type of analysis can be used to identify trends, assess performance, and compare companies to their peers. There are number of different ratios that can be used in comparative analysis, such as profitability ratios, liquidity ratio, leverage ratios, activity ratios. Comparative analysis on ratios can be a valuable tool that can be used to gain valuable insights into the financial performances of companies.

Return on assets (ROA) is a financial ratio that measures how efficiently a company uses its assets to generate profit. It is calculated by dividing net income by average total assets. ROA is a useful ratio for research purpose on power companies because it can be used to compare the profitability of different power company over time.

Return on capital employed (ROCE) is a financial ratio that measures how much profit a company generates for its stakeholders. It is calculated by dividing net income by Total capital. It is a useful ratio for getting insight to their profits.

For this research purpose five companies are selected i.e.

- **Suzlon Energy**

Suzlon energy ltd. Is founded in 1995 which is a leading Indian wind turbine manufacturer and renewable energy solutions provider. It is the market leader in the wind energy sector. It is a public limited company.

- **Adani Green Energy**

Adani green energy limited (AGEL) is one of the largest renewable energy company in the world. Which is founded in 2015 AGEL develop solar and wind farm project.

- **NHPC**

NHPC limited is an Indian public sector hydropower company that was incorporated in 1975 to plan , promote and organise an integrated and efficient development of hydroelectric power. Recently it has expanded to include other sources of energy like solar, wind, geothermal.

- **SJVN Ltd.**

SJVN company is known as Satlujjal Vidyut Nigam , is an Indian public sector undertaking involved in hydroelectric power generation and transmission . It was incorporated in 1988 as Nathpajhakri power corporation, a joint venture between the Government of india and the Government of Himachal Pradesh.

- **K.P Energy**

KP Energy Limited was originally incorporated as private limited company under companies act. After it was convert into a public company as on may 2015. It is a Gujrat based company . It provides a end to end solution for wind and solar energy.

Objective of the Study

- To assess the relative profitability of different renewable energy companies.
- To track the profitability of the renewable energy sector over time.
- To identify factors that are driving changes in profitability like asset turnover on ROCE and ROA.

Review of Literature

Dr. Pramod bhargava 2017 write a thesis about financial information of technology industry in India . This research upon a Wipro limited and Infosys limited .They have done comparison performance of 2 companies for the last 5 year data along with 5 ratios . In this research they have gotten the result that Infosys was having better financial performance than Wipro limited.

Dr. Ashvin R. Dave and ms. devanshi R shah (2018)conducted a study on financial performance analysis of Indian companies in information technology sector. Therefore they selected data for the past 10 years by using important information in both absolute and relative manner. In this paper they should that they with the increase of sales they have efficient working capital and are more equity driven

Mr vishal Ji bhatt and Dr jagdish are rayani (2019) wrote a research paper on financial performance analysis of selected information technology companies in India. This research is based on Wipro and Oracle company in which they found that Wipro is top in retention of earning in the business itself Oracle is having a negative retention ratio from the viewpoint of liquidity. Overall the profitability scenario of the selected IT companies are significantly different from each other but liquidity position are insignificantly same.

(Morina et al., 2021) Studies has concluded that the most important firm-specific factors are the company size, asset, and sales growth, turnover, liquidity, and leverage, as well as the number of years the company has been engaged in the activity and its ownership structure and board size. In the literature, there are mainly two categories of factors that affect the financial results of RES producers: the specificity of the firm and the specificity of the country.

1Priya.K, 2Nisha.Ashokan, 3 Mrs. Dinisha. C. "An Analysis of the Renewable Energy scenario in India and public engagement in adaptation of renewable energy sources" . The Indian government's initiatives and policies promoting renewable energy have played a vital role in creating awareness among consumers. This paper has analyzed the Perceptions of the society and willingness to adapt alternate energy sources.

Performance analysis in renewable energy companies application of SWARA and WASPAS methods by journal of sustainable finance and investment in the month of November 2022 In this research paper they have discussed Financial performance of companies in terms of financial ratios of SWARA and WASPAS which are multi criteria decision making techniques used in the field of numerical methods were tried to be calculated. With the help of SWARA they conclude that the leverage ratio is most important factor to determining financial performance of companies.

Type of Research

The current research is of exploratory nature in which the ROCE, ROA And Asset turnover ratios of selected companies have been calculated for the study it measures the factors behind their fluctuate.

Source of Data

For the research work the secondary data were collected from Annual reports of the various companies and RBI publication.

Time Period of the Study

The period of the study for research work of five years from 2019 to 2023.

Data Analysis and Finding

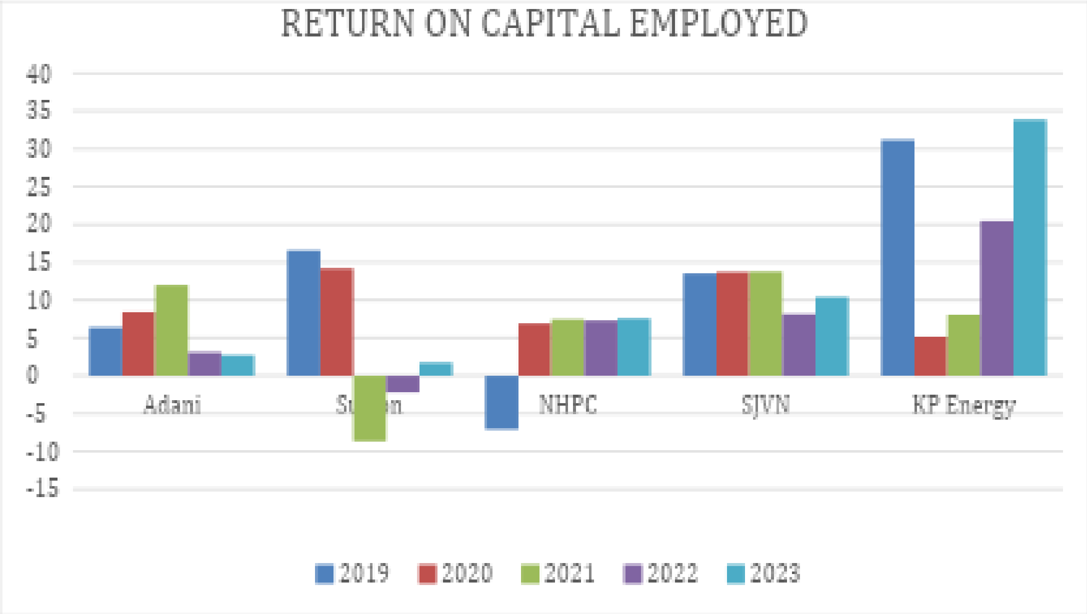
The result of the computations done and the interpretation of result are presented in the following paragraphs. A quick glance at the descriptive statistics on 5 companies that are engaged in renewable energy generation. In this research, researcher has selected last 5 years data to calculated return on capital employed of respective selected companies (table : 1)

Table: 1 Return on Capital Employed

(Rs: in Cr.)

Year /COM.	Adani green Energy	Suzlon Energy	NHPC	SJVN	KP Energy
2019	6.38	16.57	7.09	13.49	31.19
2020	8.43	14.17	6.91	13.7	5.12
2021	12.02	-8.67	7.46	13.76	8.05
2022	3.11	-2.2	7.27	8.14	20.49
2023	2.73	1.73	7.58	10.42	33.87

Source: annual reports of selected companies



Graph 1 shows that the k.p. energy have highest growth in last 5 year as compare to other companies whereas Suzlon and NHPC have negative return but after that they make growth. SJVN have higher return on initial year i.e. 2019 to 2021 and the company make up for the downword loss of year2022 in year 2023. On the other side adani has a lower return compare to other companies. Table2 have the values of descriptive statistics for last 5 years

Table 2: Descriptive Values on Return on Capital Employed

Values	Adani	Suzlon	NHPC	SJVN	KP Energy
Mean	6.534	4.32	4.426	11.902	19.744
Standard Error	1.730736	4.822051	2.88123	1.130391	5.838332
Median	6.38	1.73	7.27	13.49	20.49
Standard Deviation	3.870043	10.78243	6.442626	2.527631	13.05491
Sample Variance	14.97723	116.2609	41.50743	6.38892	170.4306
Kurtosis	-0.94781	-2.2425	4.968782	-0.83873	-2.77481
Skewness	0.551593	0.102195	-2.22748	-1.03893	-0.07639
Range	9.29	25.24	14.67	5.62	28.75
Minimum	2.73	-8.67	-7.09	8.14	5.12
Maximum	12.02	16.57	7.58	13.76	33.87
Sum	32.67	21.6	22.13	59.51	98.72
N	5	5	5	5	5

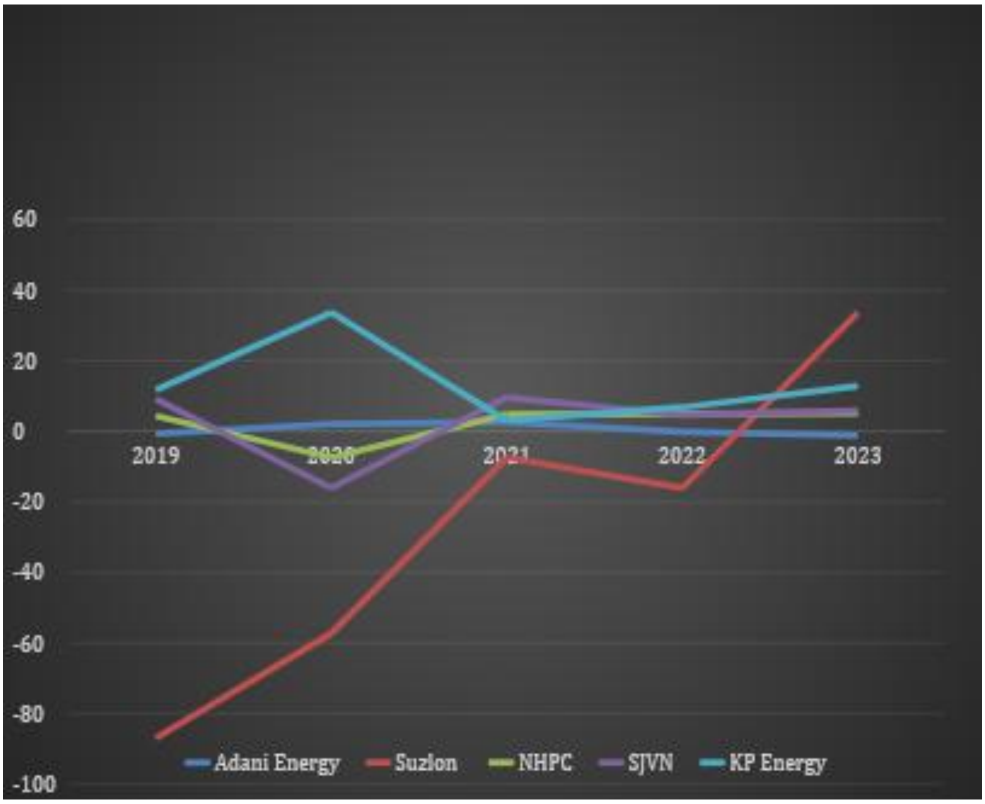
Table 3: Represent the data of selected five companies of return on assets for chosen time period & show their statistical values on Table 4.

