About *Paradigms*

Paradigms, the fourth edited volume brought out under the initiative of the Internal Quality Assurance Cell (IQAC) of D.H.S.K. Commerce College, is a collection of peer-reviewed multidisciplinary research papers and articles, reflecting diverse academic perspectives and emerging areas of inquiry. The volume brings together contributions spanning corporate and macroeconomic frameworks, regional and social development concerns, media and knowledge systems, and contemporary technological transitions.

The title Paradigms reflects the idea that knowledge evolves through multiple frameworks of understanding rather than through a single disciplinary lens. The volume therefore attempts to create a space where different approaches, methods, and intellectual traditions may coexist and engage with one another. Ranging from regional studies and cultural reflections to analytical and future-oriented discussions, the collection represents an effort to sustain meaningful academic dialogue across disciplines.

As the fourth publication in the continuing editorial series following *Insight, Intellect,* and *Confluence,* this volume also reflects the institution's ongoing commitment to research culture, scholarly engagement, and collaborative academic expression.

About D.H.S.K. Commerce College

D.H.S.K. Commerce College, Dibrugarh, established in 1960, is one of the leading institutions of higher education in Upper Assam devoted to commerce and allied disciplines. Affiliated with Dibrugarh University, the college has consistently contributed to academic advancement through teaching, research, extension activities, and student development initiatives.

Over the decades, the institution has evolved into a dynamic academic space with emphasis on quality education, intellectual growth, and social responsibility. Alongside its academic programmes, the college actively encourages research engagement, cultural activities, skill development, and community-oriented initiatives. Through its various academic and institutional endeavours, D.H.S.K. Commerce College continues to uphold its commitment to knowledge, discipline, and holistic education in the region.

ISBN: 978-93-95252-41-6

PARADIGMS *An Edited Volume of Peer-Reviewed Multidisciplinary Research* | DHSK Commerce College, Dibrugarh | Edited by **Anita Baruwa**

D.H.S.K. Commerce College
Dibrugarh

PARADIGMS

An Edited Volume of Peer-Reviewed Multidisciplinary Research

Edited by
Anita Baruwa

PARADIGMS

An Edited Volume of Peer-Reviewed
Multidisciplinary Research

D.H.S.K. Commerce College
Dibrugarh

Edited By
Anita Baruwa

PARADIGMS :
A peer reviewed edited book of multidisciplinary research published by IQAC, DHSK Commerce College, Dibrugarh-786001, Assam, India.
Email : dhskcomcol@gmail.com | **Website :** dhskcommerce.edu.in

Published : January, 2026

ISBN : 978-93-95252-41-6

PRINTED AT :
M/s Creative Design
Barbari, Dibrugarh, Assam | **Phone :** +91 9706154535 m.

MESSAGE FROM THE PRINCIPAL

Research and Publication form the cornerstone of Higher Education. A research volume reflects years of dedication, intellectual curiosity, critical analysis, and an unwavering commitment to academic excellence. Such scholarly contributions significantly enrich our collective knowledge and inspire both faculty and students to pursue rigorous research with sincerity and integrity.

The publication of diverse research works motivates authors to continue contributing, thereby enriching readers, academicians, and society at large. These publications reflect the personal commitment of our academicians across various fields, as well as their ideas, reflections, and the scientific methods that underpin modern research. In all academic institutions, we must encourage such initiatives to bring forth the hidden talents of teachers, academicians, and researchers, thereby promoting the wider dissemination of knowledge in society.

The UGC has taken various initiatives to encourage teachers and researchers to publish their work. The ICSSR also publishes a range of research volumes that disseminate quality scholarship across disciplines. In line with this, many universities and colleges are now publishing research-based books and journals through their departments or publication cells. The NAAC has likewise developed a framework with basic criteria and guidelines to promote the publication of more quality research in universities and colleges.

It is my immense pleasure and proud privilege to note that DHSK Commerce College constituted a Publication Cell in 2025 to publish the research works of teachers, academicians, and research scholars from various disciplines. I am very pleased to learn that the Publication Cell is about to publish a volume of research-based articles. This will be the first volume of this Cell, and it is titled "PARADIGMS". It is a peer-reviewed research book that seeks to encompass all disciplines.

This publication stands as a testament to perseverance, depth of scholarship, and the vibrant research culture we continuously strive to nurture within our institution. I am confident that this book will serve as a valuable resource for researchers, academicians, and students alike. The release of this scholarly work is not merely a personal milestone for its contributors and editor, but also a moment of honour and academic achievement for DHSK Commerce College.

In this regard, I would like to offer my heartfelt appreciation to the editor, Dr Anita Baruwa, Associate Professor, Department of Economics, for initiating and coordinating all processes related to the publication of "PARADIGMS", an edited volume of research-based articles.

Last but not least, I extend my sincere gratitude to the authors for their valuable contributions to this noble publication of our Publication Cell.

May this accomplishment open new avenues of academic exploration and encourage many more such contributions in the years to come.

With best wishes and warm regards,

(Dr Joydev Gogoi)
Principal
DHSK Commerce College

Editorial

It gives me a sense of immense fulfilment to place before the readers ***Paradigms***, an edited peer-reviewed annual book of the Internal Quality Assurance Cell (IQAC). This book is shaped by multidisciplinary engagement and enriched by contributions from multiple academic domains. The research papers and articles brought together here are not confined within rigid disciplinary compartments; rather, they speak across them.

I am deeply grateful to Dr. Joydev Gogoi, Principal, D.H.S.K. Commerce College, for his steady guidance and for entrusting me with the responsibility of editing this book. His confidence in the value of sustained academic publication within the College has been both reassuring and motivating.

My sincere appreciation also goes to the core (internal) members of the IQAC, which form the present Editorial Board – Dr. Tanka Prasad Upadhyaya, Dr. Nabajyoti Dutta, Dr. Tulika Mattack, Dr. Jecob Konwar, Dr. Luku Morang, and Sangeeta Sensowa Gogoi. Their careful reading and thoughtful suggestions have added to this book. A peer-reviewed edited book is never an individual effort; it rests on shared intellectual labour, patience, and trust in the process. I thank all the reviewers of this book for their meticulous review which has helped in continuing to uphold the standard of the earlier publications by IQAC. I also acknowledge *Creative Designs* for their professional support in printing the book.

In curating this book, the effort has been to set different frameworks of understanding to stand alongside one another – sometimes converging, sometimes differing – yet collectively contributing to a broader academic conversation. The authors of the seventeen papers and articles of this book - the seasoned and the budding, the external ones and our very own ones – all deserve my heart-felt gratitude. The book is organised into three sections, each named to reflect its orientation and emphasis.

The first section, ***Corporate, Financial and Macroeconomic Frameworks***, examine the architecture within which economic activity unfolds, reminding us that policy and performance are grounded in underlying structural designs. The term “frameworks” is deliberate: these papers and articles engage with institutional mechanisms, financial systems, corporate structures, and macro-level dynamics that shape economic outcomes.

The second section, ***Applied, Regional and Social Development Context***, shifts the lens to lived realities and grounded inquiries. “Applied” signals movement from theory to practice; “regional” acknowledges the importance of place and local specificity; and “social development” recognises that economic processes ultimately affect communities and cultural life. The contributions in this section situate analysis within regional intellectual and educational contexts. Together, these papers and articles underscore that structural frameworks acquire meaning only when understood within their social and cultural environments.

The third section, ***Media, Knowledge Systems and Emerging Future Trends***, engages with the changing contours of contemporary learning. This section reflects the evolving relationship between economy, information, and society by including discussions that range from traditional knowledge frameworks to emerging technological paradigms. Thus, here attention turns to how knowledge is produced, mediated, circulated, and transformed in an era marked by rapid technological shifts.

The title ***Paradigms*** was chosen after careful reflection. It acknowledges that we do not interpret the world through a single lens. Across time and across disciplines, multiple paradigms coexist – historical, structural, developmental, technological. This book seeks to recognise the interaction between the varied authors and their research works: from Sankar-Madhab's classical intellectual inheritances to contemporary analytical tools, these collected research works reflect varied yet intersecting ways of understanding economy and society. The plurality implied in the title is therefore intentional.

Academic work is always part of a continuing conversation; ***Paradigms*** is offered to the reading community as one contribution of that ongoing exchange, with the hope that if it encourages sustained dialogue, thoughtful engagement, and further research across disciplines, it will have fulfilled its purpose.

Sincere regards,

Anita Baruwa
Editor, **Paradigms**

CONTENTS

ISBN : 978-93-95252-41-6

Green Finance in India: Emerging Trends and Challenges

Dr. Tanka Prasad Upadhyaya*

Abstract

Green finance has emerged as an essential instrument for supporting financial systems with environmental sustainability and climate goals. As one of the fastest-growing major economies, India faces the dual challenge of sustaining economic growth while addressing climate change, energy security, and environmental degradation. This paper examines the evolution, policy framework, institutional initiatives, financial instruments, and emerging opportunities in green finance in India. Using secondary data from government reports, regulatory publications, and academic literature, the study analyses the expansion of green bonds, renewable energy financing, ESG investments, and sustainable banking practices. India has set ambitious climate targets, including achieving 500 GW of non-fossil fuel capacity by 2030 and net-zero emissions by 2070, requiring an estimated investment of over USD 10 trillion by 2070. The findings suggest that green finance is increasingly mainstreamed through regulatory support from the RBI and SEBI. The study concludes that green finance represents a strategic pathway for sustainable and inclusive economic transformation in India.

Keywords : green finance, sustainable development, ESG investment, green bonds

1. Introduction

Green finance refers to financial flows directed toward environmentally sustainable activities, including renewable energy, energy efficiency, sustainable agriculture, clean transportation, waste management, biodiversity conservation, and climate adaptation. It integrates environmental considerations into financial decision-making and aligns capital allocation with long-term ecological sustainability.

Climate change has intensified the need for sustainable financial systems. Scientific projections indicate that without substantial emission reductions, global temperatures could rise significantly, resulting in adverse impacts on agriculture, water availability, biodiversity, and human health. The adoption of the Paris Agreement in 2015 marked a global commitment to limit temperature increases to well below 2°C and preferably to 1.5°C above pre-industrial levels. Achieving these targets requires massive financial mobilization worldwide.

**Associate Professor, Department of Banking, DHSK Commerce College*

India is particularly vulnerable to climate change due to its geographic diversity, dependence on agriculture, and large population. At the same time, India is the world's third-largest energy consumer. As of 2024, India's total installed power capacity exceeds 430 GW, of which approximately 44% comes from non-fossil fuel sources, including solar, wind, hydro, and nuclear energy. India has pledged to achieve 500 GW of non-fossil fuel capacity by 2030 and reach net-zero emissions by 2070. Meeting these targets requires significant capital. According to various policy estimates, India may require investments exceeding USD 170 billion annually in clean energy until 2030. Therefore, green finance is no longer optional but central to India's development strategy.

2. Review of Literature

i. **Parvadavardini Soundarrajan and Nagarajan Vivek (2016)**, in their research titled *"Green Finance for Sustainable Green Economic Growth in India"*, explore the purpose, methods, advantages, and limitations of green finance. They describe green growth as a coordinated system involving consumers, the government, financial institutions, and technology-driven companies. The study highlights that green finance forms the foundation for building an eco-friendly economy by supporting sustainable infrastructure. *(Reference: Agric. Econ – Czech, 62, 2016(1): 35–44)*

ii. **Sharif Mohd and Vijay Kumar Kaushal (2018)**, in their study *"Green Finance: A Step Towards Sustainable Development"*, examine India's potential to build green infrastructure by increasing public awareness and removing financial and policy barriers. Using secondary data, they emphasize the need for promoting green finance at the local level and note that green finance has become an important global issue for sustainability. *(Reference: MUDRA – Journal of Finance and Accounting, Volume 5, Issue 1)*

iii. **Babita Jha and Priti Bakhshi (2019)**, in their paper *"Green Finance: Fostering Sustainable Development in India"*, argue for the creation of green financial instruments that can attract both domestic and foreign investors. They emphasize the importance of making the Indian green finance market globally competitive and investment-friendly. *(Reference: International Journal of Recent Technology and Engineering, Volume 8, Issue 4)*

iv. **Jain S. (2020),** in *"Financing India's Green Transition"*, highlights the importance of mobilizing both public and private sector investments to support India's shift to a green economy. The study discusses how strategic policy planning, long-term financing, and institutional support are key to meeting climate goals and sustainable development targets. *(Reference: ORF Issue Brief No. 338, Observer Research Foundation)*

v. **Reddy A.S. (2018)**, in *"Green Finance – Financial Support for Sustainable Development"*, explains the role of green finance in achieving sustainable development goals through eco-friendly investments. The paper underlines the importance of policy support and the need for financial institutions to take a proactive role in directing capital toward green sectors. *(Reference: International Journal of Pure and Applied Mathematics, 118(20), 645–650)*

3. Research Methodology

This study is based on qualitative and quantitative analysis of secondary data. Data sources include reports from the Reserve Bank of India, Securities and Exchange Board of India, Ministry of Finance, Ministry of New and Renewable Energy (MNRE), World Bank, International Energy Agency (IEA), and corporate sustainability reports. Descriptive and analytical methods are used to interpret trends and institutional developments in India's green finance background.

4. Objectives of the Study

i) to examine the current trends in green finance in India.

ii) to analyze various green finance initiatives implemented by Indian banks and public – private entities.

iii) to explore the role of green finance in promoting sustainable economic growth.

iv) to understand how green finance contributes to environmental sustainability while raising public awareness about its significance.

5. Limitations of the Study

i) The study is confined to India; therefore, its findings may not be applicable to other countries.

ii) The national focus restricts generalization at the global level.

iii) Limited public awareness of green finance reduced the availability of diverse and reliable perspectives.

iv) Inadequate access to updated and comprehensive data constrained accurate trend analysis.

6. Public Policy towards Green Finance in India

i. ***Early Steps and Government Initiatives:*** India's focus on green finance began in 2007 when the Reserve Bank of India emphasized sustainable development through CSR and non-financial reporting guidelines. In 2008, the government launched the National Action Plan on Climate Change to address climate concerns through targeted missions. Further strengthening coordination, the Climate Change Finance Unit was established in 2011 under the Ministry of Finance to streamline and promote green finance initiatives nationwide.

ii. ***SEBI and Policy-Based Disclosures:*** Since 2012, the Securities and Exchange Board of India has mandated the top 100 listed companies on the Bombay Stock Exchange and National Stock Exchange to publish annual corporate responsibility reports. This initiative enhanced transparency and accountability in environmental and social practices. Over time, disclosure requirements expanded to comprehensively include Environmental, Social, and Governance (ESG) parameters.

iii. ***Financial Incentives and Renewable Energy Subsidies:*** The government provides financial incentives to promote clean energy adoption. A 30% subsidy is available for rooftop solar installations in most states, while special category states such as Himachal Pradesh, Sikkim, and Jammu and Kashmir receive up to 70% subsidy. Additionally, households can earn incentives by selling surplus solar power to the grid, typically around 2 per unit, depending on state policies.

iv. ***Electric Vehicles (EVs) and Green Loans:*** India launched the *Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME)* scheme in 2015 and again in 2019 to promote green mobility. This scheme lowers the cost of EVs and supports the creation of EV infrastructure. The *State Bank of India* also introduced **Green Car Loans** for electric vehicles, offering lower interest rates and longer repayment periods to encourage their adoption.

v. ***RBI's Support for Green Finance:*** The *Reserve Bank of India* has taken several proactive steps. In 2015, it included renewable energy under its **Priority Sector Lending** policy. Under this scheme, individuals can get loans up to 10 lakh, and businesses can get up to 30 crore for renewable energy projects. In its later reports and speeches, RBI has emphasized the role of climate risk in financial decision-making and is currently working towards creating a **climate risk and sustainable finance framework** for banks.

vi. ***Contributions of the India's Private Sector:***

- ***Reliance Industries Ltd:*** **It** aims to become **net-zero by 2035** and entered the green finance space in 2021 by raising **$736 million** to acquire REC Solar Holdings. It is investing **75,000 crore** in new energy sources such as solar, hydrogen, fuel cells, and batteries.
- ***Adani Green Energy Ltd:*** **It** launched a green finance framework in 2021, covering green bonds and loans for renewable projects like solar, wind, and hybrid energy.
- ***Yes Bank*: It** was the first Indian bank to issue **green bonds in 2015**, raising over **1,645 crore** to support renewable energy projects. The funded projects are expected to generate nearly **2.35 million MWh** of clean electricity.
- ***Tata Power Renewable Energy Ltd. (TPREL):*** A subsidiary of Tata Power, TPREL has made significant investments in solar and wind energy projects across India. It has raised funds through green bonds and secured international financing from institutions like the **International Finance Corporation (IFC)** and **Asian Development Bank (ADB)**. As of 2024, Tata Power's renewable portfolio crossed **5 GW of installed capacity**, supporting India's clean energy targets.
- ***ReNew Power:*** ReNew Power, one of India's largest renewable energy companies, has been a pioneer in using green finance tools such as **masala green bonds** (rupee-denominated bonds issued overseas). It raised **over $450 million** through these instruments to fund large-scale wind and solar projects. ReNew Power also issued India's first **USD -denominated climate bond** in 2019, aligned with international green bond standards.

- ***Indian Railways Finance Corporation (IRFC):*** While part of a government entity, IRFC operates with private investors and has embraced green finance. In 2017, it launched India's first **green bond on the London Stock Exchange,** raising **$500 million** for electrification and low-carbon transport infrastructure. This initiative supports Indian Railways' target of becoming a **net-zero carbon emitter by 2030.**
- *Soft loans from IREDA:* IREDA offers loans at concessional rates for several environmentally-concerned projects. It gets its funding from international banks and other agencies. European Investment Bank (EIB) granted a long-duration loan of Euro 150 million for financing projects of renewable energy and the World Bank extended $100 million to IREDA for the construction and development of solar parks.
- *Crowd funding Crowd:* funding, which basically implies many investors investing in a specific project via a pooled fund, has been successfully able to mobilize the required funds from the private investors in countries like Western Europe and North America. In India too, it is witnessing great popularity due to increasing awareness and use of information and communication technology (ICT).

7. Green Financial Products in India: Current Trend

Green financial products are designed to promote sustainability, reduce environmental harm, and support eco-friendly practices. Financial institutions in India are increasingly offering a variety of such products to encourage responsible consumer behaviour and environmentally conscious investment.

A. Types of Green Financial Products in India

- ***Green Deposits:*** Indian financial institutions offer incentives such as higher interest rates on commercial deposits, savings accounts, and money market accounts when customers choose online or paperless financial services. This reduces paper consumption and encourages digital transactions, contributing to sustainable finance practices.
- ***Green Mortgages and Loans:*** Financial institutions in India provide specialized loans for eco-friendly housing, renewable energy installations (like solar panels), energy-efficient appliances, and sustainable business ventures. These loans often come with lower interest rates and flexible repayment options.
- ***Green Credit Cards**:* Some financial institutions have introduced credit cards that reward customers for environmentally responsible spending, such as shopping at sustainable retailers, using electric vehicle services, or contributing to carbon offset projects.
- ***Green Reward Accounts**:* Reward checking or savings accounts promote environmentally friendly behaviours, offering incentives for paperless transactions, use of public transport, or purchasing energy-efficient products.
- ***Digital and Mobile Banking***: Financial institutions encourage customers to use digital and mobile platforms for transactions, account management, and communication, thus reducing paper waste and operational carbon footprints.

- ***Green Mutual Funds and Investment Portfolios***: Some institutions offer mutual funds and investment products that specifically channel capital into environmentally responsible companies, renewable energy projects, or businesses following ESG principles.
- ***Green Bonds***: Financial institutions issue green bonds to raise capital for projects such as solar power, wind energy, water conservation, and sustainable infrastructure. These instruments ensure that investment is directed toward activities that have a positive environmental impact.

B. Measures to Reduce Carbon Footprint by Financial Institutions

- ***Energy Efficiency Initiatives:*** Financial institutions implement energy-saving technologies, including LED lighting, energy-efficient equipment, and optimized HVAC systems in offices to cut down on power usage and emissions.
- ***Renewable Energy Usage***: Many financial institutions are shifting to clean energy sources like solar and wind to power their buildings and branches. Some also offer financing to support the development of such energy infrastructure.
- ***Paperless Operations***: E-statements, online documentation, and digital transactions are promoted to reduce the demand for paper and associated emissions from printing and logistics.
- ***Green Building Practices***: New office buildings and branch renovations adhere to green building standards like LEED or GRIHA, incorporating sustainable materials, rainwater harvesting, and efficient energy systems.
- ***Carbon Offset Programs***: Institutions invest in environmental initiatives such as reforestation, clean energy, and carbon capture to compensate for unavoidable emissions.
- ***Employee Training and Engagement***: Regular workshops, green office campaigns, and internal challenges are conducted to educate and encourage employees to follow sustainable habits at work and at home.
- ***Eco-friendly Transport Policies***: Many financial institutions are shifting to hybrid or electric vehicles, reducing business travel, and promoting remote work through teleconferencing tools to minimize transport-related emissions.
- ***Environmental Reporting***: Financial institutions increasingly disclose their sustainability performance through ESG or CSR reports, highlighting their climate impact and mitigation efforts to ensure transparency.
- ***Sustainable Procurement***: Green finance providers integrate environmental standards in vendor selection, supporting supply chains that adhere to eco-friendly practices.
- ***Community Involvement and Advocacy***: Financial institutions partner with local communities and NGOs to support tree plantation drives, water conservation, renewable energy adoption, and promote environmental awareness campaigns.
- ***Green Infrastructure Financing***: Institutions are expanding financing options for green infrastructure such as electric vehicle charging stations, smart grids, energy-efficient transport systems, and waste management technologies.

8. Opportunities for Green Finance in India

Green finance in India offers significant opportunities aligned with national development priorities and global sustainability commitments. As the country strengthens its climate action strategies, sustainable financial practices are becoming central to inclusive and long-term economic growth.. The key opportunities include:

- ***Growing Demand for Sustainable Financial Products:*** Growing environmental awareness among Indian consumers and investors has increased demand for sustainable financial products. These include green loans for renewable energy, electric vehicles, and eco-friendly housing, along with ESG-linked investment instruments. Financial institutions can tap this demand by offering specialized green products, expanding their customer base and diversifying revenue sources.
- ***Supportive Regulatory and Policy Frameworks:*** India's policy environment is increasingly supportive of green finance. The Reserve Bank of India has included renewable energy under Priority Sector Lending and promotes ESG reporting. Green bond regulations, the proposed Sustainable Finance Taxonomy, and climate risk disclosure guidelines provide a structured framework, enabling financial institutions to align portfolios with sustainability goals while enhancing compliance and market competitiveness.
- ***Strengthening CSR and Brand Value:*** Green finance enables financial institutions to reinforce their CSR commitments by funding clean energy, water conservation, and sustainable urban projects. Such initiatives enhance their image as environmentally responsible organizations, building trust among socially conscious consumers, institutional investors, and global partners, thereby strengthening reputation and long-term competitive advantage.
- ***Socio-economic and Environmental Impact:*** Through financing sustainable projects such as solar farms, wind parks, green buildings, and sustainable agriculture, green finance directly contributes to **community development and environmental conservation**. These projects not only generate employment and economic value but also reduce carbon emissions and safeguard natural resources.
- ***Innovation and Market Differentiation:*** Green finance encourages **product and service innovation**, allowing institutions to stand out in a competitive market. Banks and financial firms that lead in offering green credit cards, carbon-neutral investment portfolios, or sustainability-linked loans are viewed as forward-thinking. This differentiation is key to attracting a growing segment of eco-conscious customers and gaining a first-mover advantage.
- ***Access to Global Capital and Markets:*** Institutions committed to green finance often find **greater access to international capital**, especially from ESG-focused investors, multilateral banks, and climate funds. Indian institutions actively participating in green initiatives may benefit from collaboration with global platforms such as the **Green Climate Fund, International Finance Corporation (IFC)**, or through issuance of **green bonds** in global markets.
- ***Leveraging Technology and Digital Finance:*** The rapid growth of digital finance and fintech in India presents a powerful opportunity to promote green financial products.