Table 3: Return on Assets

(Rs: in cr.)

COM\Year	2019	2020	2021	2022	2023
Adani Energy	-0.64	2.09	2.54	-0.2	-1.14
Suzlon	-86.98	-57.24	-7.43	-16.08	33.75
NHPC	4.41	4.65	4.87	5.03	5.13
SJVN	9.14	9.87	9.68	4.7	5.89
KP Energy	11.83	0.49	3.05	6.8	12.94

Source: Annual reports of the selected company



Graph 2

Table 4: Descriptive values on Return on Assets

Values	Adani	Suzlon	NHPC	SJVN	KP Energy
Mean	0.53	-26.796	2.402	2.666	13.674
Standard Error	0.747141	20.86222	2.461094	4.780443	5.32497
Median	-0.2	-16.08	4.87	5.89	11.83
Standard Deviation	1.670659	46.64934	5.503174	10.6894	11.907
Sample Variance	2.7911	2176.161	30.28492	114.2632	141.7765
Kurtosis	-2.83638	-0.72258	4.948961	4.234999	3.033882
Skewness	0.470812	-0.06471	-2.2222	-2.02269	1.61938
Range	3.68	120.73	12.56	25.76	30.7
Minimum	-1.14	-86.98	-7.43	-16.08	3.05
Maximum	2.54	33.75	5.13	9.68	33.75
Sum	2.65	-133.98	12.01	13.33	68.37
Count	5	5	5	5	5

Table 5 Represent the asset turnover ratio for selected companies and their graph and statistical values thereafter.

Table 5: Asset Turnover Ratio

Com\year	2018-19	2019-20	2020-21	2021-22	2022-23
Adani Energy	5.87	19.49	17.29	0.51	0.27
Suzlon	29.84	6.56	23.26	0.73	0.61
NHPC	13.69	13.51	12.83	0.12	0.13
SJVN	17.79	17.16	14.77	0.13	0.13
K.P Energy	96.48	33.09	29.28	0.92	1.34

Graph 3: Asset Turnover Ratio Over Last 5 Year

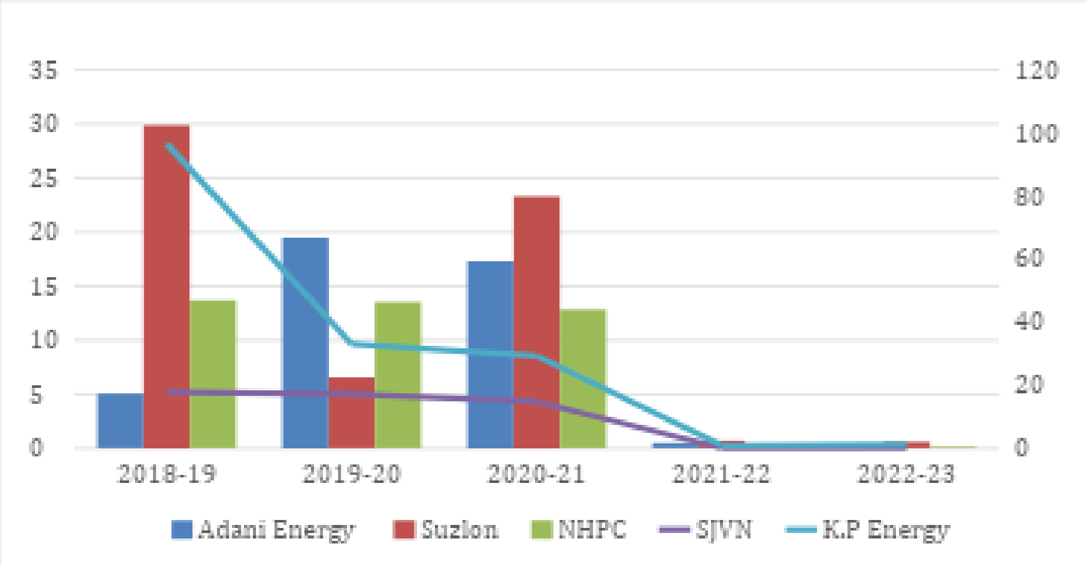


Table 6: Descriptive Value

Column1	ADANI	SUZLON	NHPC	SJVN	KP
Mean	8.526	12.2	8.056	9.996	32.222
Standard Error	4.131457	6.046453	3.240993	4.059164	17.42414
Median	5.07	6.56	12.83	14.77	29.28
Standard Deviation	9.238218	13.52028	7.247081	9.076568	38.96156
Sample Variance	85.34468	182.798	52.52018	82.38408	1518.003
Kurtosis	-2.97729	-2.45783	-3.32113	-3.24966	2.262752
Skewness	0.46084	0.606361	-0.59975	-0.54091	1.445489
Range	19.22	29.23	13.57	17.66	95.56
Minimum	0.27	0.61	0.12	0.13	0.92
Maximum	19.49	29.84	13.69	17.79	96.48
Sum	42.63	61	40.28	49.98	161.11
Count	5	5	5	5	5

Company	P Value Of C	Correlation (ATO & ROCE)	P Value of E	Correlation (ATO & ROA)
Adani Energy	0.043070591	0.889990311	0.937760404	0.018464493
Suzlon	0.736279294	0.208649719	0.290146003	0.594722336
NHPC	0.309246683	0.576217044	0.072827528	0.843094627
SJVN	0.019397431	0.935667442	0.008105598	0.008105598
KP Energy	0.814415894	0.146280791	0.79042047	0.165360099

Conclusion

The research was performed to test what would be the impact of several ratios on financial performance of companies. For performing the test first of all calculate correlation values among ROA , ROCE , Asset turnover ratio, but its only show the correlation not the level of significance i.e. p (probablity) value which is very important to study the statistical significance. If we want to check whether there is a statistically significant relationship between two variables we look at p value. Calculate p value with the help of regression and anova table. The conclusion is that when p value compare with .05. If the p value of a regression coefficient is less than the significance level, then you can reject the null hypothesis and conclude that the coefficient is statistically significant. This means that the independent variable has a significant effect on the dependent variable. If the value of finding will greater than .05

then that means that the null hypothesis will not be rejected and conclude that correlation between two variable insignificant. This does not necessarily mean that the independent variable has no effect on the dependent variable. It is possible that the sample size is too small to detect a small effect.

On the basis of above calculation shows that there is significant correlation between return on capital employed and assets turnover ratio of the company adani energy & sjvn. i.e. .0430 & .0193 which is less than .05 of p value. On the other side p value of adani energy between ROA & asset turnover is .937 which is more then p's significance level that means there is no significant correlation between them. SJVN is only company that have significant correlation among ROCE, ROA & asset turnover. This could be due to a number of factors, such as the efficiency of the company's operation, the profitability of its investment, or the level of debt in capital structure. One possible conclusion is that the company is generating high returns on its capital employed by efficiently using its assets to generate revenues.

ROA OF NHPC has found to be positively correlated with asset turnover, it could suggest that company is more efficient in using their assets. It could lead to increased investment, increased demand & profitability for clean energy. The Limitation of this study is that it use only five year data and selected a limited companies. For the financial performance uses some of the ratio. The future researcher should use more of the ratio and select the data for a long period.

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THE IMPACT OF GST ON THE DIGITAL ECONOMY IN INDIA: CHALLENGES AND PROSPECTS

Suresh Kumar*

ABSTRACT

The Goods and Services Tax (GST), one of the most complex taxations introduced by the Indian government in 2017, has been developing many phases. In the year 2024, as India enters the list of world's leaders of the digital economy, the role of GST in the formation of digital business models has become increasingly crucial. This paper will discuss the impact of GST on the Indian digital economy through its current influence on sectors such as e-commerce, digital services, and fintech. This paper stresses issues emanating from digital businesses, including compliance concerns, obscurity regarding tax classification, and cross-border taxation. It also aims to reflect upon the opportunities that GST creates in broadening the reach to the market, transparency, and innovation in the digital platform. Finally, the paper offers some policy recommendations to fine-tune the position of GST with regard to the growth of India's digital economy.

***KEYWORDS**: Goods and Services Tax, Digital Economy, E-Commerce, Fintech, Taxation, India, 2024.*

Introduction

The rapid growth of India's digital economy, spurred by advancements in internet connectivity, mobile technology, and online businesses, has created both challenges and opportunities in tax administration. The introduction of GST in 2017 was intended to simplify the country's tax system, improve compliance, and promote ease of doing business. As of 2024, the digital sector in India has emerged as one of the biggest drivers of the economy, with sectors like e-commerce, digital services, fin-tech, and online entertainment experiencing exponential growth.

Notwithstanding the strengths of GST, various complexities remain in the case of digital companies that will operate from different states and multiple localities. With a view to factoring in multiple dimensions of the impact of GST on the Indian economy in matters of digital transactions, analyzing particular problems faced in the conduct of business enterprises and gaining insight into better tax structures suitable for success in the future.

Overview of GST in India and Its Evolution

GST was implemented on July 1, 2017, to consolidate various indirect taxes and create a uniform tax system across the nation. The features of GST are as follows:

- **Single Indirect Tax System:** The GST has merged a variety of indirect taxes into one single tax, including VAT, excise duty, and service tax.
- **Dual GST Structure:** GST is imposed by both central and state governments, and there are multiple tax slabs for different categories of goods and services.
- **Tax on Value Addition.** GST is a value-added tax. This means businesses can always claim credit for taxes paid on inputs. Thereby preventing tax cascading.

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Since the day of its incorporation, the government has amended and streamlined several instances of GST architecture in relation to issues within every sector including the digital sector. The growth in the digital economy due to e-commerce, digital media, online services, and financial technology calls for constant up-gradation of the GST system to correspond with its scale of growth.

Impact of GST on India's Digital Economy

E-Commerce

E-commerce is one of the most significant contributors to India’s digital economy, with companies like Amazon, Flipkart, and niche platforms seeing increasing consumer demand. GST has had a mixed impact on this sector:

- **Positive Impact**
  - **Streamlined Taxation:** GST has simplified the tax system for e-commerce businesses by replacing the complex web of state-specific VAT laws and central taxes.
  - **Uniform Tax Rates:** GST has allowed businesses to standardize prices and ensure that goods sold across India are taxed uniformly, improving transparency for consumers..

Challenges

- **Compliance Burden:** E-commerce platforms are required to collect and remit taxes on behalf of their sellers, which increases compliance costs, particularly for small and medium enterprises (SMEs).
- **Interstate Logistics and Tax Variability:** The interstate movement of goods is indeed smoother, yet e-commerce platforms have challenges in the management of cross-state tax issues, especially when it comes to digital goods and services, for which tax classifications can vary.

Digital Services

The digital services sector, encompassing online content platforms, digital subscriptions, and SaaS, has experienced high growth within the Indian market. GST is applicable to both inter-state and international digital services supplied to consumers in India, and thus necessitates sufficient tax classification.

Benefits

- Improved Market Access: Cross-border trade in digital services under GST lets Indian digital firms expand their market reach towards a global customer base while ensuring proper tax compliance.
- Input Tax Credit: The businesses offering digital services can claim an input tax credit on the taxes paid on software, hosting, and infrastructure services, thus reducing the overall tax burden.

Challenges

- **Tax Classification Issues:** Many digital services, such as cloud computing or software as a service (SaaS), face ambiguity in tax classification under GST. Businesses sometimes struggle to determine the appropriate tax rate or whether their service falls under taxable or exempt categories.
- **Cross-Border Digital Transactions:** Given the global nature of digital services, GST has brought in issues concerning international taxation, particularly for services rendered by foreign companies to Indian consumers. International services rendered by international entities are a subject of debate, leading to complications in enforcement and compliance.

Fintech and Online Financial Services

The other significant pillar of India's digital economy is the fintech sector, including online payment platforms, digital wallets, insurance, and lending services. GST has had a huge impact on this sector:

- **Positive Impact**
  - **Simplification of Taxation of Financial Services:** GST has made the taxation of services offered by fin-tech companies much more straightforward, thereby clarifying tax rates for online transactions.
  - **Encouraging Formalization:** GST inspires fin-tech firms to do their business in the formal economy and limits the scope for tax evasion and gives confidence to the consumers and investors.

Challenges

- **Taxation of Financial Services:** Some fintech products, such as insurance and loan products, are still ambiguous regarding their tax classification. The definition of financial products under GST has been challenging and has resulted in the inconsistent application of tax rates.
- **Cross-Border Transactions in Fintech:** Just like digital services, fintech platforms often involve international transactions, which raises questions about the applicability of GST on cross-border payments and digital products.

Policy Challenges and Recommendations

The digital economy growth brings forth some specific challenges to the GST framework. Some of the major issues are:

- **Lack of Clarity on Tax Classification:** When new digital business models are developed, sometimes products and services under GST face ambiguous guidelines regarding tax classification of the digital product. Hence, such emerging sectors such as AI, blockchain, and cloud computing should be provided with detailed guidelines from the government.
- **Cross-Border Taxation:** Indian digital economy increasingly interacts with international markets. A greater need now exists for clarity in coordination between India and other countries on taxation of cross-border digital services. Implementing policies like the OECD's "Unified Approach" for taxing the digital economy could help streamline this process.
- **Simplify the Procedure for Compliance:** Compliance of GST to the micro and small units is very troublesome. The government should implement a simpler procedure of compliance with regard to GST on digital sectors in terms of lesser burden for administration purposes.

Conclusion

Introducing GST has resulted in both negative and positive effects on India's digital economy. Though the system has streamlined taxation, enhanced transparency, and facilitated business operations across states, there still exist challenges with tax classifications, cross-border transactions, and the compliance burden on smaller businesses.

As India further progresses its digital economy in 2024, its GST structure has to become refined and more versatile. Clarity in tax policies, making the compliance process much easier, and building a sophisticated cross-border tax system will help support the growth and innovation in India. This would propel India to keep its digital economy competitive with international economies.

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APPRAISAL OF MUTUAL FUND PERFORMANCE: A STUDY ON SELECTED HDFC MUTUAL FUND SCHEMES

Pratibha Shrimal*

ABSTRACT

Mutual funds have had phenomenal growth throughout time in both the domestic and international financial markets. Due to the benefits it offers, mutual funds are now regarded as highly preferred and worldwide recognised form of investing across investors with few resources. Assessing and comprehending the features of these investment vehicles helps people reach their financial objectives, but before making any decisions about investments, one should take into account the risk factor and market volatility inherent in mutual funds. Mutual funds offer an easy and accessible way for individuals to participate in the financial markets without the need for extensive knowledge or time to manage individual investments. They are broadly categorized into equity funds, debt funds, hybrid funds, and money market funds, each designed for specific objectives. Through a performance assessment of a group of chosen mutual fund schemes, this analysis seeks to improve understanding of how mutual funds operate. The HDFC mutual fund schemes have been chosen specifically for this investigation.

***KEYWORDS**: Mutual funds, AMC, Return, Performance Analysis.*

Introduction

Nowadays people have begun to appreciate the value of investment and savings, investing in financial market has become a trend among people of India. There are many investment options available for Indian investors like stocks, debentures, company deposits, bonds, fixed deposits, mutual funds, precious metals etc. Investor prioritizes a financial instrument while reviewing a number of variables, which involves the time period, return-risk attached and market fluctuation. People are drawn to the stock market more than other means of investing as it offers higher returns, yet these higher returns are often linked with a higher degree of risk. Investing in stock market is beneficial for people who have proper knowledge and education of stocks, market fluctuation, rules & regulation associated with it but due to lack of knowledge and fear of loss a large population does not invest in stock market.

To promote the involvement of small investors and to direct their small savings and resources into the stock market, mutual funds were first made available When the Indian government and RBI formed Unit Trust of India during 1963. After its formation UTI had an AUM about Rs. 6700 crores at ending of 1988. Since then many AMCs are incorporated in Indian Financial market. Mutual funds are typically regarded as one of the most prevalent financial investment instruments. Mutual fund sector is the emerging and advanced sector in Indian Financial market. It offers numerous scheme types to satisfy the particular needs of various investors. Mutual funds are a sort of investment tool that accumulates the capital of multiple investors and investment is made by professional fund managers and AMCs in equities, debts and other securities. Asset Management Company or professional managers charge a small fee for providing their managerial services. Mutual funds give benefit of diversified portfolio, liquidity of funds at low cost fees. If one wants to invest in financial market without worry to directly manage stocks, mutual fund is a better option than amongst other financial instruments. A mutual fund consist a diverse set of equities, debentures, bonds and other securities. A proportional percentage of the fund’s returns including profit and losses as well as any income from its Investment portfolio are allocated to investors who own units of shares of mutual assets. Assets in mutual funds are spread throughout a wide range of segments, which serves the purpose of diversifying the portfolio while reducing the amount of risk overall. Diversification helps minimize risk because all the stocks of fund will not switch in the same direction or increase by the same amount at once.

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“Housing Development Finance Corporation Limited Mutual Funds”(HDFC Mutual Funds)

In 1977, HDFC was incorporated as a specialized finance company and HDFC AMC was established on the tenth of December 1999, in accordance with the Companies Act of 1956. In July 2000, The Securities and Exchange Board of India granted approval for it to function as an AUM for the HDFC mutual Funds. HDFC Mutual funds are a joint venture between Abrdn Investment Management Limited and HDFC. The registered office of HDFC AMC is located in Mumbai. HDFC AMC is one of the most successful and preferred mutual fund managers. It provides retail and institutional clients with a full range of saving and investing alternatives across multiple categories of assets. AUM of HDFC was Rs. 442224.64 crores as at 31.3.2023, representing an increase of 1% against Rs. 411939.78 crores at 31.3.2022.

Summary of HDFC Schemes

HDFC AMC is currently managing 7 close ended schemes and 28 open ended schemes of mutual funds. Additionally, the AMC delivers management of portfolios and advisory services, which correspond with activities of mutual fund. 48 debt-oriented schemes, 26 equity-oriented schemes, 2 liquid schemes, and 9 other schemes have been made available by HDFC AMC. Some of the MF Schemes are HDFC Balanced Advantage Fund, HDFC Flexi Cap Fund, HDFC Hybrid Equity Fund, HDFC Capital Builder Value Fund, HDFC Prudence Fund, HDFC Large and Mid Cap Fund, HDFC Top 100 Fund, HDFC Dynamic Debt Fund, Housing Opportunities Fund, HDFC Tax saver Fund, HDFC Equity Savings Fund, HDFC Infrastructure Fund, HDFC Focused 30 Fund, HDFC IndexFund-Nifty 50 Plan, HDFC Floating Rate Debt Fund etc.