Financial institutions can use **AI, blockchain, and digital platforms** to reduce paper-based processes, develop green credit scoring systems, and launch user-friendly green investment platforms.

- ***Government-led Green Infrastructure Push:*** With India's ambitious targets - such as achieving **500 GW of non-fossil fuel capacity by 2030** - there is increasing government focus on financing green infrastructure. This includes solar energy parks, metro rail expansions, electric vehicle charging stations, and green hydrogen projects.
- ***Institutional Capacity Building and Green Finance Literacy:*** Green finance also opens doors for **capacity building**, both within institutions and among clients. Banks and financial organizations can create training programs, advisory services, and awareness campaigns to educate stakeholders on the benefits and practices of sustainable finance. This also enhances client engagement and promotes long-term customer loyalty.
- ***Climate Risk Management and Resilience:*** As climate-related financial risks rise, institutions focusing on green finance are better prepared to **mitigate portfolio risks** from environmentally harmful sectors. Integrating climate risk assessment into credit and investment decisions enables stronger resilience, regulatory compliance, and better long-term returns, especially as global financial standards shift toward sustainability.

9. Challenges Recommendations for Green Finance in India

Green finance in India has been gaining recognition as a strategic pathway toward achieving environmental sustainability while supporting economic growth. However, the full potential of green finance is yet to be realized due to several persistent challenges that require immediate and coordinated action.

i. ***Low Awareness and Financial Literacy:*** Many individuals and small businesses lack understanding of green finance and its environmental impact, limiting participation and reducing the effectiveness of sustainable financial products.

ii. ***Absence of Standardized Green Taxonomy:*** The lack of a clear national definition of "green" projects creates ambiguity, increases investor confusion, and raises the risk of greenwashing.

iii. ***High Initial Costs and Limited Access to Finance:*** Green projects require substantial upfront investment, and smaller financial institutions often lack sufficient capital or risk appetite.

iv. ***Limited Market Demand:*** Despite growing awareness, demand for green loans and bonds remains modest, with many customers preferring conventional financial instruments.

v. ***Inadequate Technological Infrastructure:*** Limited digital penetration and expensive sustainability assessment tools restrict effective green finance implementation, especially in rural areas.

vi. ***Shortage of Skilled Professionals:*** Financial institutions face a lack of expertise in ESG analysis, climate risk assessment, and sustainable investment management.

vii. ***Fragmented Policy Implementation:*** Limited coordination among regulatory bodies such as the Reserve Bank of India, Securities and Exchange Board of India, and the Ministry of Finance leads to inconsistencies and inefficiencies.

viii. ***Weak Stakeholder Collaboration:*** Insufficient cooperation among government agencies, banks, industries, and civil society hampers integrated green finance development.

ix. ***Data Deficiency and Poor Impact Measurement:*** Lack of standardized metrics and reliable environmental data makes impact assessment and transparency challenging.

x. ***Regulatory Uncertainty:*** Frequent policy changes and unclear incentive structures create planning difficulties for financial institutions and investors.

10. Strategic Policy Directions for Enhancing Green Finance in India

In order to make green finance a mainstream reality in India, the following actionable steps are recommended:

i. ***Enhance Awareness and Education:*** Financial institutions should actively invest in outreach campaigns and educational programs to inform customers about the importance of green finance and the benefits of using green financial products.

ii. ***Develop Standardized Frameworks:*** Regulators and industry associations should collaborate to create a uniform green finance taxonomy and clear ESG reporting guidelines that provide consistency and transparency.

iii. ***Offer Financial Incentives:*** Government support through tax breaks, subsidies, concessional loans, or guarantees can encourage financial institutions and clients to invest in green projects with higher initial costs.

iv. ***Strengthen Partnerships and Collaboration:*** Banks should partner with government bodies, NGOs, think tanks, and international climate funds to co-develop sustainable finance initiatives, share knowledge, and access blended finance.

v. ***Measure and Report Environmental Impact:*** Banks and financial institutions must build robust systems for tracking, measuring, and disclosing the social and environmental outcomes of their green finance portfolios.

vi. ***Promote Innovation in Green Products:*** Encourage the development of new green financial instruments like sustainability-linked loans, ESG mutual funds, and carbon-offset investment products.

vii. ***Expand Digital and Rural Reach:*** Invest in digital infrastructure to bring green financial services to underserved regions and support inclusive sustainable development.

By adopting these recommendations, India's financial sector - guided by institutions such as the **RBI, SEBI** and **IRDAI**, along with the support of legal frameworks like the **Information Technology Act** - can position itself as a pivotal force in driving the nation's transition toward a low-carbon, climate-resilient, and inclusive economy.

11. Conclusion

Green finance in India stands at a critical juncture, offering immense potential to address the country's rising energy demands, environmental degradation, and sustainability goals. Despite encouraging progress in areas such as green bonds and private sector participation, the sector remains underdeveloped due to challenges like investment risks, regulatory gaps, lack of awareness, and short-term financing mechanisms. To meet its Nationally Determined Contribution (NDC) targets and build a resilient green economy, India must urgently expand access to green capital, both domestically and internationally.

A strategic, long-term policy framework that includes a clear green taxonomy, lower cost of debt, and improved risk mitigation measures is essential. Financial institutions must evolve into environmentally responsible entities, while the government must foster greater public awareness and stakeholder collaboration. By creating a more transparent and competitive green financial market, India can not only enhance its climate resilience but also open new avenues for inclusive and sustainable economic growth. The path ahead requires collective commitment, sound regulation, and innovative financing tools to fully harness the transformative power of green finance. Green finance is not merely an environmental responsibility but a strategic opportunity to shape a sustainable and economically robust future.

References

Chaurasia, A. K. (2014). Green banking practices in Indian banks. *Journal of Management and Social Science*, *1*(1), 73-86.

Dipika. (2015). Green banking in India: A study of various strategies adopted by banks for sustainable development. *International Journal of Engineering Research & Technology*, *3*(10).

Indira, C. M. (2016). Green banking practice in India. *International Journal of Advanced Research*, *4*(11), 843–849. https://doi.org/10.21474/IJAR01/2156

Institute for Development and Research in Banking Technology (IDRBT). (2013). *Green banking framework*.

Jayabal, G. (2016). Green banking: As banks' initiative for sustainable development. *International Journal of Management*, *7*(7), 276-280.

Jayadatta, S., & Nitin, S. N. (2017). Opportunities, challenges, initiatives and avenues for green banking in India. *International Journal of Business and Management Invention*, *6*(2), 10-15.

Kapoor, N., Jaitly, M., & Gupta, R. (2016). Green banking: A step towards sustainable development. *International Journal of Research in Management, Economics and Commerce*, *6*(7), 69-72.

Nath, V., Nayak, N., & Goel, A. (2014). Green banking practices - A review, *International Journal of Research in Business Management*, *2*(4), 45–62.

Soundarrajan, P., & Vivek, N. (2016). Green finance for sustainable green economic growth in India. *Agricultural Economics - Czech*, *62*(1), 35-44

Mohd, S., & Kaushal, V. K. (2018). Green finance: A step towards sustainable development. *Mudra – Journal of Finance and Accounting*, *5*(1). https://doi.org/10.17492/mudra.v5i01.13036

Weber, O. (2014). The financial sector's impact on sustainable development. *Journal of Sustainable Finance & Investment*, *4*(1), 1–8. https://doi.org/10.1080/20430795.2014.887345

Bocken, N. M. P., Short, S. W., Rana, P., & Evans, S. (2014). A literature and practice review to develop sustainable business model archetypes. *Journal of Cleaner Production*, *65*, 42–56.

Corporate Social Responsibility: A Global Overview and the Legal Framework in India

Prasenjit Gogoi*

Abstract

Corporate Social Responsibility (CSR) has emerged as an important dimension of corporate governance and sustainable development in the contemporary global economy. Businesses are increasingly expected to integrate social, environmental, and ethical concerns into their operations and stakeholder relationships. This research article examines the evolution of CSR at the global level and its institutionalization in India through statutory regulation. It analyses CSR practices across different regions, including Europe, Central and Eastern Europe, Asia and Australia, and North and South America and the Caribbean. The article further examines the legal framework governing CSR in India, particularly Section 135 of the Companies Act, 2013, which mandates CSR expenditure for eligible companies. The study highlights the significance of CSR reporting for transparency, accountability, and sustainable development and concludes that CSR has transformed from voluntary philanthropy into a strategic and regulatory corporate obligation.

Keywords: Corporate Social Responsibility, corporate governance, sustainability, Companies Act 2013, CSR reporting, stakeholder theory

1. Introduction

In the contemporary business environment, corporations are no longer viewed solely as economic entities created for profit maximization. They are increasingly recognized as social institutions whose activities significantly influence society, the environment, and economic development. This changing perception has led to the emergence of Corporate Social Responsibility (CSR), which emphasizes that businesses have obligations beyond generating profits for shareholders.

CSR represents a company's commitment to operate ethically, contribute to sustainable economic development, and improve the quality of life of employees, communities, and society. Globalization, environmental challenges, and growing stakeholder awareness have contributed to the increasing importance of CSR in corporate governance. Governments, consumers, investors, and civil society organizations now expect corporations to act responsibly and transparently.

**Assistant Professor, Department of Business Management, DHSK Commerce College, Dibrugarh, Assam, email: prasenjit30gogoi@gmail.com*

Globally, CSR has evolved from voluntary philanthropic activities to strategic corporate practices and, in some jurisdictions, legally mandated obligations. CSR refers to corporate initiatives aimed at social welfare, environmental protection, and ethical business conduct beyond profit maximization (Corporate Social Responsibility concept, 2024). India is one of the first countries to mandate CSR through Section 135 of the Companies Act, 2013, which requires eligible companies to spend at least 2% of their average net profits on CSR activities (Legal Service India, 2024). This article examines the global evolution of CSR, regional practices, and the legal framework governing CSR in India.

2. Concept and Evolution of Corporate Social Responsibility

Corporate Social Responsibility refers to the integration of social, environmental, and ethical concerns into business operations and stakeholder interactions. It involves balancing economic objectives with social welfare and environmental sustainability.

Figure 1: Conceptual Framework of Corporate Social Responsibility

The figure shows that CSR integrates economic, social, and environmental responsibilities to achieve sustainable development.

2.1 Global Evolution of CSR

The roots of CSR can be traced to early twentieth-century philanthropic initiatives undertaken by industrial enterprises. Initially, CSR was discretionary and driven by the personal values of business leaders. However, the modern concept began to develop during the 1950s and 1960s when scholars emphasized the social responsibilities of business organizations (Carroll, 1999).

The expansion of labour movements, environmental activism, and consumer rights campaigns in the 1970s broadened CSR's scope to include workplace safety, environmental protection, and ethical marketing practices. Globalization and corporate scandals in the late twentieth century further strengthened the demand for corporate accountability.

International organizations have played a crucial role in shaping CSR standards. The United Nations Global Compact encourages businesses to adopt principles related to human rights, labour standards, environmental protection, and anti-corruption. Similarly, ISO 26000 provides guidelines on social responsibility, emphasizing transparency, accountability, and ethical behaviour.

The adoption of the United Nations Sustainable Development Goals (SDGs) in 2015 further strengthened the connection between CSR and sustainable development. Businesses are encouraged to align CSR initiatives with global objectives such as poverty eradication, gender equality, and climate action. Consequently, CSR has transformed from philanthropy into a strategic approach contributing to long-term corporate value and sustainability.

Corporate Social Responsibility (CSR) is widely recognized as a business approach that integrates social, environmental, and ethical concerns into corporate operations and stakeholder interactions (Dzage & Szabados, 2024). CSR plays an important role in achieving sustainable development and meeting stakeholder expectations globally (Dzage & Szabados, 2024).

2.2 Evolution of CSR in India

India has a long tradition of social responsibility rooted in cultural and ethical values such as charity and service. Historically, industrial families engaged in community development initiatives in education, healthcare, and social welfare. The philosophy of trusteeship advocated by Mahatma Gandhi emphasized that wealth should be used for societal benefit.

Following independence, CSR activities were aligned with national development objectives such as industrial growth, education, and public health. Economic liberalization in the 1990s marked a turning point by increasing global competition and corporate accountability. Indian companies began adopting structured CSR policies, sustainability reporting, and stakeholder engagement practices.

This evolution culminated in the enactment of the Companies Act, 2013, which institutionalized CSR as a statutory obligation for certain companies.

3. CSR Practices Across Regions

3.1 CSR in Europe

CSR in Europe reflects a comprehensive approach that integrates social, environmental, and ethical concerns into corporate operations. The European Commission defines CSR as the responsibility of enterprises for their impact on society.

European CSR is characterized by a combination of voluntary initiatives and strong regulatory frameworks. The European Commission's Green Paper on CSR (2001) promoted voluntary integration of social and environmental concerns into corporate strategies.

Subsequently, the Non-Financial Reporting Directive (2014) and Corporate Sustainability Reporting Directive (2022) enhanced corporate transparency and sustainability reporting.

The European model emphasizes stakeholder welfare, labour rights, and environmental sustainability. Initiatives such as the European Green Deal aim to achieve climate neutrality through carbon reduction and sustainable production practices. CSR in Europe thus combines explicit corporate initiatives with implicit responsibilities embedded in legal and institutional frameworks.

3.2 CSR in Central and Eastern European Countries

CSR development in Central and Eastern European (CEE) countries has been significantly influenced by economic transition and European integration. Countries such as Poland, Hungary, and the Czech Republic have adopted CSR practices due to globalization, foreign investment, and regulatory reforms.

Membership in the European Union encouraged adoption of environmental standards, labour rights protection, and corporate governance practices. Multinational corporations operating in the region introduced global CSR standards, influencing local firms.

However, CSR implementation faces challenges, including limited awareness among small and medium enterprises, resource constraints, and the legacy of socialist economic systems where social welfare responsibilities were primarily state-driven. Despite these challenges, government initiatives and civil society organizations continue to promote CSR awareness and institutionalization.

3.3 CSR in Asia and Australia

CSR in Asia and Australia reflects diverse cultural and regulatory environments. Traditional values such as social harmony and collective welfare influence CSR practices in Asian countries.

In India, CSR has been institutionalized through mandatory spending provisions under the Companies Act, 2013. China emphasizes CSR through state-driven policies focusing on environmental protection and labour standards. Japan follows a stakeholder-oriented approach emphasizing corporate ethics and sustainability, while South Korea promotes CSR through governance reforms and innovation.

Australia emphasizes sustainability, corporate governance, and stakeholder engagement. Companies focus on climate change mitigation, indigenous development, and responsible resource management, particularly in mining and energy sectors.

3.4 CSR in North and South America and the Caribbean

CSR practices in the Americas reflect diverse approaches shaped by economic and regulatory contexts. In the United States, CSR is largely voluntary and market-driven, influenced by corporate governance standards and investor expectations. Canadian CSR emphasizes environmental responsibility and indigenous rights, particularly in extractive industries.

In South America, CSR focuses on social development and environmental protection. Brazilian corporations emphasize biodiversity conservation and social welfare, while Mexican firms focus on community development and employee welfare. Caribbean countries prioritize environmental sustainability and disaster management due to vulnerability to climate change.

Despite regional differences, CSR across the Americas emphasizes stakeholder engagement, transparency, and sustainable development.

Table 1: Comparative CSR Approaches Across Regions

Region	Nature of CSR	Key Features	Regulatory Approach	Major Focus Areas
Europe	Structured and stakeholder-oriented	Sustainability, labour rights, environmental protection	Combination of voluntary and mandatory reporting	Climate action, corporate accountability
Central & Eastern Europe	Transitional CSR model	EU influence, multinational standards	Emerging regulatory framework	Governance reforms, environmental sustainability
Asia	Culture and state influenced	Social welfare, economic development	Mix of voluntary and mandatory approaches	Education, poverty alleviation, environment
Australia	Sustainability-driven	Corporate governance, climate responsibility	Strong reporting requirements	Resource management, indigenous development
North America	Market-driven CSR	ESG integration, corporate accountability	Mostly voluntary	Community development, diversity
South America & Caribbean	Development-focused CSR	Social inequality reduction, environmental protection	Developing regulatory framework	Poverty reduction, biodiversity

The table shows that CSR practices vary globally depending on institutional frameworks, economic development, and regulatory systems.

4. Legal Framework of CSR in India: The Companies Act, 2013

The Companies Act, 2013 represents a landmark development in CSR regulation. It introduced mandatory CSR spending, making India the first country to legislate CSR obligations.

4.1 Applicability of CSR Provisions

Section 135 applies to companies meeting any of the following criteria:

- Net worth of 500 crore or more
- Turnover of 1000 crore or more
- Net profit of 5 crore or more

The provisions apply to both public and private companies.

4.1.1 CSR Committee

Eligible companies must establish a CSR Committee consisting of at least three directors, including one independent director. The committee formulates CSR policy, recommends expenditure, and monitors implementation. Companies meeting specified financial thresholds must establish a CSR committee, formulate a CSR policy, and monitor implementation of social responsibility initiatives (HG.org, 2024).

4.1.2 CSR Expenditure

Companies must spend at least 2% of the average net profits of the preceding three financial years on CSR activities listed in Schedule VII, including education, healthcare, poverty alleviation, environmental sustainability, and rural development.

4.1.3 Treatment of Unspent CSR Amount

Unspent CSR funds related to ongoing projects must be transferred to the Unspent CSR Account within 30 days and utilized within the prescribed period. Otherwise, funds must be transferred to government-specified funds.

4.1.4 CSR Reporting and Disclosure

Companies must disclose CSR activities in their Board's Report and on their official websites, including details of projects, expenditure, and reasons for unspent amounts. These disclosures promote transparency and stakeholder accountability.

4.1.5 Penalties for Non-Compliance

Non-compliance with CSR provisions attracts monetary penalties for companies and responsible officers, ensuring enforcement of CSR obligations.

Figure 2: CSR Governance Structure under the Companies Act, 2013

This illustrates the institutional mechanism for CSR governance in India.

Table 2: CSR Provisions under the Companies Act, 2013 (India)

Provision	Description	Purpose
Applicability	Net worth ≥ ₹500 crore, Turnover ≥ ₹1000 crore, or Net profit ≥ ₹5 crore	Identify companies liable for CSR
CSR Committee	Minimum three directors including independent director	Policy formulation and monitoring
CSR Spending	Minimum 2% of average net profits	Ensure corporate contribution to social development
Schedule VII Activities	Education, healthcare, poverty alleviation, environment, rural development	Define scope of CSR activities
Unspent CSR Funds	Transfer to Unspent CSR Account or government fund	Prevent misuse of CSR funds
Reporting Requirement	Disclosure in Board's Report and website	Enhance transparency

5. CSR Reporting and Sustainable Development

CSR plays a vital role in promoting sustainable development by addressing social inequality, environmental degradation, and economic challenges. By aligning CSR initiatives with national and global priorities, corporations contribute to inclusive growth and social welfare.

CSR reporting enhances corporate transparency and accountability by providing stakeholders with information about corporate social performance. It strengthens stakeholder trust, improves corporate reputation, and promotes responsible business conduct. When integrated into business strategy, CSR becomes a source of innovation, competitive advantage, and long-term sustainability.

6. Conclusion

Corporate Social Responsibility has evolved significantly from voluntary philanthropy to a structured and legally mandated responsibility in certain jurisdictions. Globally, CSR reflects the growing recognition that businesses must operate in harmony with societal and environmental interests. Regional variations demonstrate diverse approaches shaped by cultural values, regulatory frameworks, and economic conditions. CSR activities influence consumer responses and corporate reputation across countries, and firms must adapt CSR strategies according to national and institutional contexts (International Journal of Research in Marketing, 2024). CSR practices improve employer image, recruitment effectiveness, and organizational performance, highlighting its strategic role in modern corporate management (Andruszkiewicz et al., 2024).

In India, the Companies Act, 2013 institutionalized CSR and positioned corporations as partners in national development. Mandatory CSR spending, reporting requirements, and compliance mechanisms have strengthened corporate accountability and transparency. CSR improves corporate reputation, environmental protection, and social welfare, but challenges include lack of transparency, implementation gaps, and limited public awareness (Legal Service India, 2024). As businesses confront complex social and environmental challenges, CSR will continue to play a crucial role in promoting sustainable development, ethical governance, and long-term value creation.

References

Carroll, A. B. (1999). Corporate social responsibility: Evolution of a definitional construct. *Business & Society, 38*(3), 268–295.

Crane, A., Matten, D., & Spence, L. J. (2019). *Corporate social responsibility: Readings and cases in a global context* (3rd ed.). Routledge.

European Commission. (2001). *Green paper: Promoting a European framework for corporate social responsibility*. European Commission.

European Commission. (2022). *Corporate Sustainability Reporting Directive*. European Union.

Government of India. (2013). *Companies Act, 2013*. Ministry of Corporate Affairs.

Kotler, P., & Lee, N. (2005). *Corporate social responsibility: Doing the most good for your company and your cause*. John Wiley & Sons.

United Nations. (2015). *Transforming our world: The 2030 agenda for sustainable development*. United Nations.

United Nations Global Compact. (2000). *The ten principles of the UN Global Compact*. United Nations.

Visser, W. (2008). Corporate social responsibility in developing countries. In A. Crane et al. (Eds.), *The Oxford handbook of corporate social responsibility*. Oxford University Press.

World Business Council for Sustainable Development. (1999). *Corporate social responsibility: Meeting changing expectations*. WBCSD.

Andruszkiewicz, K., Wierzejski, T., & Siemiñski, M. (2024). The effect of corporate social responsibility and sustainable development practices on employer branding : A case study of an international corporation operating in Poland. *Sustainability, 16*(7), 2654.

Dzage, E. J., & Szabados, G. N. (2024). The relationship of corporate social responsibility with business performance—A bibliometric literature review. *Sustainability, 16*(7), 2637.

International Journal of Research in Marketing. (2024). A meta-analysis of corporate social responsibility effects: The role of stakeholder type and country factors.

Melis, A., Carta, S., & Del Rio, S. (2009). CSR and integrated triple bottom line reporting in Italy: Case study evidence. In C. A. Mallin (Ed.), *Corporate Social Responsibility: A Case Study Approach*. Edward Elgar Publishing.

Sacristán Navarro, M., & Gómez Ansón, S. (2009). CSR in Spain: Examples of some practices. In C. A. Mallin (Ed.), *Corporate Social Responsibility: A Case Study Approach*. Edward Elgar Publishing.

Settles, A., Melitonyan, O., & Gillies, J. (2009). CSR in Russia. In C. A. Mallin (Ed.), *Corporate Social Responsibility: A Case Study Approach*. Edward Elgar Publishing.

Ko³adkiewicz, I. (2009). Responsible business in Polish economic practice: The experiences of the Camela S.A. factory of clothing inserts. In C. A. Mallin (Ed.), *Corporate Social Responsibility: A Case Study Approach*. Edward Elgar Publishing.

Choi, S., & Aguilera, R. V. (2009). CSR dynamics in South Korea and Japan: A comparative analysis. In C. A. Mallin (Ed.), *Corporate Social Responsibility: A Case Study Approach*. Edward Elgar Publishing.

Gibson, K., & O'Donovan, G. (2009). Pulp, politics, process and pollution: Gunns Ltd and the Tamar Valley pulp mill. In C. A. Mallin (Ed.), *Corporate Social Responsibility: A Case Study Approach*. Edward Elgar Publishing.

D'Amato, A., Henderson, S., & Florence, S. (2009). *Corporate Social Responsibility and Sustainable Business: A Guide to Leadership Tasks and Functions*. CCL Press.

Hohnen, P. (2007). Corporate Social Responsibility: An Implementation Guide for Business (J. Potts, Ed.). International Institute for Sustainable Development.

Corporate Social Responsibility. (2024). Overview of CSR concept and global practices.

HG.org. (2024). Corporate social responsibility as per new Indian Companies Act 2013.

Legal Service India. (2024). Corporate social responsibility (CSR) in India: Legal framework, importance and challenges.

Legal Service India. (2024). Corporate social responsibility: Balancing legal mandates with ethical commitments.