Review of Literature

Dr. Sarita Bahl, Debasish (2012)[1] “in her paper A COMPARATIVE ANALYSIS OF MUTUAL FUND SCHEMES IN INDIA, analyzed the selected schemes of mutual funds on risk and return models and measures. The study was conducted for the period 1996 to 2005. The study concluded Birla Sun Life, HDFC and LIC mutual funds didn’t show satisfactory performance than Franklin Templeton and UTI.”

K (2013)[2], “in their research on the topic, A Comparative Analysis on Performance of SBI And HDFC Equity, Balanced and Gilt Mutual Fund comparing and analyzing the performances of SBI and HDFC Mutual Funds selecting Equity, Gilt and Balanced Mutual Funds using Sharpe Ratio, Treynor Ratio and Jensen Ratio. The study is performed for the period of January 2010 to December2012 for comparison of performance of the funds. She came to discover that the performance of the funds shifted in accordance with market conditions, i.e., the market's instability had a bearing on the returns of the schemes in 2010 and 2011, but the performance of the schemes stabilized in 2012. Overall, the analysis showed that, throughout the chosen time period, investing in HDFC (Equity, Balanced, Gilt) Mutual Fund is preferable than investing in SBI Mutual Funds.”

Rama Devi and Lenin Kumar (2011)[3] , “ in their study Performance Evaluation of Private and Public Sponsored Mutual Funds in India, The study examined 340 mutual funds from both the private and public sectors that were categorized as money market, debt, balanced, and equity funds. The study found a lack of distinction between the returns of private and public sector mutual funds.”

Sahil Jain (2012)4, “undertook the topic Analysis of Equity Based Mutual Funds in India’ to examine the efficiency of equity-oriented mutual funds. The CAPM (Capital Asset Pricing Model) and the risk-return combination have both been used in the analysis. The study as a whole reveals that LIC has been the most adverse performer, with returns below projected returns on the risk-return relationship, followed by UTI and HDFC as the best performers.”

Rupeet Kaur (2012)5 “in her paper titled A Comparative Analysis of Growth and Dividend Tax Oriented Mutual Fund Schemes in India. examined the risk-return return aspects throughout selected 18 mutual fund categorized under tax oriented schemes, growth schemes ,open- ended equity schemes and dividend schemes.

According to the analysis, the majority of the chosen schemes were unable to give investors a good return compared to the market. It turned out that growth scheme efficiency was superior to dividend schemes.”

Dr. Rajesh Manikraoji Naik and M R Senapathy (2013)[6], “on the topic ,A Comparative Study on The Performance of Mutual Funds SBI Mutual Funds V/S Others, conducted while comparing HDFC top

100 Mutual Fund with SBI Magnum Equity Mutual Fund on the basis of their performance in 2011- 2012, using Beta performance, Sharpe ratio and Standard Deviation. The authors concluded through stating that there is not much variance between SBI Mutual Fund and HDFC Mutual Fund, both of which were good investment options."

Gomathy Shankari Thyagarajan (2009)[7] "in her paper "Performance Evaluation of Indian Mutual Fund Industry" focused on the CAGR returns compared to their standards for the asset management organizations Franklin Templeton, HDFC, and ICICI Prudential. The results show that the sample schemes' Sharpe ratios performed better than those of the benchmark. It came to light that most mutual funds performed well in terms of performance, many of their schemes outperformed benchmark indexes as well and investors began to value their past performance."

Objectives

- To broaden the understanding of public of the selected mutual fund schemes offered by HDFC.
- To get knowledge of the probable risk linked with each mutual fund scheme.
- To assess and compare the Net Asset Value (NAV) of the HDFC mutual funds.

Research Methodology

This research is conducted on Specific HDFC Mutual Fund Schemes with the help of secondary data to analyze the risk and return factors of different mutual fund Schemes. Statistical and other methods are used for comparing the efficiency of selected mutual fund schemes.

Source of Data

The study is conducted using secondary data gathered from variety of sources like newspaper, online bulletins, websites, journals, annual report of Asset Management Company and other published information.

Scope of Study

The study is performed by selecting 5 HDFC Mutual Fund Schemes - HDFC Large and Mid-Cap Regular Growth Fund, HDFC Hybrid Equity Growth Fund, HDFC Top 100 Growth Fund, HDFC Flexi Cap Growth Fund, HDFC Mid-Cap Opportunities Growth Fund. NAV and Return data of 3 years has been taken for analysis of these mutual funds.

Tools used for Analysis

- **Average Return:** The fundamental statistical mean from various returns produced over time is known as the average return. For any given collection of data, the mean return is precisely calculated as a simple average. The sum of the numbers is calculated and then divided by number.
- **Standard Deviation:** The standard deviation denotes the average degree of variability in the dataset. The S.D. value provides insight into how fluctuating fund returns have been over the last three years.
- **Treynor's Ratio:** It reveals the volume of a surplus return that earned for each unit of risk taken. A greater value indicates a better return for the risk taken by the fund.
- **Sharpe's Ratio:** The Sharpe ratio describes the level of risk undertaken to yield return. To evaluate risk-adjusted performance, it divides the excess returns of a fund by standard deviation**.**

Data Analysis

Table 1

Schemes	Returns		
	2023	2022	2021
HDFC Large and Mid-Cap Regular Growth Fund	28.2	11.95	31.42
HDFC Hybrid Equity Growth Fund	17.93	8.72	20.82
HDFC Top 100 Growth Fund	24.28	10.38	25.76
HDFC Flexi Cap Growth Fund	24.9	14.32	32.41
HDFC Mid-Cap Opportunities Growth Fund	36.1	18.09	35.65

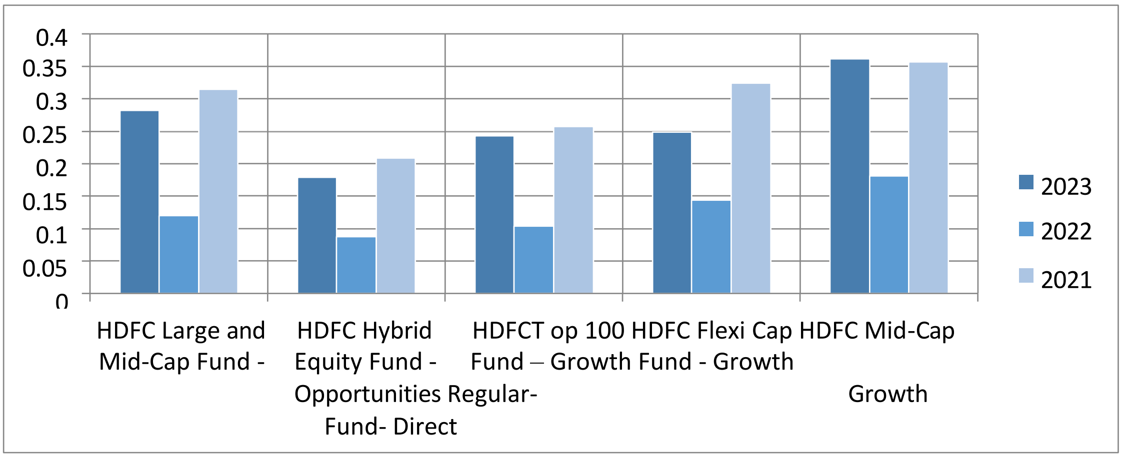

Chart: showing returns of HDFC Mutual Funds (Table 1)

Table 2

Scheme Name	Category	NAV
HDFC Large and Mid-Cap Regular Growth Fund	Large & Mid Cap fund	244.21
HDFC Hybrid Equity Growth Fund	Aggressive Hybrid Fund	101.85
HDFC Top 100 Growth Fund	Large Cap Fund	869.88
HDFC Flexi Cap Growth Fund	Flexi Cap Fund	1339.28
HDFC Mid-Cap Opportunities Growth Fund	Mid Cap Fund	132.18

Table 3

Scheme Name	Mean	Standard Deviation	Minimum	Maximum	Range
HDFC Large and Mid-Cap Regular Growth Fund	0.238	0.104	0.119	0.314	0.194
HDFC Hybrid Equity Growth Fund	0.158	0.063	0.087	0.208	0.121
HDFC Top 100 Growth Fund	0.201	0.084	0.103	0.257	0.153
HDFC Flexi Cap Growth Fund	0.238	0.090	0.143	0.324	0.180
HDFC Mid-Cap Opportunities Growth Fund	0.299	0.102	0.180	0.361	0.180

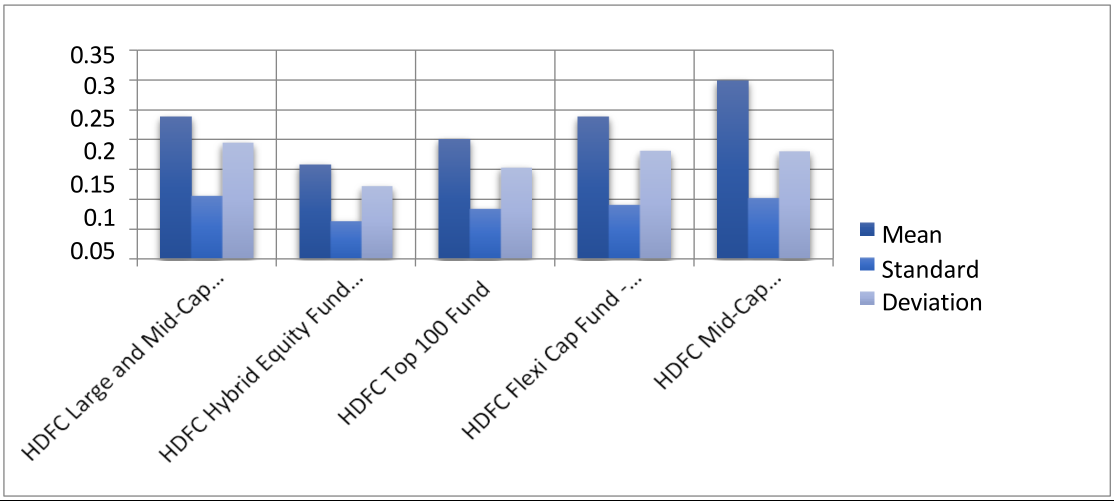

Chart Showing mean, Standard Deviation Of MF Schemes(Table-3)

Table 4

Scheme Name	Sharpe's Ratio	Treynor's Ratio
HDFC Large and Mid-Cap Regular Growth Fund	1.66	0.22
HDFC Hybrid Equity Growth Fund	1.44	0.1
HDFC Top 100 Growth Fund	1.43	0.19
HDFC Flexi Cap Growth Fund	1.78	0.24
HDFC Mid-Cap Opportunities Growth Fund	1.8	0.27

Interpretation and Suggestions

Table 1 shows return of 3 years of selected HDFC Mutual Fund schemes. HDFC Large and Mid-Cap Regular Growth fund, HDFC Hybrid Equity Growth fund, HDFC Top 100 Growth fund, HDFC Flexi Cap Growth fund gave highest return in 2021 whereas HDFC Mid-Cap Opportunities Growth fund gave highest return in 2023. HDFC Mid-Cap Opportunities-Direct Plan Growth fund has highest average return of 29.94%. Table 2 presents schemes category and NAVs of selected Mutual fund Schemes. By observing above mentioned table it is concluded that HDFC Flexi Cap Growth Fund has highest NAV of 1339.28 whereas HDFC Hybrid growth fund has lowest NAV of 101.85. After analyzing the data presented in Table 3, Standard Deviation of HDFC Large and Mid-Cap Regular Growth fund is highest with 10.43% thus implying more variability than other schemes. By evaluation of the above tables, HDFC Mid-Cap Opportunities Growth fund has comparatively lower NAV of Rs. 132.18 but it's Sharpe's ratio is 1.8 and Treynor's ratio is 0.27, implying good performance than other schemes. HDFC Hybrid Equity Growth fund and HDFC Top 100– Growth fund have lowest ratios giving average performance in comparison. Based on the performance analysis above, it is recommended that for appraisal of mutual funds investor should also consider use of statistical tools other than of NAVs and returns.

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AN ANALYSIS OF INDIAN RURAL INVESTORS' INVESTMENT AWARENESS AND PREFERENCES

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Dr. P.C. Saini**

ABSTRACT

Investing and saving can provide profitable outcomes. Still, we have to choose where and how much to invest. Understanding each investing platform and its associated risk exposures is essential for making a wise choice. To achieve their financial goals, all individuals must plan their investments. Nonetheless, it would be illogical to assume that every investor has a thorough understanding of all investing-related topics. Investors, particularly those in rural areas with limited resources, education, income, etc., may think differently while meeting their demands. Researching the investing inclinations of rural investors is essential. ..In order to understand the level of awareness about the investment avenues available to invest in and the investment preferences by the rural residents among this plethora of options, apropos to bring about inferences and suggestions, a profusion of research papers and theses tending different rural regions in India have been scrutinised..

KEYWORDS*: Rural Investors, Awareness, Investments, Investment Preferences, Financial.*

Introduction

Rural India is largely underserved in terms of financial products beyond savings accounts and traditional investments like gold and land. Despite increasing financial inclusion efforts, such as the Pradhan Mantri Jan Dhan Yojana (PMJDY), there remains a significant gap in awareness and participation in formal financial markets. Understanding the factors that influence rural investors' awareness and preferences can guide policy interventions aimed at improving financial literacy and increasing access to formal financial products.

Research Problem

Although rural areas have access to basic banking products, rural investors often lack awareness of formal financial products such as stocks, mutual funds, and government bonds. This research seeks to investigate why rural investors prefer certain investment products over others and what factors contribute to their decision-making process.

Literature Review

- **Patnaik (2019)** conducted a study on the relationship between financial literacy and investment behavior among rural households in Odisha. The study concluded that rural investors demonstrated poor knowledge of mutual funds, stocks, and bonds. Only 35% of respondents were aware of basic financial concepts like inflation, interest rates, and the time

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value of money. The study emphasized that improving financial literacy could help rural households make better financial decisions, particularly in terms of long-term investments.

- **Rath and Gupta (2020)** explored the barriers to financial inclusion in rural India and highlighted that low levels of financial literacy lead to underutilization of formal financial products such as government bonds, mutual funds, and insurance. They found that more than 60% of rural households in their sample had limited knowledge of investment products beyond savings accounts and gold.
- **Meenakshi (2020)** in her study on financial inclusion in rural areas found that while there was an increase in the number of bank accounts opened under government initiatives like Pradhan Mantri Jan Dhan Yojana (PMJDY), the lack of financial literacy prevented rural people from investing in products like mutual funds and stocks, despite having bank accounts. of rural investors in Haryana and found that gold and real estate were the preferred choices. The study observed that 75% of respondents preferred gold due to its perceived stability and historical value in Indian culture. Similarly, 60% of respondents invested in land or real estate as they believed it to be a safe, long-term investment. However, only 10% of the sample reported investing in stocks or mutual funds, with the most common reason being a lack of understanding of these financial products.
- **Ravi and Babu (2022)** conducted a survey in rural Tamil Nadu and found that rural investors are generally conservative. Among respondents, 80% preferred low-risk investments like fixed deposits and government bonds. The remaining 20% were divided between real estate (12%) and gold (8%). The study concluded that risk aversion and a preference for tangible assets were the dominant factors influencing investment decisions in rural households.
- **Singh (2021)** provided insights into rural investor psychology, revealing that rural households prioritize financial security over higher returns. This is because rural investors often lack access to diversified financial products and tend to view investments in the stock market or mutual funds as speculative and risky.

Research Methodology

Research Design

A quantitative research design using a cross-sectional survey method is employed to capture the awareness and preferences of rural investors.

Sample Design

The study targeted rural households in four states: Uttar Pradesh, Maharashtra, Bihar, and Tamil Nadu, with a sample size of 1,000 respondents (250 from each state). Stratified random sampling was used to ensure diverse representation across income groups, education levels, and age brackets.

Data Collection

Data was collected through face-to-face interviews using a structured questionnaire. The questionnaire covered the following aspects:

- Demographic profile of respondents (age, gender, income, education).
- Awareness of various investment options.
- Investment preferences and reasons for choosing them.
- Barriers to investment in formal financial products.

Statistical Tools

- **Descriptive Statistics** for summarizing demographic characteristics and responses.
- **Chi-Square Test** to assess the relationship between categorical variables (e.g., age vs. investment preferences).
- **Correlation Analysis** to examine the relationship between financial literacy and investment behavior.
- **Multiple Regression Analysis** to analyze the influence of various factors like income, education, and financial literacy on investment preferences.

Data Analysis and Results

Demographic Profile of Respondents

The demographic characteristics of the respondents are summarized as follows:

Demographic Characteristic	Category	Percentage
Age	18-30 years	20%
	31-50 years	60%
	51+ years	20%
Gender	Male	70%
	Female	30%
Income Level	< INR 2,00,000	40%
	INR 2,00,000 - INR 5,00,000	35%
	> INR 5,00,000	25%
Education Level	Primary	20%
	Secondary	50%
	College	30%

Awareness of Investment Products

The awareness of various investment products among rural investors was analyzed. Below are the results:

Investment Product	Awareness Percentage (%)
Gold	85%
Real Estate	80%
Savings Accounts	75%
Fixed Deposits	65%
Mutual Funds	25%
Stocks	20%
Government Bonds	15%

- **Insight:** Gold and real estate continue to dominate as the most recognized investment products, while formal products such as mutual funds, stocks, and government bonds have low awareness levels.

Investment Preferences

When asked about their investment choices, respondents indicated the following preferences:

Investment Product	Preference (%)
Gold	50%
Real Estate	30%
Fixed Deposits	10%
Mutual Funds	5%
Stocks	3%
Government Bonds	2%

- **Analysis:** Rural investors have a strong preference for tangible, low-risk investments, such as gold and real estate. Only 5% preferred mutual funds, and only 3% chose stocks.

Factors Influencing Investment Preferences

The following factors were cited as influencing investment decisions:

Factor	Percentage (%)
Trust in Investment	75%
Risk Aversion	65%
Family/Peer Influence	60%
Safety & Security	55%
Return on Investment	30%

- **Analysis:** Trust in the investment vehicle and safety are the two dominant factors in the investment decision-making process. Financial returns are a secondary consideration for rural investors.

Barriers to Investment

The key barriers preventing investment in formal financial products are:

Barrier	Percentage (%)
Lack of Knowledge	58%
Limited Access to Financial Services	40%
Risk Aversion	50%
Distrust in Financial Institutions	35%

- **Analysis:** The dominant barrier to formal investment is a lack of knowledge. Over half of the respondents cited not knowing enough about investment products as a primary deterrent. Risk aversion and distrust in financial institutions also emerged as significant obstacles.

Statistical Analysis

Chi-Square Test

A chi-square test was conducted to assess whether there is a significant relationship between **age** and preferred investment products. The observed and expected frequencies were calculated for different age groups and their preferences for gold, real estate, and mutual funds.

- **Chi-Square Value**: 18.23
- **Degrees of Freedom**: 4
- **P-value**: 0.002 (which is less than 0.05, indicating a statistically significant relationship)

Interpretation

A significant relationship exists between age and investment preferences. Older individuals (50+) tend to prefer tangible assets like gold and real estate, while younger individuals show a greater inclination toward formal investment products like mutual funds.

Correlation Analysis

Correlation analysis was conducted to examine the relationship between **financial literacy** and the preference for formal financial products.

- **Pearson Correlation Coefficient**: 0.52
- **P-value**: 0.001 (indicating a statistically significant positive relationship)

Interpretation

There is a moderate positive correlation between financial literacy and the preference for formal investment products. As financial literacy increases, the likelihood of investing in stocks, mutual funds, and bonds also increases.