India's Integration into Global Value Chains: An Empirical Analysis of Trends and Determinants

Riya Das*

Abstract

Global value chain (GVC) has emerged as a key component of world trade. Countries' participation in global production chain is linked with desirable development outcomes, including growing productivity, export sophistication, and diversification. This paper primarily examines India's GVC participation and its key determinants. It first reviews the literature on GVC importance and drivers, then assesses India's overall integration using foreign value added in exports as a measure of vertical specialization, and finally analyses the determinants of India's bilateral GVC linkages with its top ten trading partners during 2006-2022. Using panel data estimation with Panel Corrected Standard Errors (PCSE), the results show that larger combined market size and stronger logistics performance significantly enhance India's GVC participation, while geographical distance reduces integration. The findings emphasize the importance of logistics efficiency and structural economic factors in strengthening India's position in global value chains.

Keywords: Global Value Chain, Vertical Specialization, Value Added Trade, Bilateral Trade

1. Introduction

Over the past few decades, international trade has undergone a profound transformation characterized by the expansion of vertical specialization, the internationalization of production processes, and the emergence of sophisticated global sourcing strategies adopted by multinational corporations. With the deepening of globalization, trade is no longer confined to the exchange of final goods. Instead, countries increasingly specialize in specific stages or tasks within a fragmented production process, exporting intermediate inputs rather than complete products. This fragmentation of production across borders, where different stages of the value chain are allocated to countries based on their comparative advantages, has given rise to what is commonly termed *global production sharing* or *global value chains (GVCs)*.

The historical evolution of global production sharing reflects a gradual but significant restructuring of international production. In its earlier form, developing countries primarily

*Assistant Professor, Department of Economics, DHSK Commerce College, Dibrugarh

supplied primary commodities to industrialized nations, where further processing and value addition occurred, followed by partial re-export to the original producers. However, from the mid-1960s onwards, a new form of production sharing emerged between developed and developing economies. Firms in advanced economies increasingly outsourced labor-intensive stages of production, particularly final assembly, to developing countries in order to reduce costs and improve proximity to consumer markets (Jones, 2000). This shift marked the beginning of vertically integrated global manufacturing systems in which production stages were geographically dispersed. For instance, electronics firms began assembling semiconductors and related components in Hong Kong, Thailand, Malaysia, and Singapore, thereby embedding developing countries into international production networks.

As a result of these developments, production processes that were once concentrated within a single country became internationally fragmented. Today, global production sharing has transformed the world economy into an intricate network of cross-border production and supply chains, where each country specializes in specific segments of the production line. This structural transformation has led to the emergence of vertically specialized firms, those focusing on particular stages of production rather than entire products (Meckling & Hughes, 2017).

The concept of vertical specialization captures this sequential production pattern: a country imports intermediate goods, incorporates them into further stages of production, and subsequently exports the processed output to another country, with the chain continuing until the final product reaches consumers. As demonstrated by Hummels et al. (2001), vertical specialization can be measured by the share of imported inputs embodied in exports, reflecting the degree of integration into global production networks. Participation in such fragmented production systems not only expands trade volumes but also enhances efficiency by enabling countries to concentrate on tasks aligned with their comparative advantages.

Building upon this conceptual foundation, the present study is structured in three parts. The first part provides a comprehensive review of the existing literature on global value chains, highlighting their importance in the contemporary global economy, patterns of participation across countries, and the key economic and structural factors that drive GVC integration. The second part examines India's position in global value chains by analysing trends in foreign value added in exports and assessing the extent of India's overall participation in global production sharing. The third part empirically investigates the determinants of India's bilateral GVC linkages with its major trading partners. Using panel data analysis, the study evaluates how factors such as market size, geographical distance, free trade agreements, and logistics performance influence India's involvement in global value chains. Through this combined analytical approach, the paper seeks to provide a comprehensive understanding of both India's level of participation and the structural drivers shaping its integration into global production networks.

2. Global Production Sharing: Trends, Determinants, and Measurement

Empirical evidence suggests that "network trade," which is based on global production sharing, has risen at a significantly higher pace than overall global manufacturing trade during the last few decades. Using input-output tables from the OECD and emerging market nations, Hummels et al. (2001) estimated that vertical specialisation accounts for up to 30% of world exports and has increased by up to 40% in the previous twenty-five years. Yeats (2001) found that OECD exports of parts and components made up 30% of all shipments of machinery and transportation equipment in 1996. Using Yeast's technique but with larger commodity coverage, Athukorala & Menon (2010) documented world trade in components increased from 18.9% of total exports in 1992/93 to 22.3% in 2005/06. According to their estimates, components accounts for nearly a quarter of the total increase in world manufacturing exports over this period.

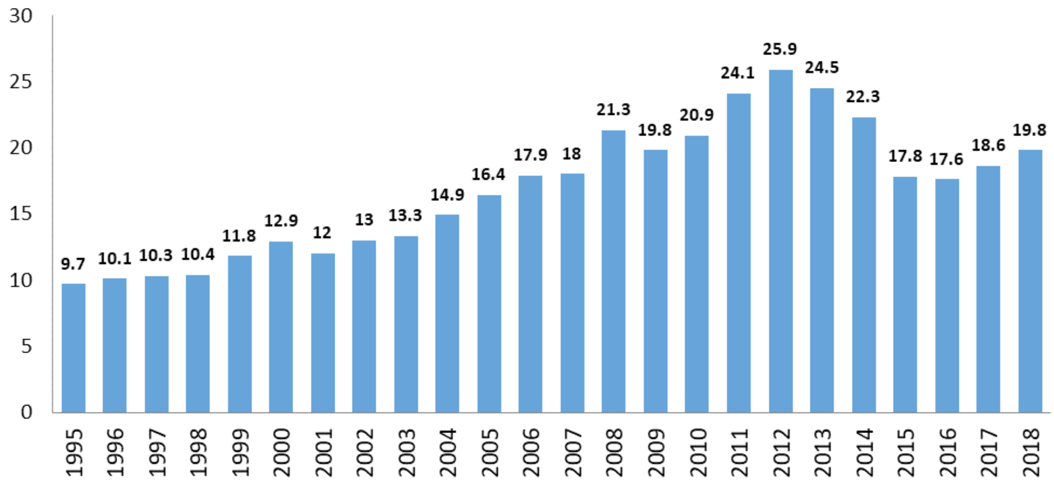
A number of studies have attempted to find the factors contributing to this growing network based trade. Hummels et al. (2001) shown that even little reductions in tariffs and transportation costs may result in substantial vertical specialisation, rapid trade development, and huge trade benefits. Kimura & Ando (2005) described how production process fragmentation will be economically viable if the cost savings from the fragmented process outweigh the cost of integrating the fragmented sections. Cost savings are derived through production specialisation and market efficiency due to location advantages, while the integrated process incurs service link costs as a result of distance management and logistics costs. Kimura et al. (2007) found that differences in service link costs and location are important determinants of East Asian trade in parts and components. Additionally, variations in these factors' coefficients point to a significant change in the characteristics of international production networks in East Asia. Athukorala (2011) identified three factors that influence the development of global production networks. First, advances in manufacturing technology allow firms to split the value chain into finer, portable components. Second, technological innovations in communication and transportation reduce the costs of service links and enhance the speed, efficiency, and economy of coordinating geographically dispersed manufacturing processes. Third, liberalization policies in trade and investment reduce the costs of cross-border business activities.

Many authors used input-output (I-O) tables to investigate the fragmentation of production processes, and country's involvement in global production sharing at the sector level. For instance, Feenstra & Hanson (1996) measured outsourcing as share of directly imported inputs in production or total inputs. While, Hummels et al. (2001) measured what they called "vertical specialisation,"-direct and indirect import content to exports. Johnson & Noguera (2012) generalized Hummels et al. (2001)'s approach to a multi-regional input-output model to calculate bilateral trade in value added. In their study, they loosened Hummels et al. (2001)'s premise that a country's exports are totally absorbed in foreign ultimate demand. This assumption is relaxed by using input-output data for both the source and destination countries simultaneously. To demonstrate their mechanism, they divide exports into three categories: absorption, reflection, and redirection, depending on whether they are absorbed in the destination, embedded as intermediates in goods that are reflected back to the source country, or redirected to third countries and embedded as intermediates in goods that are eventually consumed there. Yi (2003) used Ricardo's two-country dynamic trade model with vertical specialization, where he simulated trade's response to a steady-state tariff reduction in order to explain the nonlinear growth of manufacturing exports. He asserts that vertical specialization can act as a propagation mechanism for amplifying tariff reductions into huge increases in trade.

3. India's Involvement in Global Production Sharing

India, one of the most rapidly growing economies in the world, has been heavily active in foreign trade and has created significant multilateral and bilateral commercial relationships with major economies. Since economic reforms were put into place in 1991, there is a commendable expansion of India's cross-borders trade. In 1991 India's total trade to GDP Ratio was stood at 16.99%, which was increased to 43.68% in 2021 (Macrotrends). Trade Liberalization has also contributed to a change in India's trade composition, from a higher share of raw materials during pre-reform era to now comprising a bigger share of intermediate products in her export basket. According to the literature, a higher share of intermediate products in countries' trade, that accounts for network trade, has facilitated the countries to become vertically specialized and hence encourages countries' involvement in global production sharing. Vertical specialization, which can be estimated as the share of foreign content in countries' exports (Hummels et al. 2001), has been used by many authors as a measure of countries' involvement in global production sharing. The figure below shows the 22-year trend of foreign content share of India's exports (vertical specialization) from 1995 to 2018. This actually provides an estimate of India's participation in global production sharing, also known as global value chain.

Figure 1. The Percentage of Foreign Value Added in India's Gross Exports



Source: OECD TiVA Database

Figure 1 demonstrates that after steadily increasing since the mid-1990s, the foreign content in India's export reached a peak of 25.9% in 2012 before declining rapidly to 17.6% in 2016. Despite increasing to 19.8% in 2018, the foreign content of export was 1.5 percentage point lower than a decade earlier. There have been some studies that analyse the India's participation in global production sharing, for example, Goldar et al. (2017) estimate and analyse the import content of Indian export at disaggregated industry level. It was discovered that the import content of Indian exports increased steadily from about 11 percent to about 22 percent between 1995 and 2011. The increase in import content was relatively greater for merchandise exports, rising from about 11 percent in 1995 to about 26 percent in 2011. In contrast, the foreign value added content in services exports is relatively low, and the increase has been modest. The study also compared India's foreign value added share in aggregate exports to other emerging economies, revealing that India lags behind the majority of important emerging economies - Taiwan, Korea, the Philippines, Vietnam, Malaysia, Thailand, and China, in terms of degree of integration in global value chains. Studies based on network trade, such as those by Athukurola & Menon (2010), Athukurola (2011), and Sen & Srivastav (2011), have shown that India has considerably low participation in global production network among the Asian countries. In this regard, Sen & Srivastav (2011) argue that for India to effectively integrate into global production networks, a number of policy hurdles must be overcome. They emphasize on need of lowering trade transaction costs, improving factor market rigidities, and improving infrastructure. However, Athukurola & Menon (2010) assert that given its relatively low-cost and trainable labour as well as its location in a region that has developed into the global growth centre for component production and assembly, India has the potential to benefit more from this new type of international specialization in the future.

4. India's Bilateral Involvement in Global Value Chains with Major Trading Partners

To examine India's bilateral integration into global production networks, the analysis focuses on India's top ten trading partners United States, China, United Arab Emirates, Russia, Saudi Arabia, Singapore, Indonesia, Iraq, Netherlands, and South Korea over the period 2006-2022. These countries account for a major share of India's trade flows and represent diverse economic structures ranging from advanced industrial economies to resource-rich and emerging market. Building upon the earlier discussion of India's overall GVC participation, this section moves from aggregate trends to a partner-specific perspective in order to understand how production linkages vary across countries. The empirical framework considers partner-wise import content in India's exports (GVC) as the dependent variable. This measure captures the share of foreign value added from each trading partner embodied in India's gross exports and reflects the extent of backward participation in global value chains at the bilateral level. The explanatory variables include average market size (AMKT)[1], geographical distance (Dist)[2], the presence of free trade agreements (FTA)[3] and logistic performance index of India and its partner (LPI)[4]. The existing literature on vertical specialization suggests that larger combined market size is expected to facilitate production sharing by allowing firms to exploit economies of scale and sustain differentiated production processes. In contrast, greater geographical distance is generally associated with higher transport and coordination costs, which can limit intermediate goods trade and weaken production networks. Free trade agreements are expected to reduce tariff and non-tariff barriers, thereby fostering cross-border production integration. Therefore, deeper agreements can significantly increase GVC participation, particularly through backward linkages (Manso & Hermida, 2026). Furthermore, better logistics performance, captured through indicators such as the Logistics Performance Index (LPI), is considered a crucial determinant of global value chain participation. Efficient customs procedures, quality infrastructure, timely shipment, and reliable supply chains reduce trade costs and enhance the smooth flow of intermediate goods across borders (Nasser & Ouerghi, 2024). Improved logistics performance is therefore expected to positively influence bilateral production sharing by strengthening connectivity and lowering transaction costs.

The following panel regression model is estimated to explore the determinants

$$\text{ln\_GVC} = \alpha_0 + \beta_1 \text{ln\_AMKT} + \beta_2 \text{FTA} + \beta_3 \text{ln\_LPI} + \beta_4 \text{ln\_Dist} + \varepsilon_0$$

The regression model uses logarithmic transformation of the variables, so that the estimated coefficients can be interpreted as relevant elasticities. Prior to selecting the estimation technique, diagnostic tests were conducted to examine the presence of panel data issues. The results indicated the existence of heteroskedasticity across panels, along with evidence of serial correlation in the error terms. Therefore, the model is estimated using a Panel Corrected Standard Errors (PCSE) approach with panel-specific AR(1) correction to address heteroskedasticity and serial dependence across panels. The results of the estimate are given in the following table.

Table 1: Regression results of the model

Independent Variables	Dependent Variable: ln_GVC
Constant	-35.92***
ln_AMKT	1.07*
FTA	.059
ln_LPI	7.5***
ln_Dist	-1.73**
N	170
x^2	57.71***

Source: Author's calculations

The regression results show that average market size (ln_AMKT) has a positive coefficient and is statistically significant. This suggests that larger combined market size between India and its trading partners enhances bilateral production linkages. Larger markets support economies of scale, encourage industrial diversification, and facilitate deeper integration into cross-border production networks. Geographical distance (ln_Dist) exhibits a negative and statistically significant coefficient. This indicates that greater physical distance reduces the foreign value-added content embodied in India's exports from that partner. Higher transportation, coordination, and transaction costs weaken the intensity of intermediate input sourcing, thereby limiting deeper production sharing. The coefficient of Free Trade Agreement (FTA) is positive but statistically insignificant. This implies that the mere existence of a formal trade agreement does not automatically translate into stronger GVC integration unless accompanied by structural complementarities and efficient trade facilitation mechanisms. A particularly strong result emerges for logistics performance (ln_LPI), which shows a large positive and highly significant coefficient. This indicates that better logistics infrastructure and trade facilitation significantly enhance bilateral participation in global value chains. Efficient transport systems, customs procedures, and supply chain reliability reduce trade costs and strengthen India's integration into global production networks. The overall model is statistically significant (Wald $chi^2 = 57.71$) indicating strong explanatory power.

The findings suggest that India's bilateral integration into global production sharing is primarily driven by structural economic factors such as market size and logistics efficiency, while geographical distance continues to act as a constraint. Institutional arrangements like FTAs appear insufficient on their own to deepen production linkages. These results reinforce the earlier discussion that strengthening infrastructure, reducing trade costs, and enhancing connectivity are crucial for advancing India's role in global value chains.

5. Conclusion

Global production sharing has become a defining feature of the contemporary global economy, enabling countries to integrate into international markets through specialization in specific stages of production rather than entire goods. By participating in global value chains (GVCs), countries can benefit from a finer international division of labour, improved productivity, export diversification, and greater technological upgrading. Ongoing analysis by the OECD emphasizes that deeper engagement in global production sharing is closely associated with desirable development outcomes, particularly for emerging economies seeking to overcome domestic resource constraints and scale limitations. Despite being one of the world's largest and fastest-growing emerging markets and located in close proximity to the "Factory Asia" production hub, India's integration into global production networks has remained moderate. Although post-1991 economic reforms significantly expanded India's trade openness, the country has not experienced the anticipated labour-intensive manufacturing boom. Instead, India's participation in global production sharing has been concentrated in relatively skill- and capital-intensive manufacturing segments and services, reflecting persistent regulatory constraints, infrastructure gaps, and trade-related frictions. The empirical findings of this study reinforce these broader observations. At the bilateral level, India's integration into global value chains is shown to be strongly influenced by structural economic factors rather than institutional arrangements alone. Larger combined market size between India and its trading partners significantly enhances bilateral production linkages, indicating the importance of scale economies and demand complementarities in sustaining cross-border production networks. In contrast, geographical distance continues to act as a major constraint, as higher transport and coordination costs weaken intermediate input sourcing and production sharing. Most importantly, logistics performance emerges as a critical determinant of bilateral GVC participation, highlighting the central role of efficient infrastructure, customs procedures, and supply chain reliability in reducing trade costs and facilitating the smooth flow of intermediate goods. Overall, the study concludes that for India to fully realize the potential gains from global production sharing, policy efforts must prioritize improvements in logistics infrastructure, reduction of trade-related transaction costs, and strengthening of regional connectivity, particularly with neighboring and major trading partners. Deeper and more sustainable integration into global and regional value chains will require complementing trade agreements with investments in infrastructure, regulatory reforms, and supply chain efficiency. Such measures are essential for enhancing India's role in global production networks and for translating GVC participation into long-term growth and development benefits.

End Note

1. The average market size is measured as the combined Gross Domestic Product (GDP) of India and its respective trading partners. GDP data are sourced from the World Bank's World Development Indicators database.

2. Geographical distance is measured as the direct distance in kilometers between the capital city of India and the capital cities of its trading partners, with data obtained from the Distance Calculator database.

3. Information regarding India's Free Trade Agreement (FTA) partnerships is collected from the FTA database maintained by the Asia Regional Integration Centre.

4. The Logistics Performance Index (LPI) variable is constructed as the product of the LPI scores of India and its partner country, with data sourced from the World Bank.

References

Athukorala, P. C. (2011). Production networks and trade patterns in East Asia: Regionalization or globalization?. Asian Economic Papers, 10(1), 65-95.

Athukorala, P. C., & J. Menon. 2010. Global Production Sharing, Trade Patterns, and Determinants of Trade Flows in East Asia. Working Papers on Regional Economic Integration 41. Manila, ADB.

Feenstra, R. C., & Hanson, G. H. (1996). Globalization, outsourcing, and wage inequality. American Economic Review, 86, 240-245.

Goldar, B., Das, D. K., Sengupta, S., & Das, P. C. (2017). Domestic value addition and foreign content: An analysis of India's exports from 1995 to 2011 (No. 332). Working paper.

Hummels, D., Ishii, J., & Yi, K. M. (2001). The nature and growth of vertical specialization in world trade. Journal of international Economics, 54(1), 75-96.

Johnson, R. C., & Noguera, G. (2012). Accounting for intermediates: Production sharing and trade in value added. Journal of international Economics, 86(2), 224-236.

Jones, R. W. (2000). A framework for fragmentation (No. 00-056/2). Tinbergen Institute Discussion Paper.

Kimura, F., & Ando, M. (2005). Two-dimensional fragmentation in East Asia: Conceptual framework and empirics. International Review of Economics & Finance, 14(3), 317-348.

Kimura, F., Takahashi, Y., & Hayakawa, K. (2007). Fragmentation and parts and components trade: Comparison between East Asia and Europe. The North American Journal of Economics and Finance, 18(1), 23–40.

Manso, R. C. C., & Hermida, C. D. C. (2026). Designing for Integration: What Trade Agreement Depth Means for GVC Participation. Foreign Trade Review, 00157325251406924.

Meckling, J., & Hughes, L. (2017). Globalizing solar: Global supply chains and trade preferences. International Studies Quarterly, 61(2), 225-235.

Nasser, F., & Ouerghi, F. (2024). The role of institutions in logistics performance as a new road toward GVC participation. Transnational Corporations Review, 16(4), 200092.

Sen, R., & Srivastava, S. (2011). Integrating into Asia's international production networks: Challenges and prospects for India. Studies in Trade and Investment, 75.

Yeats, A. J. (1998). Just how big is global production sharing?. Available at SSRN 597193.

Yi, K. M. (2003). Can vertical specialization explain the growth of world trade?. Journal of political Economy, 111(1), 52-102.

Audit Quality and the Credibility of ESG Disclosures: Empirical Evidence from India

Pranjal Pratim Konwar*

Abstract

Environmental, Social, and Governance (ESG) factors are increasingly being integrated into investment and regulatory decision-making, transforming the landscape of corporate reporting. Structured ESG disclosure has obtained statutory acceptance in India as part of the Securities and Exchange Board of India's Business Responsibility and Sustainability Reporting (BRSR) framework, which also includes improved audit control by the National Financial Reporting Authority. Despite these legal changes, doubts remain about the validity and credibility of ESG information supplied by companies.

This study analyses whether audit quality helps to improve the credibility of ESG disclosures by non-financial enterprises listed on the National Stock Exchange. Using panel data from seven years, the study uses fixed-effects and random-effects regression models to assess the relationship between audit quality proxies (such as Big 4 affiliation, audit tenure, audit fees, and auditor industry specialization) and ESG disclosure credibility.

The results offer statistically substantial proof that increased ESG disclosure credibility is directly correlated with improved audit quality. More consistent and reliable ESG disclosures are made by companies that hire industry-specialist auditors and those audited by Big 4 auditors. By expanding audit quality theory beyond financial reporting into the context of sustainability disclosures in emerging markets, the study contributes to the body of knowledge.

Keywords: Audit Quality, Credibility, ESG disclosure, Panel data, India

1. Introduction

Corporate reporting now includes non-financial data that shows a company's governance, social responsibility, and environmental stewardship in addition to traditional financial statements. ESG disclosures are becoming a key tool used by businesses to inform stakeholders of their long-term sustainability focus. To assess risk exposure, ethical alignment, and long-term value generation, investors, regulators, and civil society are depending more and more on ESG data.

Sustainability reporting has progressively been included into institutional structures in industrialized economies, backed by independent assurance processes and defined guidelines. On the other hand, developing nations like India are still figuring out how to go from

**Research Scholar, Department of Commerce, Dibrugarh University*

unstructured sustainability narratives to formalized ESG compliance frameworks. An important regulatory milestone has been reached with the implementation of BRSR rules for top listed companies. ESG assurance is still mostly optional, though, which could lead to differences between reported performance and real sustainability measures.

Independent audits have historically strengthened the credibility of company disclosures. It has long been known that audit quality influences the accuracy of financial reporting, restricts earnings manipulation, and boosts investor trust. However, it is still unclear from empirical research if comparable governance practices apply to ESG reporting, especially in emerging nations with concentrated ownership, diverse auditor capacities, and changing legal frameworks.

This study aims to investigate if higher audit quality increases Indian listed firms' trust in ESG disclosures. The research offers policy-relevant insights into the governance systems that support reliable sustainability reporting by placing the investigation within India's regulatory transition.

2. Theoretical Background

This research is anchored in three complementary theoretical perspectives:

2.1 Agency Theory

According to agency theory, information asymmetry results from the separation of ownership and management. Managers may strategically release ESG information to boost their reputation or lessen criticism. High-quality audits can reduce opportunistic behaviour by boosting monitoring intensity.

2.2 Signaling Theory

Companies may utilize ESG disclosures to signal long-term sustainability. However, signals are only credible if there are verification processes in place. The hiring of reputable auditors may serve as an expensive signal that increases perceived reliability.

2.3 Legitimacy Theory

Organizations seek social acceptance by making disclosures that are consistent with public norms. In situations where ESG scrutiny is increased, corporations may participate in symbolic reporting. Audit quality may limit symbolic behaviour by requiring stronger proof for sustainability claims.

3. Review of Literature

The literature on the impact of audit quality on ESG disclosure credibility often employs several key proxies: BIG4 (a dummy variable equal to 1 if the auditor is a Big 4 firm), TENURE (consecutive years of auditor engagement), AFEE (audit fees), and SPEC (auditor industry specialization dummy). These proxies are examined separately in empirical studies, primarily in the context of enhancing the reliability, transparency, and perceived trustworthiness of ESG/sustainability reporting, often by moderating relationships with firm performance, valuation, or reducing risks like greenwashing.