Multiple Regression Analysis

To understand the factors that influence investment preferences, a multiple regression model was constructed with the following predictors: **income**, **financial literacy**, **age**, and **trust in financial institutions**. The dependent variable was the choice of formal financial products (stocks, mutual funds, government bonds).

- **Adjusted R^2**: 0.62
- **Significant Predictors**:
  - **Income ($\beta = 0.38$, $p < 0.01$)**
  - **Financial literacy ($\beta = 0.32$, $p < 0.05$)**
  - **Trust in financial institutions ($\beta = 0.27$, $p < 0.05$)**

Interpretation

Income and financial literacy were found to be the most significant predictors of rural investors' preferences for formal investment products. As income and financial literacy increase, so does the likelihood of choosing formal financial investments.

Discussion

Key Findings

- **Awareness**: Rural investors exhibit strong awareness of traditional investment products but have limited knowledge of formal financial options.
- **Preferences**: Gold and real estate are the preferred investments due to their perceived safety and familiarity.
- **Barriers**: Financial illiteracy, limited access to formal financial services, and risk aversion are the primary barriers preventing rural investors from adopting formal financial products.

Implications

- **Policy Recommendations:** Government and financial institutions must focus on improving financial literacy in rural areas and offer more accessible financial products.
- **Trust Building:** Banks and financial institutions should build trust in rural areas through transparent practices and customer-centric services.

Conclusion

The findings suggest that while rural investors are aware of traditional investment options, they lack the knowledge and confidence to engage with formal financial products. Financial literacy programs, better access to banking services, and more trust-building initiatives can help bridge the gap between rural investors and formal financial markets.

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भारत में जनासांख्यिकीय परिवर्तन–कारण एवं इसके प्रभाव

डॉ. सत्यनारायण मीना*

सार

किसी भी देश का समग्र विकास उस देश में निवास करने वाले लोगों में निहित होता है। देश के नागरिक खुशहाल, शिक्षित और स्वस्थ होते हैं तो उस देश को अधिक विकसित कहा जाता है। भारत विश्व में जनसंख्या की दृष्टि से विश्व में चीन के पश्चात् द्वित्तीय स्थान पर है और वर्तमान की जनसंख्या वृद्धि दर दृष्टिपात करे तो भारत शीघ्र ही सबसे बड़ी जनसंख्या वाला देश बनने की ओर अग्रसर है। अधिक जनसंख्या को कुछ विद्वान वरदान् तो कुछ अभिशाप मानते हैं। इस संबंध में कोई सर्वसम्मत मत नहीं है। भारत में जनसंख्या का वितरण विभिन्न राज्यों में असमान है और विभिन्न कारणों से एक राज्य से दूसरे राज्य में जनसंख्या का निरन्तर प्रवास होता रहता है। यह जनासांख्यिकीय परिवर्तन की भूमिका अदा करता है।

शब्दकोशः *विकसित, जनसंख्या वृद्धि, जनसंख्या का वितरण, जनसांख्यिकीय परिवर्तन।*

प्रस्तावना

जनासांख्यिकीय परिवर्तन का अर्थ

जनसंख्याशास्त्र एक ऐसा सामाजिक विज्ञान है जिसमें सामाजिक, आर्थिक एवं भौगोलिक कारकों के कारण, जनसंख्या की संरचना, वितरण, गति, परिवर्तन एवं संचरणशीलता की प्रक्रियाओं में हुए परिवर्तनों का अध्ययन किया जाता है। इसमें जनसंख्या के भावी स्वरूप में परिवर्तन की परिकल्पना की जाती है। इस शास्त्र से जनसंख्या के सिद्धान्तों तथा जनसंख्या की नीतियों का निर्माण किया जाता है।[1]

जनसंख्या की संरचना

भारत का क्षेत्रफल 32,87,263 वर्ग कि.मी. है, जो विश्व के कुल क्षेत्रफल का 3.3 प्रतिशत है। वर्ष 2011 की जनगणना के अनुसार भारत की जनसंख्या 121.09 करोड़ थी, जो कि विश्व की कुल जनसंख्या का लगभग 17.5 प्रतिशत रहा है। योजनाकाल में जनसंख्या की दृष्टि से "तीन नये भारतों" का निर्माण हो गया है। प्रतिवर्ष एक आस्ट्रेलिया का निर्माण होता है। वर्तमान में भारत की जनसंख्या लगभग 145 करोड़ अनुमानित की गयी है।[2] भारत की जनसंख्या में लगातार वृद्धि हो रही है इसे तालिका–01 में दर्शाया गया है।

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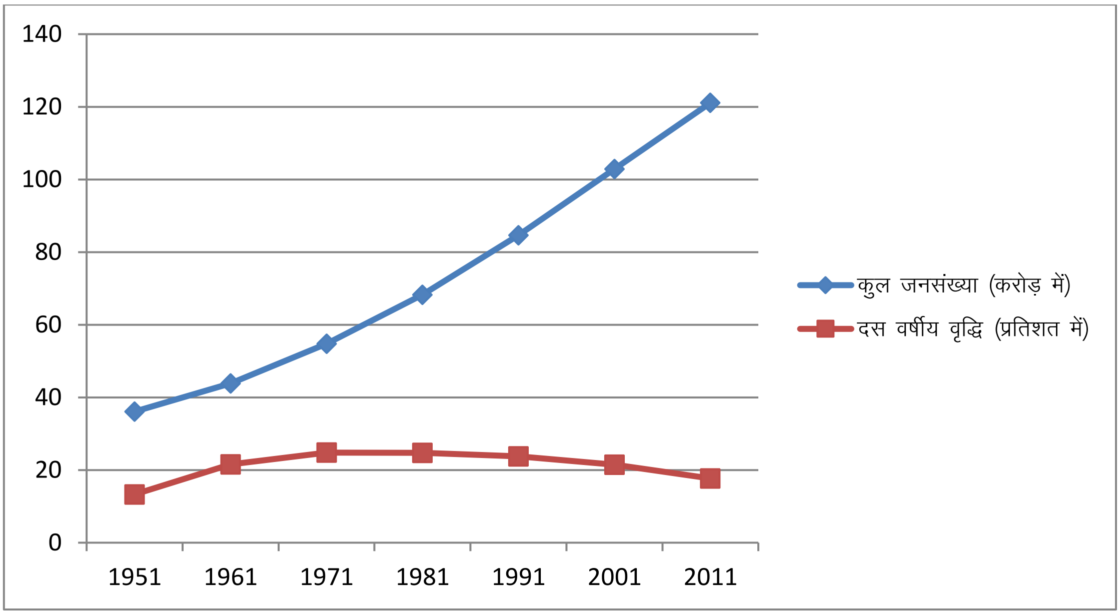
* सह–आचार्य(ई.ए.एफ.एम.), राजकीय स्नातकोत्तर महाविद्यालय, जमवारामगढ़, जयपुर, राजस्थान।

तलिका 1: 1951—2011 में भारत की जनसंख्या के आकार में वृद्धि

जनगणना वर्ष	कुल जनसंख्या (करोड़ में)	दस वर्षीय वृद्धि (प्रतिशत में)
1951	36.1	13.3
1961	43.9	21.6
1971	54.8	24.8
1981	68.3	24.7
1991	84.63	23.8
2001	102.87	21.5
2011	121.09	17.7

स्त्रोतः नाथूरामका, लक्ष्मीनारायण(2008), भारतीय अर्थव्यवस्था, जयपुरःकॉलेज बुक डिपो, पृ.74 व ओझा, बी.एल. एवं ओझा(2019—20), मनोज कुमार, भारत में आर्थिक पर्यावरण, जयपुरः आर.बी.डी. पब्लिशिंग हाउस, पृ.7.7

चार्ट 1: 1951—2011 में भारत की जनसंख्या के आकार में वृद्धि



लिंग अनुपात

लिंग अनुपात में प्रति हजार पुरूषों की पर महिलाओं की औसत संख्या का अनुपात दर्शाया जाता है। भारत में स्वाधीनता के पश्चात् अधिकाशंतः जनगणनाओं में लिंग अनुपात गिरने की प्रवृत्ति पाई जाती है। भारत में लिंगानुपात 1951 में 946, 1961 में घटकर 941, 1971 में और घटकर 930, 1981 में बढ़कर 934, 1991 में घटकर सबसे कम 927, 2001 में बढ़कर 933 व 2011 में बढ़कर 946 रहा है। भारत में सर्वाधिक लिंगानुपात केरल में पाया जाता है।[3]

शहरी और ग्रामीण जनसंख्या

जनसांख्यिकीय परिवर्तन में जनसंख्या के शहरीकरण एवं ग्रामीणीकरण में हुये परिवर्तनों को भी सम्मिलित किया जाता हैं। देश की आबादी की तुलना में कस्बों की आबादी में कई गुणा वृद्धि हुई है। विकास की प्रक्रिया के साथ—साथ देश में तीव्र गति नगरीकरण हो रहा है। विकसित देशों में शहरी जनसंख्या का प्रतिशत अधिक रहता है। 1951 से 2011 के दौरान नगरीय जनसंख्या के आकार एवं इनमें वृद्धि को तालिका—02 में प्रदर्शित किया गया है।

तालिका 2: 1951–2011 में नगरीय जनसंख्या का आकार एवं वृद्धि

जनगणना वर्ष	नगरीय जनसंख्या	
	करोड़ में	कुल आबादी का प्रतिशत
1951	6.16	17.6
1961	7.76	18.3
1971	10.70	20.2
1981	15.62	23.7
1991	21.76	25.7
2001	28.53	27.8
2011	37.7	31.2

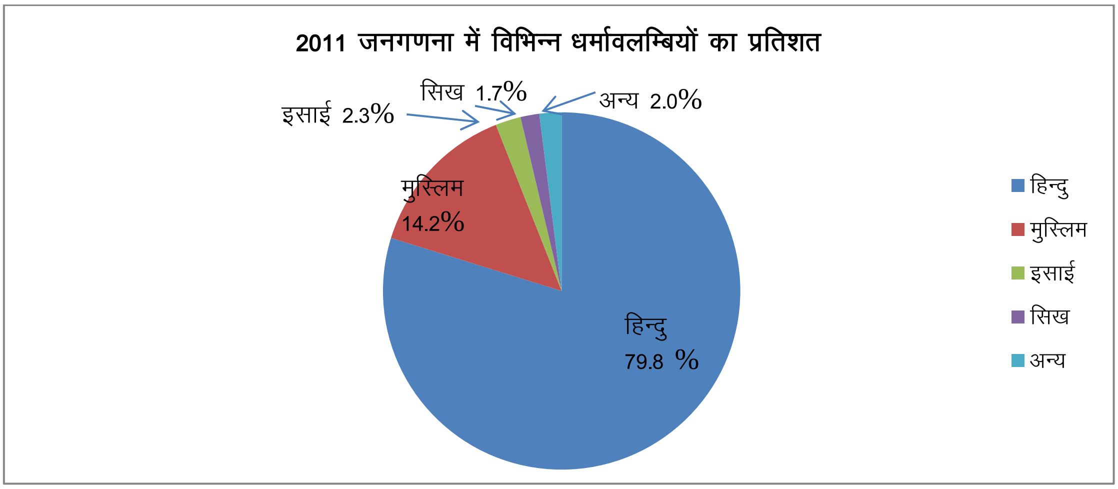
स्त्रोतः पेत्रोव, विक्टर (1987), भारत का जनसंख्या मूलक अध्ययन, जयपुरः राजस्थान पीपुल्स पब्लिशिंग हाउस(प्रा.)लि., पृ.205 एवं ओझा, बी.एल. एवं ओझा(2019–20), मनोज कुमार, भारत में आर्थिक पर्यावरण, जयपुरः आर.बी.डी. पब्लिशिंग हाउस, पृ.7.5

विभिन्न धर्मोनुसार जनसंख्या

वर्ष 1951 में हिन्दुओं व सिखों का जनसंख्या में क्रमशः 84.1 व 1.9 प्रतिशत हिस्सा था, वह घटकर 2011 की जनगणना में क्रमशः 79.8 व 1.7 प्रतिशत रह गया। इसाई की प्रतिशत 1951 व 2011 की जनगणना में समान 2.3 प्रतिशत रहा है। किन्तु मुस्लिमों व बौद्धों की जनसंख्या में वृद्धि उल्लेखनीय रही है। मुस्लिमों की जनसंख्या का प्रतिशत 1951, 9.8 प्रतिशत था, वह बढ़कर 2011 में 14.2 प्रतिशत हो गया।[4] इस तथ्य को तालिका–03 में प्रदर्शित किया गया है।

तालिका 3: 1951–2011 में विभिन्न धर्मानुसार जनसंख्या का वितरण

जन–गणना वर्ष	हिन्दु जनसंख्या		मुस्लिम जनसंख्या		इसाई जनसंख्या		सिख जनसंख्या	
	करोड़ में	कुल जन –संख्या का :	करोड़ में	कुल जन–संख्या का :	करोड़ में	कुल जन–संख्या का :	करोड़ में	कुल जन–संख्या का :
1951	30.5	84.1	3.54	9.8	0.83	2.3	0.69	1.9
2011	96.63	79.8	17.22	14.2	2.78	2.3	2.08	1.7



चार्ट 2

कार्यकारी जनसंख्या

भारत में कार्यकारी जनसंख्या 1951 में 14.1 करोड़ थी, जो कुल आबादी का 39.1 प्रतिशत था। 2011 की जनगणना के अनुसार कार्यकारी जनसंख्या बढ़कर 47.8 करोड़ हो गई किन्तु इसका कुल आबादी में प्रतिशत में बहुत कम बढ़कर 39.4 प्रतिशत हो गया। आज भी लगभग 60 प्रतिशत जनसंख्या गैर–कार्यकारी की श्रेणी में आती है। इससे प्रकट होता है कि देश की एक बहुत बड़ी आबादी निराश्रित है। इस तथ्य को तालिका 04 में दर्शाया गया है।

तालिका 4: 1951–2011 में कार्यकारी एवं गैर–कार्यकारी जनसंख्या

जनगणना वर्ष	कार्यकारी जनसंख्या		गैर–कार्यकारी जनसंख्या	
	करोड़ में	कुल आबादी का प्रतिशत	करोड़ में	कुल आबादी का प्रतिशत
1951	14.1	39.1	22.0	60.9
1961	18.3	43	25.6	57
1971	17.5	35	37.2	65
1981	22	37.6	46.4	62.4
1991	31.5	37.8	52.9	62.2
2001	40.2	39.2	62.3	60.8
2011	47.8	39.4	73.4	60.6

स्त्रोतः Vashistha, Dr.V.K. & Others, Economic Environment in India, Ajmera Book Co., Jaipur, p.8.9 & 9.10

जनासांख्यिकीय परिवर्तन के कारण

- **सामाजिक कारण**

जनासांख्यिकीय परिवर्तनों में एक महत्वपूर्ण कारण सामाजिक कारण है। भारतीय गांवों में आज भी समाज रूढ़िवादिता से ग्रसित है। समाज के निचले तबके के लोग ग्रामीण परिवेश में अपने आपकों असहाय और असहज पाते हैं। इस कारण निचले तबके के लोग अवसर प्राप्त होते ही गांवों से पलायन कर एक स्थान से दूसरे स्थान पर प्रवासन करते है। इस कारण गांवों और शहरों दोनों ही स्थान पर जनासांख्यिकीय परिवर्तन होते हैं।[5]

- **आर्थिक कारण**

आर्थिक कारण जनासांख्यिकीय परिवर्तनों का एक मुख्य कारण है। लोग एक स्थान से दूसरे स्थान पर आजीविका कमाने के लिए प्रवास करते रहते हैं। इसका नवीनतम उदाहरण जयपुर शहर में मिलता है, जो हीरे–जवाहरात के निर्यात के लिए विश्व भर में प्रसिद्ध है। यहां पर सोने–चांदी के काम करने वाले कारीगर अन्य राज्यों से राज्यों से आकर अपनी आजीविका को कमा रहे हैं। आज जयपुर में अकेले पश्चिम बंगाल के लाखों की कारीगर आकर बस रहे हैं। इससे जयपुर शहर का जनासांख्यिकीय परिवर्तन तीव्र गति से हो रहा है। फल–सब्जी विक्रेता भी काफी बड़ी तादाद में अन्य राज्यों से आकर प्रवास कर रहे हैं। जयपुर में ई–रिक्शा के चालक भी अन्य राज्यों से आकर ई–रिक्शा चला रहे हैं। सन् 2023 में मूल राज्यों से दूसरे राज्यों में प्रवासी कामगारों की संख्या 40.21 करोड़ थी। पलायन में 48 प्रतिशत योगदान पांच राज्यों–उत्तर प्रदेश, महाराष्ट्र, आन्ध्र प्रदेश, बिहार और पश्चिम बंगाल का था। उत्तर प्रदेश से महाराष्ट्र में 11,66,753, दिल्ली–एनसीआर में 919207 व गुजरात में 374311, बिहार से दिल्ली–एनसीआर मे 410601 व पश्चिम बंगाल में 315180, राजस्थान से गुजरात में 204967, महाराष्ट्र म 180959 व हरियाणा में 66919, मध्य प्रदेश से महाराष्ट्र में 195855 व राजस्थान में 61303 तथा महाराष्ट से मध्य प्रदेश में 61348 प्रवासी मजदूर कार्यरत थे।[6]

- **सुरक्षा संबंधी कारण**

सुरक्षा संबंधी कारणों की वजह से भी जनासांख्यिकीय परिवर्तन होता है। तनावग्रस्त राज्यों से सुरक्षित राज्यों में पलायन होता है। राज्यों में भी एक स्थान से दूसरे स्थान पर पलायन होता है। जम्मू कश्मीर में कश्मीर घाटी से जम्मू में पलायन होता आया है। असंख्य कश्मीरी पंड़ितों ने घाटी को छोड़कर राज्य के अन्य भागों में पलायन किया है। उत्तर–पूर्वी राज्यों खासकर मणिपुर की घटनाओं ने भी पलायन की समस्या को बढ़ाया है।[7]

- **अवैध घुसपेठ**

अवैध घुसपेठ भी जनासांख्यिकीय परिवर्तन को प्रभावित करता है। भारत के पड़ौसी देशों में विशेषकर बंगलादेश, म्यांनमार, श्रीलंका में राजनीतिक एवं सामाजिक कारणों से लाखों की संख्या में अवैध घुसपेठियां भारत में प्रवेश करत रहते हैं। अवैध घुसपेठ से भारत जैसे विकासशील देश की अर्थव्यवस्था एवं सुरक्षा पर गहरा असर पड़ता है। भारत के प्रमुख शहरों के आसपास बांग्लादेशियों की कॉलोनियां देखी जा सकती है।[8] सीमाओं पर ठोस निगरानी व्यव्स्था कमी अवैध घुसपेठ को बढ़ावा देती है। चन्द रूपयों में विदेशी घुसपेठियां भारत में घुस जाता है और यहां पहुंचने पर उसे सभी सरकारी दस्तावेज पहले से ही तैयार मिलते हैं। टी0वी0 चैनलों पर दिखाया जाता है कि किस तरह खुफिया रास्ते हैं, जिनके एक ओर भारत और दूसरी बंगलादेश आसानी से पहुंचा जा सकता है। फर्जी दस्तावेज तैयार करने के लिए गिरोह बने हुये हैं, जो विदेशियों के भारत पहुंचने पर ही उपलब्ध करा दिये जाते हैं। ये विदेशी ग्रामीण व छोटे कस्बों तक फैल चुके हैं। विदेशियों में संगठित आंतकवादी ग्रुप के सदस्य भी भारत में आ जाते हैं।