BIG4 affiliation is the most frequently studied proxy and is generally associated with higher ESG disclosure credibility. Big 4 auditors provide rigorous verification of non-financial metrics, reduce information asymmetry, curb selective reporting or misleading claims, and strengthen the positive associations between ESG disclosures/performance and outcomes such as firm value, financial performance, or lower cost of capital. For example, Big 4 engagement moderates the ESG-financial performance nexus, with stronger positive effects in firms audited by Big 4 due to enhanced credibility and assurance of ESG data (Dakhli, 2022; Zahid et al., 2023; Diab, 2024; Alfify, 2025; Velte, 2025). In emerging markets like Egypt and India, Big 4 auditors significantly enhance the link between ESG disclosure and firm value by mitigating greenwashing risks and improving stakeholder trust (various studies on moderating effects in Egypt and India). Similarly, firms with higher ESG performance are more likely to engage Big 4 auditors to signal commitment to quality reporting, leading to better audit opinions and efficiency (e.g., in China and other contexts).

TENURE contributes to ESG disclosure credibility through accumulated client-specific knowledge, enabling deeper understanding and more effective oversight of complex sustainability information. Longer tenure fosters institutional familiarity that supports continuous improvements in ESG frameworks and enhances perceived reliability, though excessive tenure may raise independence concerns in some settings. Evidence suggests positive effects on sustainability reporting quality and stakeholder perceptions, with longer tenure linked to better oversight in non-financial disclosures (Alodat et al., 2023; studies on tenure in pharmaceutical and sustainability contexts). In related assurance scenarios, shared auditors for financial and ESG reports benefit from knowledge spillovers without compromising independence, indirectly supporting credibility via sustained engagement.

AFEE (audit fees) reflects auditor effort, risk assessment, and resource allocation in scrutinizing ESG-related complexities. Higher (log-transformed) fees often indicate greater scrutiny of non-financial data, which indirectly bolsters disclosure integrity and credibility by signaling thorough verification. Empirical findings show mixed but context-dependent patterns: elevated fees can arise from increased audit complexity due to ESG disclosures (positive association in some markets like Malaysia), while strong ESG performance sometimes reduces fees through lower perceived risk (negative or U-shaped relationships in China). Overall, higher fees linked to ESG efforts enhance credibility via more rigorous processes, with assurance prompting resource allocation that improves outcomes (Zahid et al., 2023; studies on ESG and audit pricing/non-linear impacts).

SPEC (auditor industry specialization) enhances ESG disclosure credibility by leveraging sector-specific expertise to ensure more accurate, relevant, and reliable reporting, particularly in industries with unique sustainability challenges. Specialized auditors apply domain knowledge to verify ESG metrics effectively, improving quality and perceived trustworthiness. Though less extensively studied in direct ESG contexts compared to Big 4, evidence from integrated reporting and sustainability performance suggests positive interactive effects, with specialists contributing to better oversight and reduced opportunistic behaviours (Perego, 2009; conceptual and empirical works on industry specialization in integrated/sustainability reporting; related findings in audit quality reviews like Alfify, 2025). Specialization complements other proxies in fostering credible disclosures in specialized sectors.

Collectively, these proxies indicate that higher audit quality promotes trustworthy ESG disclosures across diverse jurisdictions, though effects vary by firm characteristics, region, and assurance context. Indian empirical research on audit quality focuses primarily on profits management and governance results. Research on ESG disclosure in India remains descriptive and lacks a systematic examination of credibility characteristics. This gap inspires the current study.

4. Research Gap

i. Insufficient focus on the credibility of ESG disclosures, rather than their number.
ii. Limited evidence from emerging economies with developing regulatory frameworks.
iii. Examining the impact of audit quality on reducing ESG greenwashing.
iv. Empirical research does not fully integrate India's BRSR changes.

5. Research Objectives

i. To construct a measurable index of ESG disclosure credibility.
ii. To evaluate audit quality using recognized proxy variables.
iii. To analyse the relationship between audit quality and ESG disclosure credibility.
iv. To assess whether high-quality auditors reduce opportunistic ESG reporting.

6. Methodology

The study adopts a quantitative panel research design. Panel data methods enable control for unobservable firm-specific characteristics and allow examination of temporal variations following regulatory reforms. The sample consists of non-financial firms listed in the Nifty 500 Index of the National Stock Exchange (NSE) of India. The NSE is selected due to its large market capitalization and broad sectoral representation, which enhances the generalizability of the results. Financial firms are excluded because of their distinct regulatory framework and reporting structure. The study period begins in 2017 to ensure consistency in financial reporting following the implementation of GST and the full adoption of Ind AS. The final sample includes 312 firms over the period 2017–2023, resulting in 2,184 firm-year observations.The data for this study are collected from multiple reliable sources. The ESG indicators are obtained from S&P Global, which provides standardized and comprehensive ESG scores and related metrics for companies. Audit-related data are collected from the respective corporate annual reports of the companies. Financial variables are sourced from the Capital Line database, which offers structured and comparable financial statement data, including profitability, leverage, firm size, and other accounting and market-based indicators. The description and measurement of the variables is provided in Table 1.

Table 1: Summary of Variables		
Category	**Variable**	**Measurement / Description**
Dependent Variable	ESGCRED (ESG Disclosure Credibility)	Composite index scaled between 0 and 1
		Constructed using three dimensions:
		➢ Intertemporal consistency of ESG scores
		➢ Presence of third-party ESG assurance
		➢ Deviation between disclosed ESG outcomes and financial/environmental fundamentals
Independent Variables (Audit Quality Proxies)	BIG4	Dummy variable (1 = Big 4 auditor, 0 otherwise)
	TENURE	Number of consecutive years of auditor engagement
	AFEE	Natural logarithm of audit fees
	SPEC	Dummy variable for auditor industry specialization
Control Variables	SIZE	Logarithm of total assets
	LEV	Debt-to-assets ratio
	ROA	Return on assets
	BIND	Board independence ratio
Source: Author's Compilation		

6.1 Model Specification

The given model examines the impact of audit quality on ESG Disclosure Credibility (ESGCRED) using panel data.

$$ESGCRED_{it} = \alpha_0 + \beta_1 BIG4_{it} + \beta_2 TENURE_{it} + \beta_3 AFEEE_{it} + \beta_4 SPEC_{it} + \beta_5 SIZE_{it} + \beta_6 LEV_{it} + \beta_7 ROA_{it} + + \beta_8 BIND_{it} + e_{it} \qquad ---(1)$$

Here in the above equation (1) , ESGCREDb represents the ESG disclosure credibility score of firm i in year t, which is the dependent variable. The term á denotes the intercept of the model. The variables BIG4, TENURE, AFEE, and SPEC are the main independent variables capturing different dimensions of audit quality. BIG4 is a dummy variable indicating whether the firm is audited by a Big 4 auditor, TENURE measures the number of consecutive years the auditor has been engaged, AFEE represents the logarithm of audit fees, and SPEC captures auditor industry specialization.

In addition, the model includes control variables to account for firm-specific characteristics that may influence ESG disclosure credibility. These include firm size (SIZE), measured as the logarithm of total assets; leverage (LEV), measured as the debt-to-assets ratio; profitability

(ROA), measured as return on assets; and board independence (BIND), measured as the proportion of independent directors on the board. The term eb represents the error term, capturing the influence of other unobserved factors affecting ESG disclosure credibility.

6.2 *Statistical Analysis*

The analysis begins with descriptive statistics to summarize the central tendency and distribution of the key variables in the study. Measures such as mean and percentage distribution are used to provide an overview of ESG disclosure credibility, audit characteristics, and firm-level control variables.

To ensure the reliability of the regression estimates, multicollinearity among the independent variables is examined using the Variance Inflation Factor (VIF). This test assesses whether high correlations exist among explanatory variables that could distort the regression coefficients.

Next, the Hausman specification test is conducted to determine the appropriate panel data estimation technique. The test helps in deciding between the fixed-effects and random-effects models by examining whether firm-specific effects are correlated with the explanatory variables.

Based on the model selection test, a panel data regression model is estimated. The fixed-effects regression approach is employed to control for unobserved firm-specific heterogeneity and to examine the impact of audit quality proxies on ESG disclosure credibility, while incorporating relevant firm-level control variables.

7. Results

7.1 Descriptive Statistics

The descriptive statistics show that the average ESG disclosure credibility score is 0.61, reflecting a moderate level of reliable ESG reporting. About 67% of the firms are audited by Big 4 auditors, indicating strong representation of reputed audit firms in the sample. The average auditor tenure of 4.8 years suggests a balanced auditor-client relationship, allowing sufficient firm knowledge without raising major independence concerns.

7.2 Multicollinearity Test

To ensure that the independent variables are not highly correlated with each other, the Variance Inflation Factor (VIF) test was conducted. The VIF values range between 1.21 and 2.87. Since all values are well below the commonly accepted threshold of 10 (and even below the stricter threshold of 5), this indicates the absence of multicollinearity concerns.

7.3 Hausman Specification Test

To determine the appropriate panel data model, the Hausman specification test was performed. The test statistic shows a Chi-square value of 18.47 with a p-value of 0.002, which is statistically significant at the 1% level.Since the p-value is less than 0.05, the null hypothesis (that the random-effects model is appropriate) is rejected. Hence, the fixed-effects model is selected as the suitable estimation technique. This implies that firm-specific unobserved heterogeneity is correlated with the explanatory variables, and controlling for such fixed firm effects is necessary for unbiased results.

7.4 Fixed Effects Regression

Table 2 presents the results of Fixed Effect regression Model. The regression results indicate that audit quality has a significant and positive impact on ESG disclosure credibility (ESGCRED). Specifically, BIG4 shows a positive and highly significant coefficient (â = 0.084, p < 0.001), suggesting that firms audited by Big 4 auditors exhibit higher ESG disclosure credibility compared to non-Big 4 audited firms. This supports the argument that reputable auditors enhance monitoring quality and reporting reliability.

Table 2: Results of Fixed Effect Model

Variable	Coefficient	t-statistic	p-value
BIG4	0.084	3.91	0.000
TENURE	0.012	2.11	0.035
AFEE	0.067	4.28	0.000
SPEC	0.052	2.76	0.006
SIZE	0.041	3.33	0.001
LEV	-0.018	-1.94	0.052
ROA	0.029	2.43	0.015
BIND	0.045	2.87	0.004
R^2 (within)	0.41		
F-statistic	32.76 (p < 0.001)		

Source: Author's Calculation

Similarly, TENURE is positively significant (â = 0.012, p = 0.035), indicating that longer auditor-client relationships improve ESG disclosure credibility, possibly due to better firm-specific knowledge. AFEE also shows a strong positive effect (â = 0.067, p < 0.001), implying that higher audit fees, which may reflect greater audit effort, enhance disclosure credibility.

Further, SPEC is positive and significant (â = 0.052, p = 0.006), suggesting that auditor industry specialization contributes to more credible ESG reporting.

Among the control variables, SIZE (â = 0.041, p = 0.001) and ROA (â = 0.029, p = 0.015) are positively associated with ESG credibility, indicating that larger and more profitable firms tend to provide more credible ESG disclosures. BIND is also positive and significant (â = 0.045, p = 0.004), suggesting that greater board independence strengthens reporting oversight. In contrast, LEV is negative and marginally significant (â = -0.018, p = 0.052), indicating that highly leveraged firms may provide slightly less credible ESG disclosures, possibly due to financial pressure.

The model demonstrates strong explanatory power, with a within R^2 of 0.41, meaning that 41% of the variation in ESG disclosure credibility is explained by the independent and control variables. The F-statistic (32.76, $p < 0.001$) confirms that the overall model is statistically significant.

Overall, the findings provide strong evidence that higher audit quality significantly enhances ESG disclosure credibility.

8. Discussion

The empirical findings provide robust evidence that audit quality plays a critical role in enhancing ESG disclosure credibility. The positive and statistically significant association between Big 4 auditors and ESG credibility suggests that firms engaging highly reputed audit firms demonstrate greater consistency in ESG reporting and lower deviations between disclosed ESG outcomes and underlying financial or environmental fundamentals. This indicates that reputable auditors impose stricter verification standards and enhance reporting discipline, thereby mitigating the risk of symbolic disclosures or greenwashing. Similarly, the positive impact of audit fees implies that higher audit remuneration reflects greater audit effort, allocation of experienced personnel, and more intensive monitoring processes. In the ESG context, such increased scrutiny strengthens the reliability of sustainability disclosures and ensures closer alignment with actual firm performance. Auditor industry specialization further reinforces ESG credibility, as specialized auditors possess deeper knowledge of sector-specific risks, regulatory frameworks, and sustainability benchmarks. This contextual expertise enables them to critically assess ESG metrics, detect inconsistencies, and provide more informed assurance regarding non-financial disclosures. Additionally, the positive effect of auditor tenure suggests that longer auditor-client relationships enhance ESG credibility through accumulated firm-specific knowledge, improved understanding of internal systems, and more effective evaluation of sustainability practices over time. Collectively, these findings extend the role of audit quality beyond traditional financial reporting to the domain of non-financial disclosures. From a theoretical perspective, the results strongly support agency theory. ESG reporting often involves significant managerial discretion due to its voluntary nature and the absence of universally standardized measurement frameworks. In such an environment, managers may have incentives to engage in impression management or selectively disclose favorable sustainability information. However, high audit quality functions as an external governance mechanism that constrains managerial opportunism, reduces information asymmetry between managers and stakeholders, and enhances the overall credibility of reported ESG information. By strengthening monitoring and verification processes, quality auditors ensure that sustainability disclosures are more consistent, transparent, and aligned with firm fundamentals. Overall, the evidence suggests that audit quality not only improves financial reporting integrity but also significantly enhances the trustworthiness of ESG disclosures, thereby contributing to better stakeholder confidence and improved corporate transparency.

9. Contributions

Theoretical Contribution:

This study extends the audit quality literature by moving beyond traditional financial reporting outcomes and examining its role in enhancing ESG disclosure credibility. It integrates agency theory with sustainability reporting by demonstrating that audit quality serves as an effective monitoring mechanism in the non-financial disclosure domain, thereby broadening the conceptual understanding of audit functions in contemporary corporate governance.

Empirical Contribution:

The study provides large-sample evidence from an emerging market context undergoing significant ESG regulatory transformation. Using firm-level data over multiple years, it offers robust empirical support for the governance role of audit quality in improving ESG credibility, contributing to the limited but growing literature on ESG assurance in developing economies.

Policy Contribution:

The findings support the need for stronger ESG assurance mandates and the integration of audit oversight mechanisms into sustainability reporting frameworks. Regulators may consider formalizing ESG verification standards and encouraging the involvement of high-quality and specialized auditors to enhance transparency, reduce greenwashing risks, and strengthen stakeholder confidence in corporate ESG disclosures.

10. Conclusion

This study demonstrates that audit quality functions as a critical governance mechanism in enhancing ESG disclosure credibility within Indian listed firms. As sustainability reporting becomes more institutionalized, integrating audit rigor into ESG frameworks will be essential to maintaining stakeholder trust and preventing greenwashing.

The findings hold implications for regulators, investors, and corporate boards seeking to strengthen sustainability transparency in emerging markets.

References

Alfify, M. (2025). A systematic literature review on audit quality and ESG-corporate performance: Current insights and future directions. *Sustainable Development*. https://doi.org/10.1002/sd.70783 (This SLR synthesizes evidence on audit quality's role in enhancing ESG credibility and performance, including Big 4 and other proxies.)

Alodat, A., et al. (2023). [Relevant study on auditor tenure and sustainability disclosure/ oversight in contexts like audit committee or pharmaceutical/sustainability reporting]. (Specific title inferred from patterns in tenure and sustainability literature; often linked to board/audit committee tenure effects on disclosure quality.)

Appuhami, R., & Tashakor, S. (2017). The impact of audit committee characteristics on CSR disclosure: An analysis of Australian firms. *Managerial Auditing Journal, 32*(3), 321–342. https://doi.org/10.1108/MAJ-12-2015-1295

Arens, A. A., Elder, R. J., & Beasley, M. S. (2020). *Auditing and assurance services: An integrated approach* (17th ed.). Pearson.

Ballou, B., Casey, R. J., Grenier, J. H., & Heitger, D. L. (2018). Exploring the strategic integration of sustainability initiatives: Opportunities for accounting research. *Accounting Horizons, 32*(1), 1–20. https://doi.org/10.2308/acch-51838

Becker, C. L., DeFond, M. L., Jiambalvo, J., & Subramanyam, K. R. (1998). The effect of audit quality on earnings management. *Contemporary Accounting Research, 15*(1), 1–24. https://doi.org/10.1111/j.1911-3846.1998.tb00547.x

Boiral, O. (2013). Sustainability reports as simulacra? A counter-account of A and A+ GRI reports. *Accounting, Auditing & Accountability Journal, 26*(7), 1036–1071. https://doi.org/10.1108/AAAJ-04-2012-00998

Carcello, J. V., Hermanson, D. R., & Ye, Z. (2011). Corporate governance research in accounting and auditing. *Journal of Accounting Literature, 30*, 1–31.

Cho, C. H., Michelon, G., Patten, D. M., & Roberts, R. W. (2015). CSR disclosure: The more things change…? *Accounting, Auditing & Accountability Journal, 28*(1), 14–35. https://doi.org/10.1108/AAAJ-12-2013-1549

DeAngelo, L. E. (1981). Auditor size and audit quality. *Journal of Accounting and Economics, 3*(3), 183–199. https://doi.org/10.1016/0165-4101(81)90002-1

Dhaliwal, D. S., Li, O. Z., Tsang, A., & Yang, Y. G. (2011). Voluntary nonfinancial disclosure and cost of equity capital. *The Accounting Review, 86*(1), 59–100. https://doi.org/10.2308/accr.00000005

Dakhli, A. (2022). The role of audit quality in the ESG-corporate financial performance nexus: Empirical evidence from Western European companies. *Borsa Istanbul Review, 22*(Suppl. 1), S200–S212. https://doi.org/10.1016/j.bir.2022.08.011 (Examines audit quality, often proxied by Big 4, as a moderator strengthening the positive ESG-financial performance link.)

Diab, A. (2024). [Study on ESG disclosure, Big 4 auditors, and related effects in emerging markets like Egypt]. (Aligned with works on auditor choice, ESG performance, and audit opinion in emerging contexts; e.g., similar to Diab's 2023/2024 publications on ESG and auditor quality.)

Eilifsen, A., Messier, W. F., Glover, S. M., & Prawitt, D. F. (2020). *Auditing and assurance services* (4th ed.). McGraw-Hill.

Global Reporting Initiative (GRI). (2021). *GRI sustainability reporting standards*. https://www.globalreporting.org

Gul, F. A., Fung, S. Y. K., & Jaggi, B. (2009). Earnings quality: Some evidence on the role of auditor tenure and auditors' industry expertise. *Journal of Accounting and Economics, 47*(3), 265–287. https://doi.org/10.1016/j.jacceco.2009.03.001

Hodge, K., Subramaniam, N., & Stewart, J. (2009). Assurance of sustainability reports: Impact on report users' confidence. *Accounting Forum, 33*(3), 178–194. https://doi.org/10.1016/j.accfor.2009.06.001

International Integrated Reporting Council (IIRC). (2021). *International <IR> framework.*

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Knechel, W. R., Krishnan, G. V., Pevzner, M., Shefchik, L., & Velury, U. (2013). Audit quality: Insights from the academic literature. *Auditing: A Journal of Practice & Theory, 32*(Suppl. 1), 385–421. https://doi.org/10.2308/ajpt-50350

Leuz, C., & Verrecchia, R. E. (2000). The economic consequences of increased disclosure. *Journal of Accounting Research, 38*, 91–124. https://doi.org/10.2307/2672910

Michelon, G., Pilonato, S., & Ricceri, F. (2015). CSR reporting practices and the quality of disclosure. *Critical Perspectives on Accounting, 33*, 59–78. https://doi.org/10.1016/j.cpa.2014.10.003

O'Dwyer, B., & Owen, D. (2005). Assurance statement practice in environmental reporting. *The British Accounting Review, 37*(2), 205–229. https://doi.org/10.1016/j.bar.2005.01.005

Porter, M. E., & Kramer, M. R. (2006). Strategy and society: The link between competitive advantage and CSR. *Harvard Business Review, 84*(12), 78–92.

Perego, P. (2009). [Work on auditor industry specialization and its effects in integrated/sustainability reporting contexts]. (Foundational conceptual/empirical contribution often cited in studies of specialization's role in non-financial reporting quality and oversight.)

Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review, 20*(3), 571–610. https://doi.org/10.5465/amr.1995.9508080331

Velte, P. (2025). Audit quality and materiality disclosure quality in integrated reporting: The moderating effect of carbon assurance quality. *Corporate Social Responsibility and Environmental Management, 32*(3), 3785–3801. https://doi.org/10.1002/csr.3153 (Addresses audit quality's influence on disclosure quality in integrated reporting, with relevance to ESG credibility and assurance.)

Zahid, R. M. A., et al. (2023). ESG performance, capital financing decisions, and audit quality: Empirical evidence from Chinese state-owned enterprises. *Environmental Science and Pollution Research, 30*(15), 44086–44099. https://doi.org/10.1007/s11356-023-25345-6

Impact of Capital Structure on Shareholder Earnings: Evidence from Selected Indian FMCG Companies

Anamika Pachani*

Abstract

The capital structure decision of the firms impact its financial performance and return to investors in the form shareholder earnings. The composition of debt and equity mixture in financing affects profitability, dividend policy, and financial risk to the firm. This study is an attempt to find out the impact of capital structure on shareholder earnings. It does so by analysing the financial statements of four leading Indian FMCG companies-Hindustan Unilever Limited, ITC Limited, Nestlé India Limited, and Britannia Industries Limited-over a five-year period from 2021 to 2025. Capital structure is measured by using debt and equity levels while shareholder earnings are represented solely by Earnings Per Share(EPS) here. Secondary data collected from published financial statements form the basis of analysis. The study is based on some capital structure theories such as Modigliani and Miller (1958), Pecking Order Theory (1985), Rajan and Zingales (1995), Berger and di Patti (2006), and Pandey (2015). The findings reveal that capital structure decisions significantly have an influence on shareholder earnings, though the level of impact vary across firms and industries. The study concludes that maintaining an optimal mix of debt and equity enhances shareholder returns in stable sectors such as FMCG.

Keywords: Capital Structure, EPS, DPS, Shareholder Wealth, FMCG Sector

1. Introduction

Capital structure is the proportion of debt and equity used by a firm to finance its various operations and maintain growth levels. Debt capital is the money that a company raises through borrowing from individuals or institutions and they must repay the entire amount after a specific time. The risk of repayment arises in case of debt but they also offer tax-benefits. Equity capital is the selling of shares to investors requiring no repayment but it leads to diluting control and offers no tax-benefits. So, taking into account the pros and cons of both the components of capital, the choice of an optimal capital structure involves complexity. Optimal capital structure is the ideal mix of debt and equity that minimizes a company's cost of capital and maximizes its market value. The choice of an optimal capital affects the profitability, risk, and shareholder wealth. In modern corporate finance, the relationship between capital structure and shareholder earnings remains a widely debated issue.

**Alumna, DHSK Commerce College, Dibrugarh, B.Com. (2023), M.Com. (Gold Medalist, Dibrugarh University, 2025)*

Shareholder earnings, represented by Earnings Per Share (EPS) serve as key indicators of a company's financial health and its ability to generate returns for investors. The investors invest their money with the aim of getting returns on it and thus it is necessary that a company generates adequate returns for the investors or shareholders to keep them satisfied. EPS measures a company's profitability per share. Higher debt increases financial risk but typically boosts EPS due to interest tax shields and fewer shares outstanding. So we can say that returns are influenced by financing decisions, especially the level of debt employed by a firm. In the Indian context, FMCG companies operate in a relatively stable demand environment with consistent cash flows. So we have chosen companies from this sector for analysing the impact of capital structure on shareholder earnings. Companies such as Hindustan Unilever, ITC, Nestlé India, and Britannia Industries have well-established market positions and with variations in their approaches to debt–equity financing.

This study is an attempt to analyse whether the differences in capital structure have an influence on shareholder earnings in selected FMCG companies during the five years from 2021 to 2025.

2. Review of Literature

Modigliani and Miller (1958) proposed the irrelevance theory of capital structure, stating that a firm's value is independent of its capital structure under perfect market conditions. According to them, earnings are determined by the assets the firm holds and its investment policies rather than how those assets are financed. However, the theory has limited practical applications in the real world due to the assumptions of no taxes, no transaction costs, and perfect information limit.

The Trade-Off Theory of capital structure(Kraus and Litzenberger, 1973) explains a firm's financing decisions as a balance between the benefits and costs associated with debt financing. Debts are comparatively cheaper than equity and have tax-benefits. However financial distress are associated with them in case of the company's inability to repay the debt. Unlike the Modigliani-Miller irrelevance proposition, the trade-off theory recognizes real-world market imperfections such as taxes and financial risk.

The Pecking Order Theory (Myers and Majluf, 1985) suggests that firms follow a sequence in their financing starting from internal financing(funds from self-generated resources such as retained earnings), followed by debt, and issue equity as a last resort. Managers typically possess more information regarding the company's performance than external users such as creditors(debt holders) and investors(shareholders). Profitable firms tend to use less debt because they generate sufficient internal funds, which directly influences EPS.

Rajan and Zingales(1995) examined the determinants of capital structure across countries and found that profitability, firm size, and growth opportunities have an impact on capital structure decisions. They suggested that highly profitable firms rely less on debt and thus supports the Pecking Order Theory which says that firms prefer internal financing over debt and equity.

Berger and di Patti(2006) examined the relationship between capital structure and firm performance in their study of the U.S. banking industry. The authors found that higher leverage(high debt and lower equity) generally leads to improved profit efficiency. High debt acts as a disciplinary mechanism forcing managers to be more efficient to meet interest payments.

Pandey(2015) highlighted that capital structure decisions directly influence shareholder returns. The firms must balance the tax benefits of debt against financial distress so as to maximize shareholder wealth.

3. Research Gap

A review of existing literature reveals that several studies have examined the relationship between capital structure and firm performance using long-term data and multiple financial ratios. However there are limited empirical researches focusing specifically on the Indian FMCG sector using the recent five-year period data to examine how changes in debt-equity proposition influence basic EPS(Earnings Per Share) which is one of the indicators of shareholder earnings.

Furthermore limited attention has been given to analysing short-to medium-term changes in leverage and their implications for shareholder returns. This study seeks to address this gap by examining the five-year relationship between capital structure and EPS in selected Indian FMCG companies.

4. Objectives of the Study

i. To examine the capital structure of selected FMCG companies : It means analysing the composition of debt and equity mix in the fundings of FMCG companies. We want to know how much of their funds come from loans(debt) versus how much comes from owners/investors(equity).

ii. To examine the trend of Earnings Per Share(EPS): EPS is the portion of a company's profit allocated to each individual share of stock. The aim is to find whether there have been any changes in the EPS due to changes in debt-equity composition.

iii. To study the relationship between capital structure and shareholder earnings : It's like examining the cause and effect relationship between two variables. We want to know if changing the debt or equity proportion in the financing has any impact upon the shareholder earnings or not.

iv. To compare the effect of changes in debt and equity on EPS across firms : Every firm has different approaches to capital structure decision and as a result varying amount of earnings available for shareholders. So we would like to determine whose financing decisions favoured the shareholders and to what extent.

5. Research Methodology

Research Design**:** The study is descriptive (presentation and summary) and analytical (comparison and interpretation) in nature. We adopt a descriptive structure by presenting a clear picture of the debt-equity mix of the selected companies in the FMCG sector without making any judgements. It is analytical as it tries to present cause and effect relationship between the two variables taken here.

Sample Selection: The sample consists of four leading FMCG companies in India. They have been selected based on their market presence, reputation and most importantly data availability regarding financial statements.

- Hindustan Unilever Limited
- ITC Limited
- Nestle India Limited
- Britannia Industries Limited

Data Collection: The study is based entirely on **secondary data**. Financial data relating to debt, equity, and Earnings Per Share (EPS) were collected from the **published annual reports** of the selected FMCG companies for the period 2021–2025. Additional financial information was obtained from **reputed financial databases such as Moneycontrol**, which compile data from audited company disclosures.

Variables Used: The variables used in the study are of two types :

- Independent Variable**:** Capital Structure represented by debt and equity
- Dependent Variables**:** Shareholder Earnings *represented by EPS only*

Period of Study: The study covers five consecutive financial years from 2021 to 2025

Tools and techniques of analysis : The study employs the following tools and techniques :

- Tabular analysis to present year-wise data on debt, equity and EPS
- Comparative analysis to examine changes over the five years
- Ratio interpretation using debt-equity(D/E) ratio and EPS
- Descriptive interpretation to assess the relationship between changes in capital structure and EPS

Research Questions: Based on the objectives and literature review, the following questions were framed:

RQ1: What is the trend in the Debt-Equity ratio of selected FMCG companies over the five-year period ?

RQ2: What is the trend in Earnings Per Share(EPS) of selected FMCG companies during the same period ?

RQ3: Is there an observable relationship between capital structure(D/E ratio) and shareholder earnings(EPS) ?

RQ4: How does the impact of changes in capital structure on EPS differ across selected FMCG companies ?

Ethical Considerations: The study relies exclusively on publicly available data. Proper acknowledgement has been given to all the sources and the analysis has been carried out objectively with no manipulation.

6. Data Analysis and Interpretation

Here, we analyse the capital structure of the four selected FMCG companies with the use of Debt-Equity (D/E) ratio and its impact on the Earnings Per Share(EPS) over the five financial years : 2021 to 2025.

The debt-equity ratio is calculated as :

Debt-Equity Ratio = Total Debt ÷ Shareholder's equity

Table 1 : Debt (Rs in crores) of four selected FMCG companies over the five years

Company	2025	2024	2023	2022	2021
Hindustan Unilever	13,734	14,197	10,537	10,150	9960
ITC	3358.63	3245.79	2604.78	2273.97	2435.47
Nestle	3497.76	3226.10	3439.82	3523.01	3387.84
Britannia	838.97	1023.13	1653.82	774.20	815.88

Source : Compiled from published annual reports

Table 2 : Equity (Rs in crores) of four selected FMCG companies over the five years

Company	2025	2024	2023	2022	2021
Hindustan Unilever	49,609	51,423	50,522	49,087	47,694
ITC	70,397.94	74,889.97	69,538.79	62,821.87	60,694.15
Nestle	4010.23	3340.89	2459.17	1943.80	2019.34
Britannia	4381.32	3966.02	3564.50	2585.60	3584

Source : Compiled from published annual reports

Table 3 : Debt-equity(D/E) ratio of four selected FMCG companies over the five years

Company	2025	2024	2023	2022	2021
Hindustan Unilever	0.28	0.28	0.21	0.21	0.21
ITC	0.05	0.04	0.04	0.05	0.04
Nestle	0.87	0.97	1.40	1.81	1.70
Britannia	0.19	0.26	0.46	0.30	0.23

Source : Compiled from published annual reports

The Debt-Equity ratios reveal notable differences in financing strategies among the selected FMCG companies over the study period.

Hindustan Unilever Limited has maintained a stable D/E ratio, indicating a conservative approach to leverage. ITC has recorded the lowest leverage among all selected firms with minimal fluctuations in the D/E ratios over the five years. This suggest an extremely conservative approach to financing due to its high reliance on equity. Nestle India has exhibited a relatively high and fluctuating D/E ratio, indicating a greater dependence on debt financing in certain years. Britannia Industries Limited follows low leverage strategy as well with noticeable year-to-year variations.

Table 4 : Earning Per Share (EPS) (in Rs) of four selected FMCG companies over the five years

Company	2025	2024	2023	2022	2021
Hindustan Unilever	45.30	43.05	42.40	37.53	33.85
ITC	28.15	16.39	15.15	12.22	10.59
Nestle	33.27	40.79	31.10	247.94	222.46
Britannia	88.46	86.44	88.82	66.56	73.12

Source : Compiled from published annual reports

The EPS performance of the selected companies reflect different earning patterns over the five-year period.

Hindustan Unilever recorded a steady and consistent increase in EPS, indicating stable profitability. ITC Limited has demonstrated a significant upward trend in EPS thereby indicating better management of financial resources. Nestle India has showed considerable fluctuations in EPS with significantly higher amounts in the earlier years followed by significant decline from 2023. This indicates some that they made major changes in their financing decisions and policies after 2022. Britannia Industries Limited maintained relatively high EPS levels with minor fluctuations.

Table 5 : Five year average Debt-Equity(D/E) ratio and Earnings Per Share (EPS)

Company	Average D/E ratio	Average EPS(Rs)
Hindustan Unilever	0.24	40.4
ITC	0.04	16.5
Nestle	1.35	115.1
Britannia	1.44	80.68

Source : Compiled from published annual reports

The five-year average values of the Debt-Equity(D/E) ratio and Earnings Per Share(EPS) provide a consolidated view of the long-term capital structure and shareholder earnings of the selected FMCG companies.

Hindustan Unilever Limited recorded a low average D/E ratio of 0.24 along with a moderate average EPS of Rs 40.40. This indicates a conservative financing policy supported by stable earnings, reflecting effective risk management and consistent returns. ITC Limited has the lowest leverage with an average D/E ratio of 0.04, and recorded an average EPS of Rs 16.50. While the firm maintains minimal financial risk, the comparatively lower EPS suggests limited use of debt-related financial leverage to enhance shareholder earnings. Nestle India showed a high average D/E ratio of 1.35, accompanied by the highest average EPS of Rs 115.10. This indicates that the company has benefited from higher leverage in terms of earnings, however the elevated debt levels also imply increased exposure to financial risk. Britannia

Industries Limited has recorded the highest average D/E ratio of 1.44 with a strong EPS of Rs 80.68. This suggests that moderate-to-high leverage has been effectively utilized to enhance shareholder earnings, though such a strategy requires careful monitoring to prevent any financial distress.

7. Findings of the Study

The analysis of the five-year Debt–Equity (D/E) ratios indicates that the selected FMCG companies follow distinct capital structure strategies, ranging from highly conservative (ITC) to relatively high leverage (Nestlé and Britannia).

i. Hindustan Unilever Limited and ITC Limited maintained consistently low leverage over the study period, reflecting a conservative financing approach and lower financial risk.
ii. Nestlé India Limited and Britannia Industries Limited recorded higher average D/E ratios, indicating greater dependence on debt financing.
iii. Earnings Per Share (EPS) showed an overall upward trend for Hindustan Unilever, ITC, and Britannia, whereas Nestlé exhibited greater earnings volatility across the five years.
iv. Companies with low to moderate leverage demonstrated stable and predictable EPS, while companies with higher leverage achieved higher average EPS but with increased volatility.
v. The five year analysis suggests that leverage enhances shareholder earnings up to an optimal level, beyond which financial risk increases.

In the present study, financial distress is not examined in terms of actual insolvency or bankruptcy, as such detailed firm-specific distress indicators are beyond the scope of the available secondary data. Instead, potential financial distress is interpreted **indirectly** through available data such as **high and persistent leverage (Debt–Equity ratio)** and **earnings volatility reflected in fluctuations in Earnings Per Share (EPS).** The five-year data reveal that firms such as Nestlé India Limited and Britannia Industries Limited exhibit **relatively higher average D/E ratios (1.35 and 1.44 respectively)** compared to Hindustan Unilever Limited (0.24) and ITC Limited (0.04). Although higher leverage is associated with higher average EPS, these firms also demonstrate **greater variability in earnings(as seen in the case of Nestle),** indicating increased financial risk. This pattern is consistent with the **Trade-off Theory**, which suggests that while debt financing provides tax benefits and can enhance shareholder earnings, excessive leverage raises the probability of financial distress costs, thereby affecting earnings stability. Consequently, the findings support the existence of an optimal capital structure where the benefits of debt are balanced against the potential risks arising from financial distress.

Answers to the Research Questions

RQ1: What is the trend in the Debt–Equity ratio of selected FMCG companies over the five-year period?

The Debt–Equity ratio trends reveal that Hindustan Unilever and ITC maintained low and stable leverage, while Nestlé and Britannia experienced higher and more fluctuating leverage levels. Overall, the FMCG sector exhibits a preference for conservative to moderate capital structures.

RQ2: What is the trend in Earnings Per Share (EPS) of selected FMCG companies during the same period?

EPS trends show consistent growth for Hindustan Unilever, ITC, and Britannia, indicating stable profitability. In contrast, Nestlé's EPS displays significant fluctuations, reflecting sensitivity to leverage and operational factors.

RQ3: Is there an observable relationship between capital structure and shareholder earnings?

Yes, an observable relationship exists between capital structure and shareholder earnings. Firms with lower to moderate leverage generally recorded stable EPS growth(Hindustan Unilever, ITC,Britannia) while firms with higher leverage experienced higher average EPS accompanied by greater volatility(Nestle).

RQ4: How does the impact of changes in capital structure on EPS differ across selected FMCG companies?

The impact of capital structure on EPS varies across firms. Conservative firms such as ITC benefit from earnings stability, while moderately leveraged firms like Britannia achieve stronger earnings performance. Highly leveraged firms such as Nestlé generate higher earnings potential but face increased earnings volatility, highlighting firm-specific risk profiles.

8. Limitations of the Study

Despite providing useful insights into the relationship between capital structure and shareholder earnings, the present study is subject to certain limitations.

i. The study is confined to a five-year period (2021–2025), which may not adequately capture long-term structural shifts in capital structure decisions or economic cycles affecting firm performance.
ii. The analysis is based on four selected Indian FMCG companies, chosen primarily on the basis of data availability and market presence. As a result, the findings cannot be generalized to the entire FMCG sector or to firms operating in other industries.
iii. The study **deliberately measures shareholder earnings through Earnings Per Share (EPS),** as EPS directly reflects earnings attributable to equity shareholders. Accordingly, other measures of shareholder wealth are **outside the scope of the present study** rather than limitations of the analysis.
iv. The study relies exclusively on secondary data obtained from published annual reports and financial databases. Any limitations inherent in accounting policies, reporting practices, or data accuracy may influence the results.
v. The study interprets financial distress indirectly, using leverage levels and earnings volatility, due to the non-inclusion of detailed distress indicators such as interest coverage ratios or default risk measures for the sake of simplicity.

vi. The analysis employs descriptive, comparative, and trend-based techniques without the application of advanced statistical tools.

9. Scope for Future Research

Future research may extend the present study by examining a longer time period and a larger sample of FMCG companies to improve the robustness and generalizability of the findings. While this study measures shareholder earnings through Earnings Per Share (EPS), further studies may incorporate additional performance and market-based indicators to provide a more comprehensive assessment of shareholder outcomes. The application of advanced statistical techniques and the inclusion of financial distress and macroeconomic variables would also enhance the understanding of the capital structure–shareholder earnings relationship.

10. Conclusion

The present study analysed the impact of capital structure on shareholder earnings measured through Earnings Per Share (EPS) in selected Indian FMCG companies over a five-year period. The findings indicate that variations in the debt–equity mix influence shareholder earnings, though the magnitude of this impact differs across firms. Companies maintaining lower or moderate levels of leverage demonstrated relatively stable and consistent EPS performance, while firms with higher leverage recorded higher average earnings with noticeable fluctuations.

Overall, the study highlights that capital structure decisions are an important determinant of shareholder earnings in the FMCG sector. A balanced approach to the use of debt and equity appears to support sustainable earnings performance, emphasizing the need for careful financing decisions by corporate managers to enhance shareholder earnings over time.

References

Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *American Economic Review, 48*(3), 261–297.

Kraus, A., & Litzenberger, R. H. (1973). A state-preference model of optimal financial leverage. *Journal of Finance, 28*(4), 911–922

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics, 13*(2), 187–221.

Rajan, R. G., & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. *Journal of Finance, 50*(5), 1421–1460.

Berger, A. N., & di Patti, E. B. (2006). Capital structure and firm performance: A new approach to testing agency theory and an application to the banking industry. *Journal of Banking & Finance, 30*(4), 1065–1102.

Pandey, I. M. (2015). *Financial management* (11th ed.). Vikas Publishing House.

Moneycontrol. (2021–2025). *EPS of selected Indian FMCG companies.*

Hindustan Unilever Limited. (2021–2025). *Annual reports.*

ITC Limited. (2021–2025). *Annual reports.*

Nestlé India Limited. (2021–2025). *Annual reports.*

Britannia Industries Limited. (2021–2025). *Annual reports.*

Foreign Direct Investment and Economic Growth in India: A Trend and Comparative Analysis

Riya Dutta*
Priyanka Das**

Abstract

This study examines the trends and patterns of Foreign Direct Investment (FDI) inflows in India in comparison with Asia and the world over a twenty-year period from 2005-06 to 2024-25. Using secondary data obtained from the World Investment Report published by United Nations Conference on Trade and Development and reports of the Reserve Bank of India, the analysis explores global, regional, and national FDI movements; India's share in global FDI, GDP growth trends, and the relationship between FDI inflows and economic growth.

The findings reveal that global FDI inflows have been highly volatile, particularly during the 2008-09 global financial crisis and the COVID-19 pandemic. In contrast, Asia demonstrated relatively greater stability and an increasing share in global FDI over time. India's FDI inflows exhibit a strong long-term upward trend, rising significantly from US$ 20.33 billion in 2005-06 to US$ 81.04 billion in 2024-25, despite short-term fluctuations. India's share in global FDI also increased substantially (exceeding 5% in recent years).

The study further identifies a positive but non-linear relationship between FDI inflows and GDP growth. Higher economic growth generally attracts greater FDI, but investment flows are also influenced by global economic conditions, policy reforms, regulatory frameworks, and investor confidence. The post-pandemic recovery highlights India's economic resilience and strengthening position as a key investment destination within Asia and the global economy. The study concludes with policy recommendations aimed at sustaining stable macroeconomic conditions, improving infrastructure, enhancing regulatory transparency, and promoting long-term, technology-driven FDI for inclusive and sustainable economic growth.

Keywords: FDI, GDP, Investment Volatility, Macroeconomic Stability, Investment Resilience, Sustainable Economic Development.

1. Introduction

Foreign Direct Investment (FDI) stands as a key engine of economic expansion and globalization. It involves cross-border capital flows from entities or individuals in one nation into business operations in another, usually establishing a durable stake with substantial management influence. In recent decades, both emerging and advanced economies have

**Assistant Professor (Guest Faculty), Department of Accounting and Finance, DHSK Commerce College, email: riya15021997@gmail.com*
***Assistant Professor (Guest Faculty), Department of Economics, DHSK Commerce College, email: priyanka2299das@gmail.com*

turned to FDI to bolster local investment, boost output, and connect with worldwide markets. FDI fuels growth via several pathways: augmenting capital stocks, disseminating cutting-edge technologies, creating jobs, and building skills. Multinational enterprises typically introduce superior manufacturing methods, leadership know-how. And global market links, elevating host nation's productivity and edge in competition. World Bank and IMF analyses show that pro-investment strategies correlate with robust industrial growth and economic upgrades. FDI also hastens structural shifts in less-developed economies by spurring infrastructure and export prowess. UNCTAD highlights the need for sound fiscal policies, clear rules, and robust governance to harness FDI's full potential. Yet, risks - including corporate market sway, dividend outflows, and uneven regional gains- necessitating rigorous, data- driven assessments of its net effects on prosperity.

In recent years, the relationship between foreign direct investment and economic growth has attracted significant attention from policymakers and researchers. Theoretical frameworks such as endogenous growth theory suggest that external investment can enhance long-term growth by improving innovation, knowledge spillovers, and technological advancement within the host country. Empirical studies across emerging and developed economies indicate that the effectiveness of FDI largely depends on factors such as the level of human capital, financial market development, and trade openness. Reports from the Organization for Economic Co-operation and Development highlight that countries with strong institutional quality and stable economic policies are better positioned to absorb the benefits of foreign investment.

In the context of India, FDI has become a key component of economic reforms since the liberalization period of 1991. Policy initiatives undertaken by the Government of India have aimed at improving the ease of doing business, simplifying regulatory frameworks, and attracting global investors into sectors such as manufacturing, telecommunications, and services. Data published by the Reserve Bank of India show a steady rise in FDI inflows over past two decades, reflecting increased investor confidence and expanding market opportunities. Furthermore, strategic programs such as the Make in India initiative have been introduced to strengthen domestic manufacturing capabilities and encourage multinational corporations to establish production bases in India. Such initiatives not only enhance industrial output but also generate employment opportunities and promote export competitiveness. Despite these developments, concerns remain regarding regional disparities in FDI distribution, sectoral concentration, and the long-term sustainability of foreign capital dependence.

Therefore, a comprehensive analysis of the impact of FDI on economic growth is essential to understand both its opportunities and challenges. By examining theoretical perspectives and empirical trends, this study seeks to evaluate how FDI contributes to sustainable economic development and what policy measures can further optimize its role in accelerating growth.

2. Review of Literature

A review of the literature is likely to a give a bird's- eye of the research done on the subject matter. This part provides an insight into the previous research work done on foreign direct investment. Following are a list of some them:

Ahmad and Hamdani (2003) investigated the role of foreign direct investment in economic growth using panel data from 22 developing countries covering the period 1965 to 1992. Their study assessed the impact of labor, domestic private investment, FDI, and government expenditure on economic performance. The findings indicated that domestic private investment contributed more consistently and reliably to economic growth than FDI. Government expenditure exhibited only a marginal effect, while low labor productivity highlighted the limitations of growth strategies that fail to prioritize human capital development for sustainable long-term gains.

Burange et al. (2017) analysed India's manufacturing sector during the period 1992 to 2013 to examine potential causal linkages between FDI inflows and intra-industry trade (IIT). Employing Granger causality tests, the study found that FDI inflows enhanced intra-industry trade across most manufacturing industries. At the aggregate level, results indicated a unidirectional causality running from IIT to FDI. However, at the industry level, the evidence predominantly supported causality from FDI to IIT. These findings empirically validated the hypothesis that FDI promotes intra-industry trade in the manufacturing sector. The authors suggested that policymakers should encourage FDI in manufacturing to strengthen trade competitiveness and industrial integration.

Hussein (2009) examined the relationship between FDI and economic growth in the six member states of the Gulf Cooperation Council (GCC), formally known as the Cooperation Council for the Arab States of the Gulf. Using statistical techniques grounded in contemporary economic growth theories, the study explored whether these nations effectively recognized and utilized FDI as a growth-enhancing mechanism. The analysis revealed a negative correlation between FDI inflows and gross domestic product (GDP) growth within the GCC countries. These findings were interpreted in light of endogenous growth theory, suggesting that the effectiveness of FDI may depend heavily on structural and institutional conditions specific to the host economy.

Ratan and Prasad (2016) examined the impact of FDI on employment generation and GDP growth in India. The study analysed sectoral FDI inflows and their potential to stimulate productivity and job creation. Using the ordinary least squares (OLS) regression method, the authors tested for a linear relationship between FDI, employment, and GDP growth. Although the computed correlation coefficient of 0.65 suggested a moderate positive association, it was considered insufficiently strong to establish robust causality. The findings indicated a positive relationship between GDP growth and employment generation; however, employment elasticity was found to be declining due to the increasing adoption of capital-intensive technologies. The study concluded that while FDI reflects global confidence in India's growth trajectory, more refined empirical methodologies are necessary to clearly establish its direct contribution to employment creation.

Saibu et al. (2011) analysed the interrelationship among financial development, FDI, and economic growth in Nigeria. Adopting a standard endogenous growth framework, the authors positioned FDI and financial development as key long-term drivers of economic expansion. Using time-series data from 1970 to 2009, the study employed the autoregressive distributed lag (ARDL) estimation technique after conducting unit root and co integration tests. The results indicated that both FDI and financial development exerted a negative influence on economic growth. Notably, the impact of FDI varied across different financial market indicators and proved statistically significant only when associated with stock market development. The study concluded that the size of Nigeria's financial sector alone does not guarantee economic growth, emphasizing the need for structural efficiency and institutional strengthening.