जनासांख्यिकीय परिवर्तन के प्रभाव

सकारात्मक प्रभाव

जनासांख्यिकीय परिवर्तन सकारात्मक एवं नकारात्मक दोनों तरह के प्रभाव दृष्टिगोचर होते हैं। सकारात्मक प्रभावों को निम्न बिन्दुओं में प्रकटीकरण किया गया हैः–

- **आर्थिक प्रभाव**

जनासांख्यिकीय परिवर्तन का सबसे महत्वपूर्ण प्रभाव आर्थिक गतिविधियों पर पड़ता है। बड़े–बड़े शहरों में कामगारों की पूर्ति छोट एवं ग्रामीण क्षेत्रों से होती है। बिहार, उत्तर प्रदेश, मध्य प्रदेश जैसे राज्यों से जनाधिक्य अधिक होने के कारण जनसंख्या का एक बड़ा भाग अपने जीवन व्यापन के लिए दिल्ली, मुम्बई, अहमदाबाद जैसे शहरों में प्रवास करता है। हांलाकि ये अधिकतर अनोपचारिक क्षेत्र में कार्य करते हैं, किन्तु इनका महत्व इन राज्यों के विकास में बहुत अधिक रहा है। खासतौर पर निर्माण, रिक्शा ट्राली खीचने में, चौकीदारी करने मे, फल–सब्जी विक्रेता के रूप में, धोबी के काम में, इलेक्ट्रिशियन के काम में इन प्रवासी कामगारों का अहम् योगदान देखा जा सकता है। सबसे बड़ी बात तो यह है कि ये कामगार सस्ती दरों पर कार्य करने को तत्पर हो जाते हैं। पंजाब में फसल कटाई दौरान लाखों की संख्या में बिहारी मजदूरों की मांग बढ़ जाती है। अहमदाबाद की मिलों में राजस्थानी मजदूरों का बहुमत रहता है। 1991 की जनगणना के अनुसार 22 करोड़ 60 लाख लोगों ने देश के भीतर अपनी जगहे बदलीं उनमें से 8.8 प्रतिशत अर्थात् 1 करोड़ 73 लाख लोग रोजगार के लिए एक स्थान से दूसरे स्थान पर गए।[9]

- **सामाजिक प्रभाव**

जनासांख्यिकीय परिवर्तन के कारण विभिन्न राज्यों से प्रवासी मजदूर एवं कामगार बड़े शहरों में निवास करते हैं तो उनमें आपसी भाई–चारा पनपता है। फिर चाहे वे किसी भी धर्म, जाति, पंथ के हो उनमें अपनत्व की भावना की उत्पन्न होती है। यही हमारे देश की विविधता में एकता की कहानी कहती है। इसका सबसे बड़ा उदाहरण मुम्बई की धारावी झोपड़पट्टी का लिया जा सकता है।[10] जिसमें विभिन्न वर्गों के लोग

एक साथ मिलकर त्यौहारों का आयोजन करते हैं और उसमें भाग लेते हैं। पंजाब से लेकर तमिलनाडु के लोग ऐसे आयोजनों में सक्रिय भागीदारी अदा करते हैं।

नकारात्मक प्रभाव

जनासांख्यिकीय परिवर्तनों के कारण होने वाले नकारात्मक को निम्न बिन्दुओं में स्पष्ट किया गया हैः–

- **सेवाओं पर विपरीत प्रभाव**

जनासांख्यिकीय परिवर्तनों के कारण जनसंख्या का जमावड़ा बड़े शहरों में हो जाता है, जिसके कारण इन शहरों की सेवाओं पर दबाव पड़ जाता है और ये सेवाएं चरमराजाती है। बढ़ती आबादी के कारण शहरों में परिवहन, पानी, बिजली, अस्पताल आवास जैसी सुविधाओं नाकाफी सिद्ध हो रही है। रेलों में महीनों पहले ही टिकट फुल हो जाते हैं। मुम्बई लोकल ट्रेनों की भीड़ इसका सबसे बड़ा उदाहरण है, जहां पर एक दिन यात्री भार लाखों में आता है। यात्रीगण इनमें लटकर और जान जोखिम में डालकर अपना सफर करते देखे जा सकते हैं। खासतौर सुबह और सांय को जब ऑफिस में यात्रीगण आते जाते हैं। अजमेर जैसे शहर में गर्मियों के दिनों में घरों में दो–तीन दिन के अन्तराल से पानी आपूर्ति होती है क्योंकि पानी की मांग अधिक होने पर पूरे शहर को एक साथ पानी नहीं दिया जा सकता है। जयपुर में भी प्रवासियों के आने के कारण पानी की मांग बढ़ रही है। प्रवासियों को यह ज्ञान ही नहीं होता है कि राजस्थान में पानी अनमोल होता है। इसके विपरीत वे पानी का अपव्यय करते रहते हैं।

- **कानून एवं व्यवस्था की समस्या व अपराधों में वृद्धि**

जनासांख्यिकीय परिवर्तनों के कारण प्रवासरत राज्यों में अधिक भीड़भाड़ हो जाती है और अधिक जनसंख्या के कारण प्रशासन के समक्ष कानून एवं व्यवस्था को संभालना कठिन हो जाता है। अन्तर्राज्यीय अपराधी राज्य में प्रवेश कर अपराध फरार हो जाते हैं। ये कामगारों एवं मजदूरों के भेष में आकर जघन्य अपराध कर भाग जाते हैं। प्रवासियों की आड़ में विदेशी अपराधी भी राज्यों में प्रवेश कर जाते हैं। जयपुर में एक ऐसा ही घटना घटित हुई थी जिसमें बंगलादेशी अपराधी ने स्थानीय बंगलादेशियों की मदद से जयपुर की पॉश कॉलोनी में लूटपाट के साथ घर की मालकिन के साथ दरिदंगी कर बंगलादेश भाग गया था और उसे आज तक भी पकड़कर सजा नहीं दी जा सकी। पश्चिम बंगाल के प्रवासियों की आड़ में बंगलादेशी पूरे भारत में घुसपैठ करते रहते हैं क्योंकि दोनों की एक भाषा एक ही है। आवागमन के साधनों में बढ़ोतरी होने के कारण अपराधी दिन में आकर अपराध कर उसी दिन वापस भाग जाते हैं। ऐसे अनेक उदाहरण है जब घुसपैठियों को उनके मूल देश में भेज दिया जाता है और फिर से भारत में आकर राज्यों में प्रवासियों के रूप में कार्य करने लग जाते है।

- **स्थानीय नागरिकों के हितों के विपरीत**

जनासांख्यिकीय परिवर्तनों के कारण स्थानीय लोगों में बेरोजगारी उत्पन्न हो जाती है। अधिकाशंतः अनौपचारिक क्षेत्र में भी प्रवासी मजदूरों के आगमन से बेरोजगारी की समस्या अधिक बढ़ गयी है। सब्जीवाले, कारीगर–बेलदार, फल विक्रेता, ई–रिक्शा चालक, हजाम, इलेक्ट्रिशियन, चौकीदार जैसे काम करने वाले प्रवासियों की बड़े शहरों में भरमार हो रही है। इस कारण इन शहरों में इन क्षेत्रों में रोजगार खोजने वाले स्थानीय नागरिकों के रोजगार पाने का संकट बढ़ता ही जा रहा है।

- **पर्यावरण का क्षरण**

जनासांख्यिकीय परिवर्तनों के कारण जनसंख्या में वृद्धि होने के कारण बड़े शहरों में आवागमन के साधनों में बेतहाशा बढ़ोतरी हो जाती है, मांग होने के कारण उत्पादन को बढ़ाना होता है। कल–कारखानों में अधिक काम होने के कारण पर्यावरण को क्षति पहुंचती है। आज शहर कचरे के ढ़ेर बनते जा रहे हैं, जिनमें न तो शुद्ध वायु मिलती है और न ही शुद्ध पीने के लिए पानी।

- **राज्य सरकारों की जनसंख्या नीतियों को अप्रभावी बनाना**

जनासांख्यिकीय परिवर्तनों के कारण प्रवासियों की संख्या बढ़ जाती है। इस कारण राज्य जिसमें प्रवासी अधिक आ जाते है, जिसके कारण उस राज्य की जनसंख्या नियत्रंण नीति अप्रासंगिक हो जाती है। राजस्थान में जनसंख्या नीति होने के बावजूद प्रवासियों की संख्या में वृद्धि होने के जनाधिक्य बढ़ता ही जा रहा है।

- **शोषण के शिकार**

प्रवासी मजदूर को शोषण का शिकार होना पड़ता है। इनको दी जाने वाली मजदूरी काम के अधिक घण्टें होने पर कम दी जाती है। उनकी निरक्षरता और गरीबी का फायदा उठाकर बिचौलिए काम दिलाने के लिए मजदूरी में एक बड़ा भाग कमीशन के रूप काट लेते है। महिला मजदूरों का यौन शोषण आम बात है। वे बंधुआ मजदूर बनकर रह जाते हैं।

निष्कर्ष

जनसांख्यिकीय परिवर्तन एक सामान्य प्रक्रिया है जिसे पूर्णतया रौकना एवं नियत्रंण करना असंभव है। जनासांख्यिकीय परिवर्तनों के कारण राज्यों पर पड़ने वाले विपरीत प्रभावों को नियंत्रित करने हेतु केन्द्र एवं राज्यों के स्तर पर ठोस नीति का निर्माण किया जाये। केवल औपचारिक क्षेत्र में ही कामगारों को दूसरे राज्यों में प्रवास करने को बढ़ावा दिया जाना चाहिए। प्रवासरत राज्यों में नागरिकों के पंजीयन की अनिवार्यता की जाये ताकि यह पता चल सके कि वह भारत का ही वास्तविक नागरिक है अथवा कोई विदेशी घुसपैठिया। इस प्रकार पंजीनयन से अपराध पर नियत्रंण होगा।

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