3. Objectives of the Study

The present research is conducted based on the following objectives:

i. To study the trends of FDI inflows in India.
ii. To study the share of FDI of India corresponding to FDI of Asia and World as a whole.
iii. To study the relationship between FDI and GDP.

4. Methodology

This study is based entirely on secondary data to examine the impact of Foreign Direct Investment on economic growth. Secondary data are appropriate for macroeconomic research because they provide reliable, large-scale, and time series information collected by recognized national and international institutions. This study adopts a descriptive and analytical research design. The descriptive approach is used to examine trends in FDI inflows and economic growth indicators, while the analytical approach is applied to evaluate the relationship between FDI and economic growth.

The research relies on secondary data collected from authentic and published sources, including:

- Reports and databases of the World Bank
- Statistical publications of the Reserve Bank of India
- World Investment Reports published by the United Nations Conference on Trade and Development.
- Government economic surveys, research journals, and scholarly articles related to FDI and economic growth.

The study covers a selected time period () to capture long term trends in FDI inflows and economic growth. The tools and techniques used for the analysis are based on the statistical and graphical methods for secondary data. Trend analysis is applied to examine the pattern and growth of FDI inflows and economic growth over the selected period. The collected data are presented through tables and graphical presentations for clearer interpretation and comparison.

5. Analysis and Interpretation of Data

5.1 Analysis of trends of FDI inflows in India with respect to Asia and World

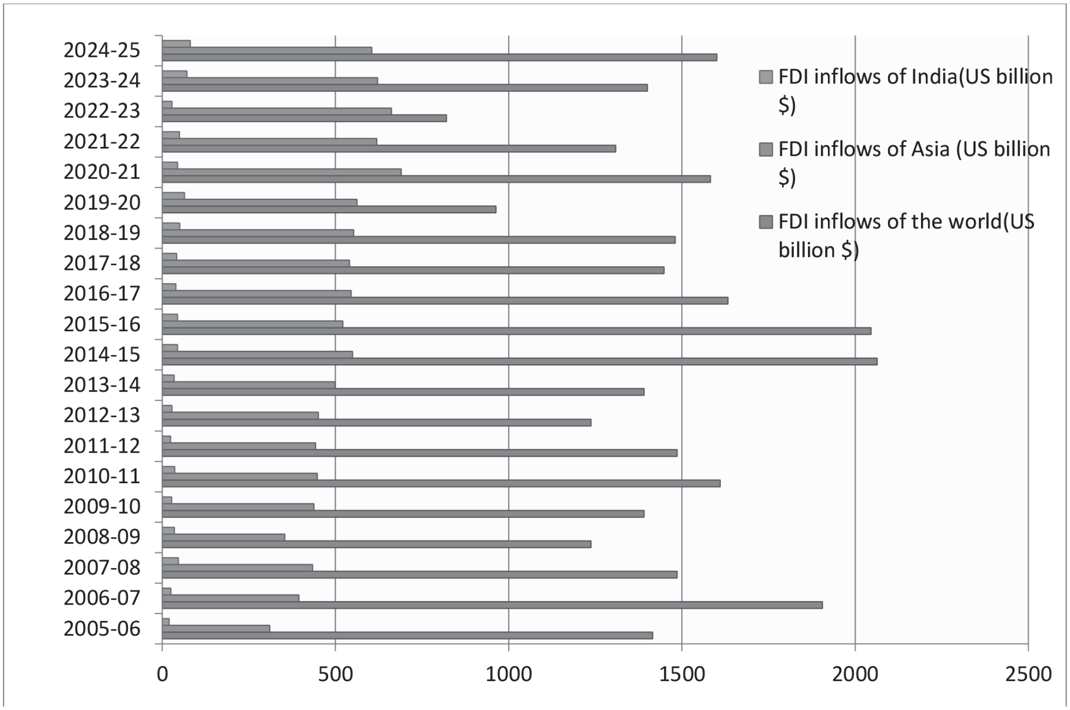
The present data intended to examine the trends in FDI inflows of India corresponding to Asia and World, based on the period from 2005-06 to 2024-25, helps to identify the share of FDI of India to the GDP of world and GDP of Asia:

Table 1: FDI inflows of World, Asia and India

Year	FDI inflows of the World (US billion $)	FDI inflows of Asia (US billion $)	FDI inflows of India (US billion $)
2005-06	1415.252	310.758	20.328
2006-07	1905.473	394.758	25.35
2007-08	1486.234	433.725	47.102
2008-09	1237.834	353.887	35.634
2009-10	1390.942	437.800	27.417
2010-11	1610.398	447.947	36.190
2011-12	1486.235	442.966	24.196
2012-13	1237.834	450.606	28.199
2013-14	1390.942	499.347	34.582
2014-15	2063.638	549.227	44.064
2015-16	2045.425	521.599	44.481
2016-17	1632.639	545.543	39.904
2017-18	1448.276	540.558	42.156
2018-19	1480.626	552.384	50.558
2019-20	963.139	562.644	64.072
2020-21	1582.310	690.070	44.735
2021-22	1309.283	619.202	49.940
2022-23	820.401	662.001	28.080
2023-24	1400.062	621.641	71.281
2024-25	1601.008	605.221	81.041

Source: World Investment Report (UNC TAD), Report of RBI

Diagram 1: FDI inflows of World,Asia and India



The trend analysis of FDI inflows from 2005-06 to 2024-25 reveals significant structural shifts in global investment patterns. Global FDI inflows showed volatility, with sharp declines during periods of economic crisis, particularly during the Global Financial Crisis (2008-09) and the COVID-19 pandemic (2019-20).The record shows that the overall trend of Global FDI is totally fluctuated in nature.

In contrast, Asia demonstrates a relatively stable and steadily rising trend, increasing its share in global FDI over time and showing resilience even during global downturns. FDI inflows into Asia increased from US$ 310.76 billion in 2005-06 to a peak of US$ 690.07 billion in 2020-21.It's share in global FDI increasing over time, indicating a regional reorientation of international capital flows toward emerging markets. Although Post 2020-21 the trend shows declined FDI inflow in Asia till 2024-25.

Within Asia, India shows a strong long-term growth trend, with FDI inflows rising from US$ 20.33 billion in 2005-06 to US$ 81.04 billion in 2024-25. FDI in India is also fluctuating in nature. It was highest in the year of 2023-24. Although affected by global shocks, India's recovery has been strong in recent years, indicating improved investor confidence, structural reforms, and growing integration into the Asian and global investment landscape

5.2 Analysis of share of FDI in India to the share of FDI of World

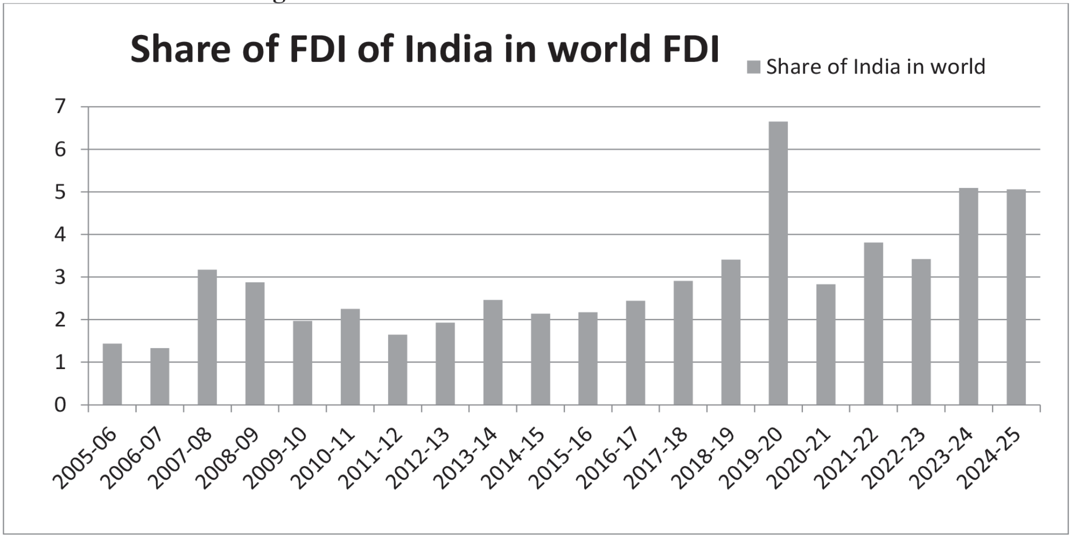
The following data intended to describe the share of FDI in India to the Overall World FDI, based on the period from 2005-06 to 2024-25.

Table 2: Share of FDI of India to the world FDI

Year	Share of FDI of India to the world FDI (%)
2005-06	1.44
2006-07	1.33
2007-08	3.17
2008-09	2.88
2009-10	1.97
2010-11	2.25
2011-12	1.65
2012-13	1.93
2013-14	2.46
2014-15	2.14
2015-16	2.17
2016-17	2.44
2017-18	2.91
2018-19	3.41
2019-20	6.65
2020-21	2.83
2021-22	3.81
2022-23	3.42
2023-24	5.09
2024-25	5.06

Source:- World Investment Report (UNC TAD), Report of RBI

Diagram 2: Share of FDI of India to the world FDI



The data on India's share in world FDI from 2005-06 to 2024-25 show a fluctuating yet overall rising trend, indicating India's growing integration with the global investment system. During 2005-06 and 2006-07 India's share was relatively modest at around 1.44% and 1.33% respectively, followed by a sharp increase to 3.17% in 2007-08, reflecting strong global capital flows and India's improving investment climate during that period. However, the global financial crisis of 2008 led to instability, with the share declining to 1.97% by 2009-10. Between 2010-11 and 2014-15, the share remained moderate, fluctuating between about 1.65% and 2.46%. From 2015-16 onwards, there was a gradual upward movement, reaching 3.41% in 2018-19, indicating regained foreign investor's confidence investing money in India.

However a remarkable increased had observed in 2019-20 when India's share to Global FDI is 6.65%, but the share dropped to 2.83% in 2020-21 amid pandemic-related disruptions, it recovered steadily in subsequent years, reaching 5.09% in 2023-24 and remaining high at 5.06% in 2024-25. Overall, the trend reflects that FDI in India is influenced by global economic condition at different point of time, but a clear long-term strengthening of India's position for global FDI is observed.

5.3 Analysis of GDP trends of India

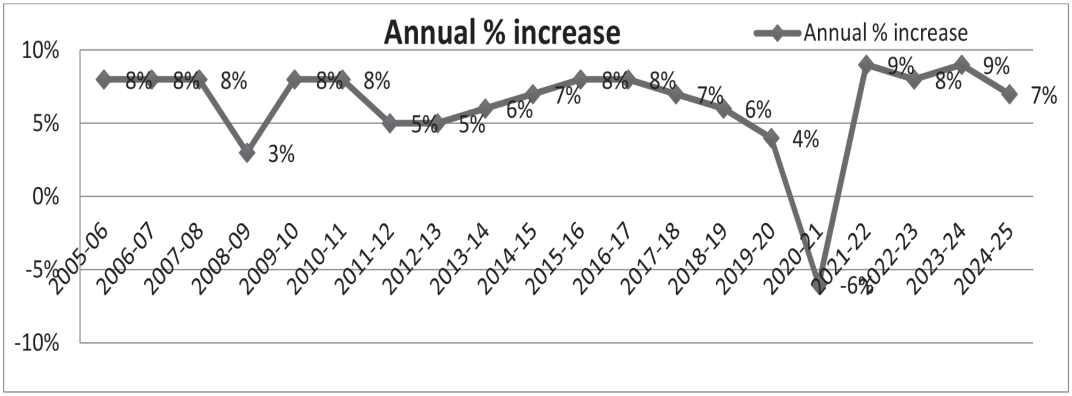
Following data presents the GDP growth rate of past 20 years from 2005-06 to 2024-25. It helps the researcher to analyse the overall pattern of GDP during past years.

Table 3: Annual GDP of the country (in percentage)

Year	Annual % GDP (Round off)
2005-06	8
2006-07	8
2007-08	8
2008-09	3
2009-10	8
2010-11	8
2011-12	5
2012-13	5
2013-14	6
2014-15	7
2015-16	8
2016-17	8
2017-18	7
2018-19	6
2019-20	4
2020-21	-6
2021-22	9
2022-23	8
2023-24	9
2024-25	7

Source:-RBI database

Diagram 3: Annual GDP of the country (in percentage)



The data on annual percentage increase from 2005-06 to 2024-25 reveal a generally stable growth pattern with periods of fluctuation influenced by economic conditions. During the initial years (2005-06 to 2007-08), the growth rate remained consistently high at 8%, indicating strong economic growth. However, in 2008-09, the growth rate declined sharply to 3%, likely reflecting the impact of the global financial crisis. The economy recovered quickly in 2009-10 and 2010-11 with growth returning to 8%, demonstrating resilience. Between 2011-12 and 2014-15, growth moderated to a range of 5-7%. From 2015-16 to 2017-18, growth again strengthened to around 7-8%. From 2018-19 onwards a significant reduction in GDP rate has observed and even in 2020-21 it showed a negative growth rate of -6%, which clearly reflecting the adverse impact of the COVID-19 pandemic. However, the GDP growth rate again increased from 2021-22 onwards indicating strong recovery capacity and renewed economic stability of the country.

5.4 Analysis of trends of FDI in India corresponding to GDP growth rate of India

Following data represent the previous trend of both FDI of India and the country's GDP from 2005-06 to 2024-25. This analysis helps the researcher to relate the growth pattern of GDP with the FDI of India.

Table 4: GDP and FDI of India

Year	FDI in India (US billion $)	GDP in India (%)
2005-06	20.328	8%
2006-07	25.35	8%
2007-08	47.102	8%
2008-09	35.634	3%
2009-10	27.417	8%
2010-11	36.190	8%
2011-12	24.196	5%
2012-13	28.199	5%
2013-14	34.582	6%
2014-15	44.064	7%
2015-16	44.481	8%
2016-17	39.904	8%
2017-18	42.156	7%
2018-19	50.558	6%
2019-20	64.072	4%
2020-21	44.735	-6%
2021-22	49.940	9%
2022-23	28.080	8%
2023-24	71.281	9%
2024-25	81.041	7%

Source: RBI Report

Diagram 4: FDI of India

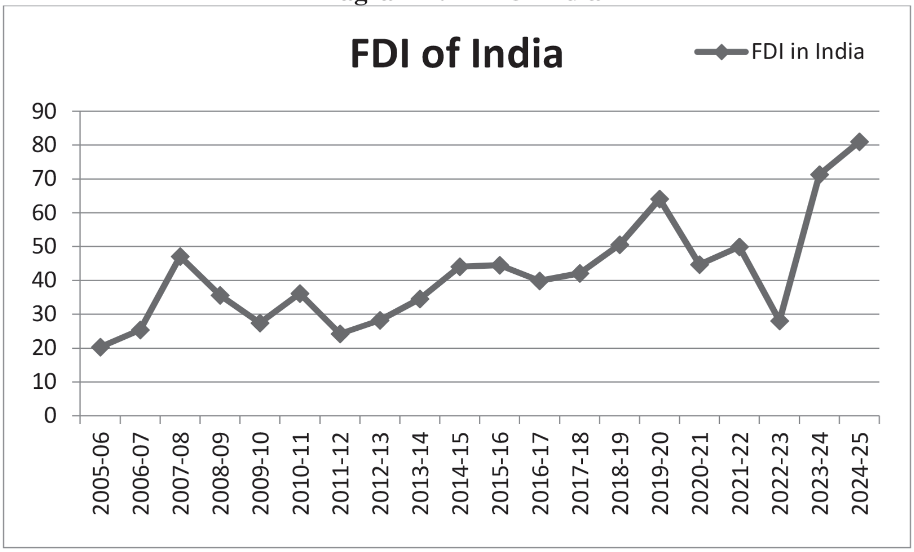
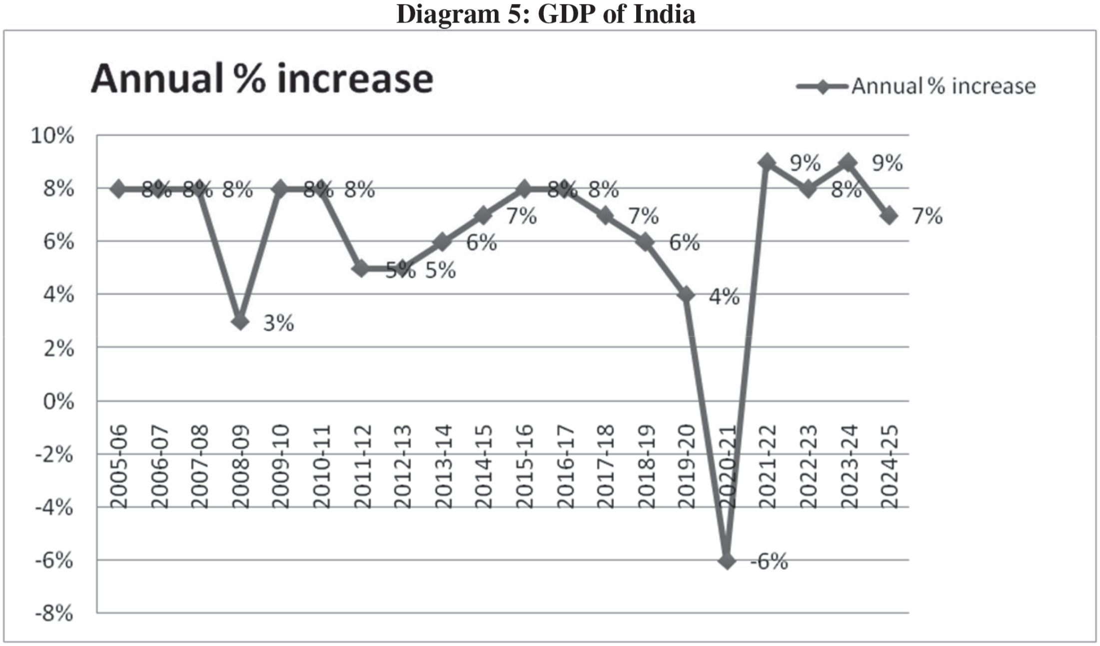


Diagram 5: GDP of India



The data on FDI inflows and GDP growth in India from 2005-06 to 2024-25 indicate a dynamic but not perfectly linear relationship between foreign investment and economic growth. In the high-growth phase between 2005-06 and 2007-08, GDP growth remained strong at 8%, and FDI inflows rose sharply from US$20.33 billion to US$47.10 billion. During

2008-09, GDP growth slowed to 3% due to the financial crisis, and FDI inflows also declined to US$35.63 billion.

In the recovery phase of 2009-10 and 2010-11, GDP growth rebounded to 8%, and FDI inflows also improved, reaching US$36.19 billion in 2010-11. Yet, between 2011-12 and 2013-14, despite moderate GDP growth of 5-6%, FDI inflows fluctuated, indicating that external factors and domestic policy conditions also influenced investment flows. A notable upward trend occurred from 2014-15 to 2018-19, when GDP growth ranged between 6-8% and FDI steadily increased, reaching US$50.56 billion in 2018-19, suggesting improved business climate and reform measures.

In 2019-20, FDI rose significantly to US$64.07 billion despite GDP growth slowing to 4%, highlighting that structural reforms and major investment deals can attract capital even during slower growth periods. The COVID-19 pandemic severely impacted the economy in 2020-21, with GDP with negative growth rate and FDI falling to US$44.74 billion. However, a strong recovery followed when GDP growth reached 9% in 2021-22 and 2023-24, accompanied by substantial increases in FDI, peaking at US$81.04 billion in 2024-25.

6. Findings

i. The analysis reveals that global FDI inflows are highly fluctuating in nature. Significant declines were observed during major global economic crisis such as the 2008-09 Global Financial Crisis and the COVID-19 pandemic period. This confirms that international capital flows are highly sensitive to global economic uncertainty.

ii. The data reflects that Asia has shown a relatively stable and gradually rising trend in attracting FDI compared to the world as a whole. The region's share in global FDI has increased over time, indicating a shift of investment flows toward emerging and developing economies. Although there was a decline after 2020-21.

iii. It also shows that even during global downturns, Asia showed relatively stronger resilience compared to the world FDI

iv. India's FDI inflows show a strong long-term upward trend, rising from US$ 20.33 billion in 2005-06 to US$ 81.04 billion in 2024-25.Although India's FDI fluctuates in the short run; but its trend is growth-oriented in the long run, reflecting sustained investor interest.

v. India's share in world FDI has significantly increased, from around 1.3-1.4% in the mid-2000s to above 5% in recent years. The highest share of India in global FDI was observed in 2019-20 (6.65%), indicating a strong improvement in India's global investment position.

vi. India's GDP growth pattern shows stability with periodic shocks, maintaining high growth in most years except during global crises. A sharp contraction in GDP (-6%) in 2020-21 was observed with decline in FDI. It reflects the impact of external factors on both variables.

vii. The strong recovery in both GDP growth and FDI after 2020-21 reflects India's economic resilience and increasing global investor confidence.

viii. In certain years (From 2019-20), India attracted higher FDI despite of having moderate GDP growth, indicates that FDI inflows in India are determined by a combination of both internal economic performance and external global market condition.
ix. The study shows that there exists a positive but non-linear relationship between FDI inflows and GDP growth. Higher GDP growth generally attracts higher FDI, but other factors such as Government policy, legal environment, regulatory framework, political stability and global conditions are also responsible to influence inflows.
x. The overall study shows that India has strengthened its position as an important FDI destination within Asia and even in the global investment market.

7. Limitations of the Study

i. Not all FDI data dimensions are available in sources like the RBI bulletin, Economic survey, UNCTAD survey report and publications.
ii. It is noted that data relating to the topic varies sources to sources. Results may thus vary depending on the data sources.
iii. The current study only looked at how FDI inflows affected macroeconomic indicators. However only one macroeconomic element that is GDP is considered.
iv. The impacts of socio cultural and political effects were not considered in this study.

8. Recommendations

i. Since global FDI is highly sensitive to economic uncertainty, maintaining stable inflation, fiscal discipline, and sustainable growth is essential to attract consistent foreign investment.
ii. Since FDI is not only dependent upon GDP of the country, thus a stable and predictable economic environment, along with transparent regulatory procedures, will also should be taken into consideration to reduce investment uncertainty and encourage long-term FDI commitments.
iii. The government should identify high-potential sectors of business and design targeted FDI promotion policies to maximize inflows.
iv. India should diversify its foreign investment partners in such a way to reduce dependence on a few countries and minimize risk prospects of investment to regional or global shocks.
v. Improved physical infrastructure (transport, logistics, power supply) and digital infrastructure will lower operational costs and attract more efficiency-seeking FDI.
vi. Policies should ensure that FDI contributes to technology transfer, employment generation, skill development, and integration with domestic industries to maximize its impact on GDP growth.
vii. Emphasis should be placed on attracting stable, long-term investments rather than short-term speculative capital to ensure sustained economic development.

9. Conclusion

Foreign Direct Investment (FDI) plays a significant role in promoting economic growth by supplementing domestic capital, facilitating technology transfer, generating employment opportunities, and improving productivity in the host economy. The analysis based on the secondary data indicates that increased FDI inflows are generally associated with higher levels of economic activity and structural transformation, particularly in developing countries where domestic resources are limited. Through the introduction of advanced managerial practices and integration into global markets, FDI contributes to enhancing industrial efficiency and competitiveness. However, the impact of FDI on economic growth is not uniform and largely depends on the host country's institutional strength, human capital development, infrastructure, and policy environment. While FDI offers several growth advantages, issues such as regional concentration of investment, profit repatriation, and possible crowding-out effects on domestic firms must also be considered to ensure balanced and sustainable development.

BIBLIOGRAPHY

Alfaro, L., Chanda, A., Kalemli-Ozcan, S., & Sayek, S. (2004). FDI and economic growth: The role of local financial markets. *Journal of International EconomicS.* https://doi.org/10.1016/S0022-1996(03)00081-3

Basu, P., Chakraborty, C., & Reagle, D. (2003). Liberalization, FDI, and growth in developing countries: A panel cointegration approach. *Economic Inquiry.* https://doi.org/10.1093/ei/cbg024

Burange, L. G., Ranadive, R. R., & Karnik, N. N. (2017). Foreign direct investment and intra-industry trade in the Indian manufacturing sector. *The Indian Economic Journal* https://doi.org/10.1177/0019466220170108

Ratan, R., & Prasad, A. (2016). Impact of foreign direct investment on employment generation and GDP growth in India. *International Journal of Scientific Research and Modern Education,*

Reserve Bank of India. (2005–2025). *Foreign liabilities and assets (FLA) census data: March 2005–25* [Annual report]. https://www.rbi.org.in

Saibu, O. M., Nwosa, P. I., & Agbeluyi, A. M. (2011). Financial development, foreign direct investment and economic growth in Nigeria. *Journal of Emerging Trends in Economics and Management ScienceS*

Sirag, A., Ali, H. S., Lacheheb, Z., Ahmed, O. S., & Omer, E. E. (2025). Financial development, FDI, and economic growth in low- and middle-income countries: A dynamic panel threshold analysis. *Journal of Human, Earth, and Future* https://doi.org/10.28991/HEF-2025-06-01-013

United Nations Conference on Trade and Development. (2025). *World Investment Report 2025: International investment in the digital economy* (UNCTAD/WIR/2025). United Nations. https://unctad.org/publication/world-investment-report-2025

Wan, M. (2010). A literature review on the relationship between foreign direct investment and economic growth. *International Business Research* https://doi.org/10.5539/ibr.v3n1p52

নিৰ্মলপ্ৰভা বৰদলৈৰ গীতত জীৱনবোধৰ শিক্ষা

ড° পূৰবী নাথ

সংক্ষিপ্তসাৰ

অসমীয়া সাহিত্যত ডক্টৰ নিৰ্মলপ্ৰভা বৰদলৈ এক উজ্জ্বল নক্ষত্ৰ। মূলতঃ অসমীয়া লোকজীৱনক ভেটি হিচাপে লৈ নিৰ্মলপ্ৰভাই সৃষ্টি কৰা গৱেষণাধৰ্মী গীতসমূহে মানুহৰ ব্যক্তিগত অনুভূতি, সমাজসচেতনতা, নাৰীৰ মনোজগতক বিশেষভাৱে প্ৰতিফলিত কৰিছে। ডক্টৰ নিৰ্মলপ্ৰভা বৰদলৈৰ গীতসমূহ অসমীয়া সমাজ জীৱনৰ সকলো স্তৰৰ মানুহৰ মাজত সমাদৃত। তেখেতৰ গীতত জীৱনৰ সুখ-দুখ, হাঁহি-কান্দোন, প্ৰেম-বিৰহ, নিঃসংগতা, আশা-আকাংক্ষা আৰু মানৱপ্ৰেমৰ অনুভূতি সুন্দৰভাৱে প্ৰকাশ পাইছে। জীৱনৰ ক্ষণস্থায়িতা আৰু বাস্তৱৰ কঠোৰ সত্যক নিয়ৰ, জোনাক, ফুল, বতাহ, আকাশ আদি প্ৰাকৃতিক উপাদানৰ মাজেদি শিল্পীগৰাকীয়ে গভীৰ অৰ্থবোধক ৰূপত উপস্থাপন কৰিছে।

গীতসমূহত প্ৰকৃতিৰ অনুপম সৃষ্টি আৰু জীৱনৰ দৰ্শন একেলগে সংযুক্ত হৈ আছে। নিৰ্মলপ্ৰভাই গীতৰ মাধ্যমেৰে জীৱন আৰু জগতক উপলব্ধি কৰাৰ মানসিকতা গঢ়ি তুলিবলৈ চেষ্টা কৰিছে। তেখেতৰ গীত কেৱল সৌন্দৰ্যচেতনা নিৰ্ভৰ নহয়; ইয়াত কঠিন বাস্তৱ, অন্তৰৰ বেথা, বিষাদ আৰু মানুহৰ মানসিক সংঘাতৰ প্ৰতিফলনো সুস্পষ্ট ৰূপত প্ৰকাশ হৈ উঠিছে। অসমীয়া ওমলাগীত সমূহৰ জৰিয়তে শিশুসকলৰ শৃংখলাবদ্ধতা, নিয়মানুবৰ্তিতা, সময় সচেতনতা আৰু নৈতিক শিক্ষাৰ দিশ সুন্দৰভাৱে প্ৰতিফলিত হৈছে। খেলা-ধূলাৰ মাধ্যমেৰে সৰল উপস্থাপনৰ মাজেদি শিশুমনত প্ৰকৃতি আৰু জীৱনৰ প্ৰতি আকৰ্ষণ সৃষ্টিৰ প্ৰয়াস দেখা যায়।

সামগ্ৰিকভাৱে নিৰ্মলপ্ৰভা বৰদলৈয়ে গীতসমূহৰ জড়িয়তে শিশুক কেনেকৈ জীৱনৰ গভীৰ উপলব্ধি, প্ৰকৃতি প্ৰেম, মানবীয় মূল্যবোধ, জীৱনশৈলী আৰু কঠিন সময়ক সহজভাৱে গ্ৰহণ কৰাৰ মানসিকতা গঢ়ি তুলিবলৈ চেষ্টা কৰিছে সেই বিষয়ে এই গৱেষণাপত্ৰত আলোচনা কৰা হৈছে।

বীজ শব্দ ঃ নিৰ্মলপ্ৰভা বৰদলৈ, গীত, নিয়ৰ, জীৱনবোধ, শিক্ষা

১. প্ৰস্তাৱনা

ড° নিৰ্মলপ্ৰভা বৰদলৈৰ গীতসমূহে অসমীয়া সমাজ জীৱনৰ সকলো স্তৰৰ ব্যক্তিকে বিস্তৃতভাৱে স্পৰ্শ কৰি আহিছে। অসমীয়া সাহিত্য আৰু সংস্কৃতিক সমৃদ্ধ কৰা অসাধাৰণ প্ৰতিভাময়ী নিৰ্মলপ্ৰভাই তেখেতৰ গীতসমূহৰ জৰিয়তে জীৱনৰ বিচিত্ৰ ৰূপ উপস্থাপন কৰিছে। জীৱনৰ ক্ষণভঙ্গুৰতা, নিসংগতাৰ যন্ত্ৰণা আৰু শূণ্যতাক প্ৰকট কৰিও সমান্তৰালভাৱে গীত সমূহত জীৱন হৈ উঠিছে মহীয়ান। জগতৰ বিশালতাক স্বীকাৰ কৰি প্ৰকৃতিৰ অনন্য বৰ্ণনাৰে নিৰ্মলপ্ৰভাই ক্ষণস্থায়ী জীৱনৰ প্ৰতিটো মুহুৰ্তক উপভোগ কৰিবলৈ গীতসমূহৰ মাজেৰে আহ্বান কৰিছে। উল্লেখযোগ্য যে ওমলা গীতৰ পৰা গভীৰ দৰ্শনযুক্ত কথাছবিৰ গীতলৈকে সকলোতে নান্দনিকভাবে প্ৰকৃতিৰ অনবদ্য সৃষ্টিসমূহ উঠি আহিছে। বিশেষভাৱে

*সহযোগী অধ্যাপিকা, শিক্ষাতত্ত্ব বিভাগ, মৰাণ মহাবিদ্যালয়, মৰাণ

নিয়ৰৰ ব্যৱহাৰ অতি মনোমোহা আৰু অৰ্থব্যঞ্জক। প্ৰকৃতিৰ অনুপম সৃষ্টি এটোপাল নিয়ৰকণাৰে জীৱনৰ তুচ্ছতাক বুজাই তুলিব পৰা কলা নিৰ্মলপ্ৰভাৰ গীতত বিদ্যমান। এই অধ্যয়নৰ যোগেদি ড° নিৰ্মলপ্ৰভা বৰদলৈৰ গীতসমূহত অংকিত হৈ থকা জীৱন সম্পৰ্কীয় স্পষ্ট ধাৰণা আৰু বোধক বিচাৰি চোৱাৰ চেষ্টা কৰা হৈছে।

২. অধ্যয়নৰ গুৰুত্ব আৰু উদ্দেশ্য

গীত জীৱনোপলব্ধিৰ এক অনন্য মাধ্যম। সেই গীতসমূহ যদি জীৱনৰ সুখ-দুখ, হাঁহি-কান্দোন, ধুমুহা, বিচ্ছেদ আৰু অপ্ৰাপ্তিৰ যন্ত্ৰণা ইত্যাদি জীৱন যুঁজৰ প্ৰত্যাহিক অভিজ্ঞতা সমূহেৰে পুষ্ট হৈ থাকে তেনে গীতৰ জৰিয়তে জীৱনক বুজি পাই খহি পৰা অৱস্থাৰ পৰাও মনত জোৰ বান্ধি উঠি আহিবলৈ মানুহে মনোবল লাভ কৰিব পাৰে। সেই অৰ্থত নিৰ্মলপ্ৰভাৰ গীতসমূহ সকলো শ্ৰেণীৰ মানুহৰ বাবে হ'ব পাৰে সঞ্জীৱনী সুধা। সাম্প্ৰতিক সময়ত ক্ৰমে জটিল হৈ অহা কৃত্ৰিম জীৱনযাত্ৰাৰ পথত প্ৰকৃতিৰ সান্নিধ্যৰে জীৱন আৰু জগতক উপভোগ কৰিবলৈ নিৰ্মলপ্ৰভাৰ গীতসমূহৰ প্ৰাসঙ্গিকতা অনস্বীকাৰ্য। সেই প্ৰাসঙ্গিকতাক প্ৰতিষ্ঠা কৰিবৰ বাবে তুলি লোৱা অধ্যয়নটিৰ মূল উদ্দেশ্য হৈছে—

১/ নিৰ্মলপ্ৰভা বৰদলৈৰ গীতত নিয়ৰৰ উপস্থিতিৰ সন্ধান

২/ সেই গীতসমূহৰ মাজেৰে দিব খোজা জীৱনবোধৰ শিক্ষাক অনুধাৱন কৰা

৩. পদ্ধতি

বিষয়টো আলোচনাৰ বাবে বিশ্লেষণাত্মক পদ্ধতি ব্যৱহাৰ কৰা হৈছে। নিৰ্মলপ্ৰভা বৰদলৈৰ নিয়ৰভিত্তিক গীতসমূহ অধ্যয়নত সামৰি লোৱা হৈছে।

৪. নিৰ্মলপ্ৰভাৰ নিয়ৰসৰা গীত আৰু জীৱনবোধ

কুৰি শতিকাৰ অসমীয়া সাহিত্যত ড° নিৰ্মলপ্ৰভা বৰদলৈৰ গীতৰ এক সুকীয়া আসন আছে। জয়ন্ত হাজৰিকা, দিপালী বৰঠাকুৰকে প্ৰমুখ্য কৰি অসমত সকলো আগশাৰীৰ গায়ক গায়িকাই নিৰ্মলপ্ৰভাৰ গীতৰ মাজেদি তেওঁলোকৰ শিল্প নৈপুণ্যতা প্ৰকাশ কৰিছে। গীতসমূহৰ ভাষা, সুৰ আৰু আবেদন ইমানেই শক্তিশালী যে বৰ্তমানেও গায়ক গায়িকাৰ লগতে শ্ৰোতাৰ বাবেও সমানেই সমাদৃত হৈ আহিছে।

নিৰ্মলপ্ৰভা বৰদলৈয়ে প্ৰায় ডেৰ হাজাৰ গীত ৰচনা কৰিছে। তেখেতৰ গীতৰ সংকলনসমূহৰ ভিতৰত সুৰুযমুখী, সোণ বৰণীয়া আই, ফুলৰ এই মেলাতে, অসমীয়া ওমলা গীত, নতুন ওমলা গীত, সুৰীয়া মাত অন্যতম। সংকলনসমূহৰ প্ৰায়সমূহ গীতৰে বিষয় জীৱন। ব্যক্তিগত জীৱনৰ কঠিন অভিজ্ঞতা আৰু উপলব্ধিৰে গীতৰ মাজেৰে নিৰ্মলপ্ৰভাই জগতখনক চাবলৈ বিচাৰিছে। অতিশয় যন্ত্ৰণা কাতৰ মুহুৰ্ত এটাকো গীতৰ কথাৰে নিৰ্মলপ্ৰভাই কৰি তুলিছে নান্দনিক। জীৱনৰ প্ৰতি ধনাত্মক দৃষ্টিভংগীৰে শোকাৰ্ত যন্ত্ৰণাক অতিক্ৰম কৰি আগবাঢ়িছে। জীৱনৰ গভীৰ মহত্ত্বক মূৰ্তমান কৰি শিল্পী দেৱেন শৰ্মাই ১৯৬৪ চনতে কণ্ঠদান কৰা এটি গীত আছিল- জীৱন নহয় নিয়ৰৰ কণা/দুবৰিত পৰি ৰোৱা/ইয়াৰ সাগৰ গভীৰ অসীম পৰিধি/আশাৰ জোনাকে ধোৱা- ইয়াত জীৱনৰ মহানতাক স্বীকাৰ কৰিবলৈ গৈ নিয়ৰ টোপাল হৈ পৰিছে তুচ্ছ। গীতটিত জীৱনৰ জটিলতাৰ দৰ্শনৰ মাজতো নিয়ৰৰ উপস্থাপন মন কৰিবলগীয়া।

নিৰ্মলপ্ৰভা বৰদলৈৰ গীতত নিয়ৰ কেৱল ঋতুৰ স্বাভাৱিক নিয়ম হৈ থকা নাছিল, বৰঞ্চ ই হৈ উঠিছিল হৃদয়ৰ কোনো নিভৃত অনুভূতিৰ সঠিক চিত্ৰায়ণ। শিল্পী কুল বৰুৱাই কণ্ঠদান কৰা আন এটি গীত সেউজী এডাল ঘাহঁৰ সপোন গীতটিৰ— দুবৰি বনৰ নিয়ৰ টোপাল/যায় নিমিষতে সৰি/জ্বলমল মল সিওচোন কৰে/পুৱাৰ জেউতি পৰি শাৰীকেইটাত আমি যন্ত্ৰণাদগ্ধ এই পৃথিৱীত জীৱনটো ক্ষণিকৰ বুলি জানিও মিঠা সপোনক লৈ জীৱন উজ্জ্বলোৱাৰ আহ্বান বিচাৰি পাওঁ। ইয়াত নিয়ৰ হৈ উঠিছে এফালে নিমিষতে সৰি যোৱা ক্ষণভংঙ্গুৰতা আৰু আনফালে পুৱাৰ পোহৰে জিলিকাই

তোলা এটি মুকুতা, যাৰ বুকুত ক্ষণিকৰ বাবে হ'লেও উজ্জ্বলি উঠাৰ হেঁপাহ বিদ্যমান। নিয়ৰ যেন মৰুৰ পৃথিৱীত আশাৰ পোহৰ।

সাৰ পাম মই পুৱতি নিশাতে নিয়ৰ যেতিয়া সৰে/বাটৰ শুকান ধুলিক সেমেকা যিটো প্ৰহৰে কৰে গীতটিয়ে অসমীয়া সংগীতৰ ইতিহাসত এক বিশেষ স্থান দখল কৰি আহিছে। অসমীয়া সমাজৰ গাওঁ এখনৰ পুৱাৰ সজীৱতাক তুলি ধৰা এই গানটো শুনিলে শূণ্যতা আৰু পূৰ্ণতাৰ মাজৰ এক অজান মাদকতাত আমি ডুব যাওঁ। কৰ্কশ বাস্তৱতাৰ মাজতো জীৱন ধুনীয়া— এই বাৰ্তা গানটোৱে তুলি ধৰে। ঠিক তেনেদৰে নিৰ্মলপ্ৰভাৰ গীতত উজ্জ্বলি উঠে নিয়ৰসৰা গধূলিও। আপোনজনৰ সান্নিধ্যক সোঁৱৰাই তোলা গধূলি আহিল/তৰা জিলিকিল/এধানি নিয়ৰত গধূলি গোপাল/উজ্জ্বলি উঠিল গীতটোত কণ্ঠদান কৰিছে শিল্পী জয়ন্ত হাজৰিকাই।

নাৰী হৃদয়ৰ কৰুণ, মধুৰ, বেদনা-বিৰহৰ অনেক খণ্ডচিত্ৰ ড° নিৰ্মলপ্ৰভা বৰদলৈৰ গীতত দেখিবলৈ পোৱা যায়। নাৰী জীৱনৰ কণ্টকময় সংগ্ৰামৰ ছবিখন উপলব্ধি কৰিবলৈ নিৰ্মলপ্ৰভাৰ গীতসমূহ শক্তিশালী এক মাধ্যম। শিল্পী গুণদা কৌৰে কণ্ঠদান কৰা অলিখিত কত চিঠি বতাহে পঢ়িলে/চকুলোৰ আল্পনা নিয়ৰে মচিলে/কত হুমুনিয়াহ ডাৱৰে সাঁচিলে/গম পোৱা নে? গীতটিত নিৰ্মলপ্ৰভাৰ ব্যক্তিগত জীৱনৰ বেদনা সকলোকে চুই যাব পৰাকৈ মূৰ্তমান হৈ উঠে। ব্যক্তিগত যন্ত্ৰণা হৈও ই হৈ পৰে নৈব্যক্তিক। শিল্পী অনিমা চৌধুৰীৰ কণ্ঠত অন্য এটি গীত আছিল জোনাক নিবিড়/নিজম ৰাতি/মনত উদাস, উদাস ৰাগি/দুৰৰ বনত জোনৰ মায়া/মনৰ বনত তোমাৰ ছায়া/নিশাৰ শেষৰ নিয়ৰ সৰে/অলস নয়ন সজল কৰে/ জোনৰ চৰাই কেনি উৰে/গভীৰ ৰাতি অকলশৰে। — এই গীতটিত চেঁচা বতাহ এচাটিৰ দৰে প্ৰেমৰ বিৰহে উৰুঙা কৰি থৈ যোৱা প্ৰেমিকাৰ যৌৱনৰ নিসংগতাক তুলি ধৰিছে। তাৰ বিপৰীতে গাঁৱৰ বাটেৰে যোৱা ৰূপৱতী নাৰী এগৰাকীৰ অপৰূপ সৌন্দৰ্য্যক তুলি ধৰাটো নিৰ্মলপ্ৰভাই কাৰ্পণ্য কৰা নাই। সেয়ে সুধাকণ্ঠী দিপালী বৰঠাকুৰে গাইছে — কোন সেই ৰূপৱতী যায়/কপালত সুৰুয জ্বলাই/দুকাষৰ ধাননি কঁপাই/সউ নিয়ৰৰে থুল/কাৰ মেখেলাৰে ফুল/ কেঁচা ৰ'দৰ ৰহন/ যেন শৰীৰৰে বৰণ/পকাধান বুলীয়া ৰিহা জিকমিকায়' — এই গীতটি নিৰ্মলপ্ৰভাই ১৯৬১ চনত ৰচনা কৰিছিল যাৰ মাজেদি নাৰীৰ অপৰূপ সৌন্দৰ্য্য আৰু শক্তি প্ৰকট হৈ উঠিছে। নিয়ৰৰ থোপাবোৰ ৰূপৱতী নাৰী গৰাকীৰ মেখেলাত ফুল হৈ ফুলিছে আৰু নিয়ৰ হৈ উঠিছে এক অনন্য ৰূপক।

ড° নিৰ্মলপ্ৰভা বৰদলৈৰ গীত কেৱল ব্যক্তিগত জীৱনৰ ভাব-অনুভূতিৰ মাজতে সীমাবদ্ধ নাছিল। ই ধাবিত হৈছিল অতিকে আপোন জনমভূমিৰ প্ৰতি থকা প্ৰেমৰ সাগৰলৈ। যাৰ ফলত সৃষ্টি হৈছিল দেশৰ মাটিৰ সুবাস বিয়পা দেশপ্ৰেমমূলক গীতসমূহ। নিয়ৰসিক্ত কোমল অনুভূতিৰে নিৰ্মলপ্ৰভাৰ সুবিশাল অন্তৰখন আনকি জটিল জীৱনৰ যুঁজৰ বেলিকাও যেনেকৈ জীপাল হৈ আছিল ঠিক তেনেকৈ তেওঁৰ দ্বাৰা সৃষ্ট শ্যামলী আইৰ গীতসমূহতো নিয়ৰ সৰিছিল। সত্তৰ দশকত ৰচনা কৰা এই গীতটি গালে শিল্পী মিতালী চৌধুৰীয়ে— প্ৰভাত পখীৰ গীত হৈ/ জগাম তোমাক প্ৰভাততে/আই, পুৱতিৰ মলয়া বৈ/ চোঁৱৰ বুলাম চৰণতে/টুপটুপ নিয়ৰ হৈ/ধুৱাম তোমাৰ দুটি চৰণ/শিমলু পলাশৰ পাহি হৈ/সানিম চৰণতে ৰক্তম। ১৯৬৪ চনত ৰচনা কৰা— কত নাম দি মাতিছো তোমাক গীতটিত প্ৰাণাধিকা দেশমাতৃৰ ৰূপ বৰ্ণনা কৰি নিৰ্মলপ্ৰভাই নিয়ৰৰ কথা ক'লে এনেকৈ— তোমাৰ মুখৰ উষাৰ দীপ্তি/অস্ত ৰবিৰ আভা/নিয়ৰসিক্ত বননিৰ দৰে/অলিক স্নিগ্ধ শোভা - আমাক আৱৰি ৰখা প্ৰকৃতিৰ চিৰন্তন সৌন্দৰ্য্যক গীতৰ মাজেৰে জ্যোতিষ্মান কৰি তুলি নিৰ্মলপ্ৰভাই দেশমাতৃক ভাল পাবলৈ এনে গীতেৰে আমাক উদ্বুদ্ধ কৰি তুলিছে। গভীৰ অৰ্থ বহন কৰা গীতসমূহত প্ৰকৃতিৰ জীৱন্ত ছবিবোৰে জীৱন আৰু জগত সম্পৰ্কে শ্ৰোতাক সজাগ কৰে। নিৰ্মলপ্ৰভাৰ গীতত বৰ আলফুলে নিয়ৰে আহি আইমাতৃৰ চৰণ ধুৱাই যায়— সোণবৰণীয়া আই তোমাৰ/ৰ'দৰ বৰণ মৰম/ বেলিফুলৰ হাঁহি তোমাৰ/নিয়ৰ সৰা চৰণ (১৯৭৩, শিল্পী মৃদুলা দাস)

গীত-মাতত পাৰদৰ্শী মাক মুক্তাবালা আৰু আইতাক ঘনকান্তি, কন্যা স্বপ্নাৰে চাৰিটা প্ৰজন্মৰ লগতে ভাই-ভনীসকলৰ উমান সান্নিধ্যৰে সমৃদ্ধ নিৰ্মলপ্ৰভাই আদৰৰ ভাগিন-ভতিজা, নাতি-পুতিসকলৰ লগত ওমলোঁতে সৃষ্টি হৈছিল অসংখ্য

মনোমোহা শিশু গীতৰ। সৃষ্টি হৈছিল অসমৰ শিশুৱে আজিও ওমলা অসমীয়া ওমলাগীত, নতুন ওমলা গীত, শালিকী ৰটৌ টৌ আৰু সুৰীয়া গীতৰ দৰে শিশু পুথিৰ। পৰিয়ালৰ পৰিসীমা অতিক্ৰম কৰি নিৰ্মলপ্ৰভা হৈ পৰিছিল সমগ্ৰ অসমৰে শিশুৰ 'নীলা বাইদেউ'। এই শিশুগীতসমূহতো ধেমালিৰ চলেৰে নিয়ৰ সৰিল— নিয়ৰ সৰে ৰাতিপুৱা/নিয়ৰ সৰে ৰাতি/দিনত যায় আকাশলৈ/পঢ়িবলৈ বুলি/নিয়ৰবোৰে লয় চাগে/ৰঙা-নীলা ছাতি/(২০০০,নতুন ওমলা গীত)

ওমলা গীতৰ মাজেদিয়েই নিৰ্মলপ্ৰভাই অকণিহঁতৰ চকুত আঁকি দিব খুলিলে আকাশ চোৱাৰ সপোন আৰু লৈ গ'ল টোপ টোপ নিয়ৰৰ পৃথিৱীখনলৈ— এধানি পখীটি হৈ/মন যায় উৰিবলৈ/ওখ আকাশত এধানি তৰাটি হৈ/জিল মিল কৰি ৰ'ম/সন্ধিয়া পৰত/নিয়ৰ টোপালতো/বুটলি আনিবলৈ কি যে মন যায়/চুলেই কিয়নো বাৰু/ভাগি ভাগি যায়/হাঁয় হাঁয় দুবৰি বনত।—

সুৰকাৰ মুকুল বৰুৱাদেৱে সুৰ কৰা, নিৰ্মলপ্ৰভাই ষাঠিৰ দশকত ৰচনা কৰা অন্য এটা জনপ্ৰিয় শিশুগীত গালে সুকণ্ঠী গায়িকা দীপালি বৰঠাকুৰে, য'ত নিয়ৰ হৈ উঠিল মইনাৰ মিহিকৈ চুলিত লাগি থকা মুকুটা মণি। টোপনি টোপনি হাৰলি টোপনি/ তোৰে কলে তলত ঘৰ গীতটিৰ 'নিয়ৰে পিন্ধালে মণিৰে মুকুটে/মইনাৰ মিহিকে চুলিত/বতাহে সানিলে ফুলৰে সুৰভি/মইনাৰ ধুনীয়া হাঁহিত শাৰীকেইটাই পৰীৰ ডেউকা পিন্ধি সপোনৰ আকাশত উৰি ফুৰা মইনাজনীৰ চুলিত নিয়ৰ সৰি ৰৈ সৃষ্টি কৰা মুকুটা মণিবোৰ দৃশ্যমান কৰি তোলে।

৫. উপসংহাৰ

আমাৰ মইনাহঁতৰ সচাঁসচি চুলিত নিয়ৰে আহি মণিৰ মুকুট পিন্ধাবলৈ সাম্প্ৰতিক পৃথিৱীৰ এই দিনবোৰত পাওঁক বা নাপাওঁক নিৰ্মলপ্ৰভাৰ গীতৰ নিয়ৰবোৰ শিশুসকলৰ বুকুত যাতে আলফুলে সৰে তাৰ বাবে নিৰ্মলপ্ৰভাৰ গীতৰ মাজত থকা জীৱনবোধৰ চৰ্চা অতি প্ৰাসঙ্গিক হৈ পৰিছে।

শৈশৱ, কৈশোৰ, যৌৱন অতিক্ৰমী জীৱনৰ বাট কাটি আহি থাকোতে প্ৰতিটো পৰ্যায়ত যিগৰাকী গীতিকাৰৰ গীত অসমীয়াই এৰি থাকিব নোৱাৰে তেৱেঁই ড° নিৰ্মলপ্ৰভা বৰদলৈ। সৰস্বতী ড° নিৰ্মলপ্ৰভা বৰদলৈৰ গীতসমূহত প্ৰকৃতিৰ অনুপম সৃষ্টি নিয়ৰৰ উপস্থিতি একমাত্ৰিক নাছিল। প্ৰেম, যৌৱনৰ আবেদনত যেনেকৈ নিয়ৰ আছিল, ঋতু বন্দনা, দেশপ্ৰেম আনকি শিশুগীতসমূহতো নিয়ৰক নিৰ্মলপ্ৰভাই ব্যৱহাৰ কৰিছিল বহুমাত্ৰিকভাৱে। তেখেতৰ গীতসমূহত জীৱনৰ অভিজ্ঞতা, আত্মোপলব্ধি, মানৱপ্ৰেম পৰিস্কাৰ ৰূপত ফুটি উঠে। প্ৰকৃতিৰ মনোৰম সৃষ্টিৰাজি একোটা ধুনীয়া সুৰৰ গীত হৈ মন প্ৰাণ ভৰাই তোলে। কিন্তু নিৰ্মলপ্ৰভাৰ গীতসমূহ কেৱল জীৱনৰ সৌন্দৰ্য্যৰ গুণগানেই নহয়; ইয়াত আছে কঠিন বাস্তৱৰ কৰ্কশতা, শোষণ আৰু আৰ্তনাদৰ ভাষা, বিৰহৰ মৰ্মস্পৰ্শী বেদনা। বিশেষত্ব ইয়াতেই যে জটিল অধ্যায় এটাৰ উপস্থাপনো কোমল নিয়ৰ এটোপালৰ নিচিনাকৈয়ে স্বতঃস্ফুৰ্ত। ঠিক তেনেকৈ জীৱন সম্পৰ্কীয় কঠিন ধাৰণা এটিকো মানুহৰ বোধগম্য হোৱাকৈ তুলি ধৰিবলৈ ড° নিৰ্মলপ্ৰভা বৰদলৈ সক্ষম হৈ উঠিছে।

সাম্প্ৰতিক প্ৰেক্ষাপটত ছাত্ৰ-ছাত্ৰীসকলক জীৱনশৈলী শিকাই দিব লগা হোৱা সময়বোৰত নিৰ্মলপ্ৰভাৰ গীতসমূহৰ চৰ্চা অতিকৈ প্ৰয়োজনীয়। জীৱনক অনুভৱ কৰিবলৈ প্ৰকৃতিৰ বুকুলৈ যোৱাৰ হেঁপাহ অন্ততঃ নিৰ্মলপ্ৰভাৰ গীতসমূহে জাগ্ৰত কৰি তুলিব পাৰে। গীতসমূহৰ যোগেদি সকলো স্তৰৰ সকলো বয়সৰ শ্ৰোতাই জীৱন আৰু জগতক ভাল পাবলৈ উদ্ধুদ্ধ হৈ উঠিব পাৰে। কঠিন সময়ক সহজভাৱে গ্ৰহণ কৰাৰ পাঠ আয়ত্ত্ব কৰিব পাৰে। নিৰ্মলপ্ৰভাৰ শিশু গীতসমূহ মন কৰিলে দেখা যায় তেখেতে গীতৰ চলেৰে শিশুক নৈতিক শিক্ষা প্ৰদানৰ প্ৰয়াস কৰিছিল। ওমলা গীতসমূহত শৃংখলাবদ্ধতা, নিয়মানুৱৰ্তীতা, সময় সচেতনতা শিকোৱাৰ লগতে ধেমেলীয়া কথাৰ মাজেৰে প্ৰকৃতিৰ অনুপম সৃষ্টিসমূহৰ প্ৰতিও শিশু মনক আকৃষ্ট কৰাৰ প্ৰয়াস কৰিছিল। কেৱল কিতাপে শিকাব নোৱাৰা শিশু উপযোগী বহুত প্ৰয়োজনীয় কথা নিৰ্মলপ্ৰভাৰ শিশুগীতসমূহত দেখিবলৈ পোৱা যায়। সমান্তৰালভাৱে জটিল বিষয় এটা সৰল সহজভাৱে সকলোৰে বোধগম্য হোৱাকৈ কৌশলেৰে উপস্থাপন কৰাৰ কলাও নিৰ্মলপ্ৰভাৰ গীতৰ পৰা আয়ত্ত্ব কৰিব

পাৰি। এই কলা ব্যৱহাৰ কৰি আগবঢ়া বৰ্তমানৰ ক্ষেত্ৰভিত্তিক শিক্ষা পদ্ধতিত ড° নিৰ্মলপ্ৰভা বৰদলৈৰ এটি এটি গীত একোখন ধুনীয়া ক্ষেত্ৰ হৈ উঠিব পাৰে যাৰ যোগেদি সকলো পৰ্যায়ৰ ছাত্ৰ-ছাত্ৰীক জীৱনবোধৰ শিক্ষা দিয়াটো সম্ভৱ কৰি তুলিব পৰাৰ অৱকাশ আছে।

সহায়ক গ্ৰন্থপঞ্জী

দত্ত, দিলীপ ঃ *নিৰ্মলপ্ৰভাৰ গীত আৰু নাৰীৰ জীৱন নদী*, শ্ৰী ভূমি পাৱলিচিং কোম্পানী, ৭৯ মহাত্মা গান্ধী পথ, কলিকতা, প্ৰথম তাঙৰণ, ১৯৮৫

বৰদলৈ, নিৰ্মলপ্ৰভা ঃ *জীৱন-জীৱন বৰ অনুপম*, জ্যোতি প্ৰকাশন, পাণবজাৰ, গুৱাহাটী, সপ্তম প্ৰকাশ, ২০১৮

বৰদলৈ, নিৰ্মলপ্ৰভা ঃ *অসমীয়া ওমলা গীত*, সাহিত্য-প্ৰকাশ, ট্ৰিবিউন বিল্ডিংছ, গুৱাহাটী, সপ্তদশ প্ৰকাশ, ২০১৪

বৰদলৈ, নিৰ্মলপ্ৰভা ঃ *নতুন ওমলা গীত*, ভট্টাচাৰ্য এজেন্সি, চিৰিং চাপৰি ডিব্ৰুগড়, পঞ্চম প্ৰকাশ ২০১২

বৰা, হেমন্ত কুমাৰ (সম্পা) ঃ *অসমীয়া জনপ্ৰিয় শিশু গীত*, ভট্টাচাৰ্য এজেন্সি, ডিব্ৰুগড়, প্ৰথম প্ৰকাশ, ২০১০

কটকী, প্ৰফুল্ল ঃ *জীৱনচৰ্য্যা*, বনলতা, ডিব্ৰুগড়, প্ৰথম প্ৰকাশ, ২০২৫

বৰুৱা, শাংকৱ কৌশিক (সম্পা) ঃ *বসুন্ধৰা*, দৈনিক জনমভূমি, ৬ নৱেম্বৰ, ২০১৬

মহাপুৰুষ শংকৰদেৱ আৰু মাধৱদেৱৰ বিশেষ উল্লিখনসহ

ড° বিদিশা মহন্ত

সংক্ষিপ্তসাৰ

নৱবৈষ্ণৱ যুগ অসমৰ সামাজিক, সাংস্কৃতিক আৰু অৰ্থনৈতিক ইতিহাসৰ এক যুগান্তকাৰী অধ্যায়। মহাপুৰুষ শ্ৰীমন্ত শংকৰদেৱ আৰু মাধৱদেৱ-ৰ নেতৃত্বত গঢ় লৈ উঠা ভক্তি আন্দোলনে কেৱল ধৰ্মীয় জাগৰণেই নহয়, সমকালীন সমাজত এক নতুন অৰ্থনৈতিক চেতনাৰো সৃষ্টি কৰিছিল। এই গৱেষণা পত্ৰত শংকৰদেৱ আৰু মাধৱদেৱৰ অৰ্থনৈতিক চিন্তা, সত্ৰ-নামঘৰক কেন্দ্ৰ কৰি ঘড় লৈ উঠা স্বনিয়োজন ব্যৱস্থা, কৃষি আৰু বাণিজ্যৰ সম্প্ৰসাৰণ, সম্পদৰ সমবিতৰণ, মানব সম্পদ ব্যৱস্থাপনা আৰু স্থানীয় সম্পদৰ কাম্য ব্যৱহাৰৰ দিশসমূহ বিশ্লেষণ কৰা হৈছে।

এই গৱেষণা মূলতঃ গৌণ তথ্যৰ ভিত্তিত বৰ্ণনাত্মক পদ্ধতিৰে সম্পন্ন কৰা হৈছে। বিভিন্ন চৰিত পুথি, ঐতিহাসিক গ্ৰন্থ আৰু সত্ৰ সংস্কৃতি সম্পৰ্কীয় তথ্যৰ সহায়ত দেখা যায় যে নৱবৈষ্ণৱ আন্দোলনে অসমৰ গ্ৰাম্য অৰ্থনীতিক শক্তিশালী কৰি বহু নতুন জীৱিকাৰ সৃষ্টি কৰিছিল। খোল-তাল নিৰ্মাণ, মুখা শিল্প, বয়ন শিল্প, বৃন্দাৱনী বস্ত্ৰ, কৃষি উন্নয়ন আৰু নদীপথ বাণিজ্যৰ বিকাশে সমাজৰ অৰ্থনৈতিক ভেটি সুদৃঢ় কৰিছিল। লগতে সমতা, সমবায়, শ্ৰমৰ মৰ্যাদা আৰু "Worklife balance" ধাৰণাৰ দৰে আধুনিক অৰ্থনৈতিক মূল্যবোধৰো প্ৰতিফলন এই যুগত লক্ষ্য কৰা যায়।

এই অধ্যয়নে প্ৰতিপন্ন কৰে যে শংকৰদেৱৰ নৱবৈষ্ণৱ আন্দোলন কেৱল আধ্যাত্মিক জাগৰণ নাছিল; ই আছিল অসমৰ সামাজিক-অৰ্থনৈতিক পুনগঠনৰ এক সুদূৰপ্ৰসাৰী আন্দোলন, যাৰ প্ৰাসংগিকতা আধুনিক যুগতো অটুট আছে।

***বীজ শব্দ ঃ** নৱবৈষ্ণৱ যুগ, গ্ৰাম্য অৰ্থনীতি, স্বনিয়োজন, সম্পদৰ কাম্য ব্যৱহাৰ, কৃষি, সত্ৰ ব্যৱস্থা, সমবায়*

১. প্ৰস্তাৱনা

চতুৰ্দশ পঞ্চদশ শতিকাৰ ভক্তি আন্দোলনে সমগ্ৰ ভাৰতকে বিধৌত কৰি নৱজাগৰণৰ সূচনা কৰিছিল। সেই সময়চোৱা আছিল এক উৰ্বৰা সময়। শ্ৰী চৈতন্য, সন্ত কবীৰ, গুৰু নানক, তুলসীদাস আদিয়ে তেখেত সকলৰ ৰচনাৰ জৰিয়তে ভক্তি ৰসৰ ঢৌ সমগ্ৰ ভাৰত জুৰি বোৱাই দিছিল। অসমতো শ্ৰীমন্ত শংকৰদেৱ আৰু মাধৱদেৱে একশৰণ নামধৰ্ম প্ৰচলনৰ জৰিয়তে সমাজৰ সকলো স্তৰতে সংস্কাৰ সাধন কৰিবলৈ চেষ্টা কৰিছিল। মহাপুৰুষ দুজনাৰ প্ৰৱৰ্তিত দৰ্শনে মানুহৰ মনোজগতত আমূল পৰিবৰ্তন ঘটোৱাৰ লগতে সামাজিক পৰিকাঠামোতো এক যুগান্তকাৰী পৰিৱৰ্তন আনিছিল। সেই পৰিৱৰ্তনসমূহৰ ভিতৰত গুৰুত্বপূৰ্ণ এক পৰিৱৰ্তন হ'ল এক ন্য অৰ্থনৈতিক চেতনাৰ অভ্যুদয়। ধৰ্ম প্ৰচাৰৰ লগে লগে চাহিদা সৃষ্ট কিছুমান নতুন বৃত্তিৰ সৃষ্টি হৈছিল। সমাজৰ অৰ্থনৈতিক গাথনি শক্তিশালী কৰাত এই নব্য অৰ্থনৈতিক অৱস্থাই নিশ্চয়কৈ সহায় কৰিছিল। স্থানীয় ভাৱে উপলব্ধ সম্পদ সমূহৰ কাম্যতম ব্যৱহাৰৰ যোগেদি মহাপুৰুষ দুজনাই ধৰ্ম প্ৰচাৰৰ বাবে প্ৰয়োজন হোৱা আন্তঃ গাথনি সৃষ্টি কৰি লৈছিল। নৱবৈষ্ণৱ যুগত অৰ্থাত পঞ্চদশ শতিকাৰ

সহকাৰী অধ্যাপক, অৰ্থনীতি বিভাগ, ডিব্ৰুগড় হনুমানবক্স সুৰজমল কানৈ বাণিজ্য মহাবিদ্যালয়, ডিব্ৰুগড়

শেষত আৰু ষষ্ঠদশ শতিকাৰ প্ৰাৰম্ভত প্ৰতিষ্ঠা হোৱা সত্ৰত্ৰসমূহ প্ৰকৃততে ধৰ্ম প্ৰচাৰ, প্ৰসাৰ আৰু অধ্যাত্মিক সাধনৰ ক্ষেত্ৰ ৰূপে সৃষ্টি কৰা হৈছিল যদিও মানৱীয় প্ৰয়োজনৰ অনুকূল এক সমাজ ব্যৱস্থা সত্ৰত সোমাই থকা কথাটো নুই কৰিব নোৱাৰি।

শাৰীৰিক, মানসিক, সাংস্কৃতিক আদি মৌলিক বিষয় সমূহৰ চৰ্তন আৰু কৰ্ষনৰ থলী এই সত্ৰানুষ্ঠান সমূহ মধ্য যুগৰ অসমৰ গাঁৱলীয়া অৰ্থনীতিৰো ভেটি আছিল। শংকৰ দেৱৰ নেতৃত্বত আৰম্ভ হোৱা নৱজাগৰণত আধ্যাত্মিক সাধন আৰু চৰ্চাক মাধ্যম হিচাপে লৈ সাহিত্য, গীত, নৃত্য, চিত্ৰশিল্প, বাদ্য, ভাওনা, বিভিন্ন স্থাপত্য আৰু ভাস্কৰ্য বিদ্যাৰ ক্ষেত্ৰত নতুনত্ব সৃষ্টি হৈছিল।

ধৰ্ম প্ৰচাৰ তথা মানুহৰ সাৰ্বিক উন্নতিৰ সাধন হিচাপে ব্যৱহাৰ হোৱা মহাপুৰুষ শংকৰদেৱৰ এই অৱদান সমূহৰ লগত গ্ৰামীন অৰ্থনীতি জড়িত হৈ আছিল।

২. উদ্দেশ্য

এই গৱেষনাপত্ৰৰ জৰিয়তে মহাপুৰুষ দুজনাৰ অৰ্থনৈতিক চেতনা আৰু সমকালীন সমাজৰ অৰ্থনৈতিক অৱস্থাৰ বিষয়ে অধ্যয়ন কৰিবলৈ প্ৰয়াস কৰা হৈছে।

৩. গৱেষণা পদ্ধতি

এই অধ্যয়ন মূলত: গৌন তথ্যৰ ভিত্তিত প্ৰস্তুত কৰা হৈছে। ইয়াৰ পিছত বৰ্ণনাত্মক পদ্ধতিৰ জৰিয়তে লব্ধ তথ্য সমূহ প্ৰকাশ কৰা হৈছে। এই পত্ৰ খন প্ৰস্তুত কৰোতে বিভিন্ন গ্ৰন্থ, চৰিত পুথি, সত্ৰৰ পৰা প্ৰকাশিত বুৰঞ্জী, সত্ৰৰ লগত জড়িত ব্যক্তিৰ লগত কথোপকথন আদিৰ সহায় লোৱা হৈছে।

৪. বিৱৰণ

শংকৰদেৱ আৰু মাধৱদেৱকে ধৰি তেখেতৰ অনুগামী সকলৰ অৰ্থনৈতিক ধাৰণা আছিল চমকপ্ৰদ। আজিৰ পৰা প্ৰায় ছশ বছৰৰ আগতেই ভক্তি আন্দোলনৰ প্ৰভাৱেৰে সৃষ্টি হোৱা নৱ ্য সাংস্কৃতিক সমাজখনত মানৱ উন্নয়নৰ বাট মোকোলাই দিছিল শংকৰদেৱে। নিয়োগ সৃষ্টি, ব্যৱসায় বাণিজ্যৰ সম্প্ৰসাৰণ, কৃষি অৰ্থনীতিৰ সম্প্ৰসাৰণ, মানৱ সম্পদ ব্যৱস্থাপনা, সম্পদৰ সমবিতৰণ, সমবায়ভিত্তিক আৰ্হি আদিৰ জৰিয়তে তেখেত সকলে মানৱ সম্পদ সৃষ্টিৰ লগতে সমাজৰ উন্নয়নটো গুৰুত্ব দিছিল। তলত গুৰুজনাৰ অৰ্থনৈতিক চেতনাৰ কিছু আভাস দিবলৈ চেষ্টা কৰা হৈছে।

৪.১. নিয়োগ সৃষ্টি

চতুৰ্দশ পঞ্চদশ শতিকাৰ ভক্তি আন্দোলন আৰু অৱধাৰিত ভাবে সৃষ্টি হোৱা সত্ৰানুষ্ঠানে অসমত স্বনিয়োজনৰ এক বাট মোকোলাই দিছিল বুলি ক'লে ভুল কোৱা নহ'ব। ধান মাহ সৰিয়হৰ খেতি কৰি কৃষিভিত্তিক জীৱিকাৰে বৰ্তি থকা মানুহৰ কিছু সংখ্যকে অন্য কিছু বিকল্প জীৱিকাৰ সন্ধান পাইছিল। বাৰ বছৰ ভাৰতৰ বিভিন্ন তীৰ্থত ঘূৰি অলেখ জ্ঞান আৰু অভিজ্ঞতাৰে সমৃদ্ধ হৈ শংকৰদেৱ অসমলৈ ঘূৰি আহি নৱ বৈষ্ণৱ ধৰ্মৰ সূচনা কৰিছিল। তাৰ লগে লগে সৰ্বভাৰতীয় ধাৰাৰ লগত সংমিশ্ৰণেৰে এক নব্য ধাৰাৰ সাংস্কৃতিক জীৱন অসমত আৰম্ভ হ'ল। সেই সাংস্কৃতিক জীৱনৰ লগত সংগতি ৰাখি কিছুমান নতুন বৃত্তিৰ সৃষ্টি হৈছিল। নতুন পৰিশীলিত সাংস্কৃতিক জীৱনৰ বাবে প্ৰয়োজন হোৱা খোল তাল তৈয়াৰ কৰা এচাম মানুহৰ সৃষ্টি হৈছিল আৰু কালক্ৰমত সেয়া তেওঁলোকৰ জীবিকালৈ পৰিবৰ্তিত হৈছিল। নামঘৰৰ বাবে প্ৰয়োজনীয় কুহিলাৰ কঠ, ঠগা, নামঘৰৰ গুৰু আসন তৈয়াৰ কৰা এচাম কাৰু শিল্পীৰ সৃষ্টি হৈছিল। নামঘৰ আৰু সত্ৰৰ বাবে প্ৰয়োজনীয় গুৰু আসন, মণিকুট, থাপনা, ঠগী, নামঘৰ দুৱাৰ, কৰাপাট আদি নিৰ্মান কৰা, হেঙুল হাইতালেৰে নামঘৰৰ বেৰ চিত্ৰিত কৰা, মুখা বা ছোঁ আদি সজাও এচাম লোকৰ জীৱিকাৰ উৎস হৈ পৰিছিল। নামঘৰৰ চটিত ফুল লতা আদি কটা, কাঠৰ ওপৰত ফুল জালিৰ কাম কৰা, খৰাহী পাচি সজা, চটিত ওলোমাই দিয়া বা হাতেৰে সজা বৰ

বিচনী, হাতীদাঁতৰ কাম, বৰজাপি আদি কুটীৰ শিল্পৰ সামগ্ৰী সত্ৰতে তৈয়াৰ কৰিবলৈ শিকোৱা হৈছিল। (সত্ৰ সংস্কৃতিৰ ৰূপৰেখা- পৃ ১৭৮)। নামঘৰৰ খুটাৰ বাবে বোৱা গামোচা, মণিকুটৰ বাবে লগা গোঁসাই কাপোৰ, চন্দ্ৰাতপ আদিৰ বয়ন প্ৰণালীও সত্ৰৰ দ্বাৰাই নিৰ্দেশিত। একেদৰে ভাওনাৰ বাবে প্ৰয়োজনীয় পোচাক, মুখত সানিবৰ বাবে ৰঙ যোগান ধৰা অন্য এক জীবিকাৰ উপায় আছিল। ভাওনাত লগা অগ্নিগড়, মুখা আদি সাজোঁতাও আমাৰ অসমীয়া সমাজতে আছিল। হেঙুল হাইতাল আৰু অন্য প্ৰাকৃতিক ৰং মিশ্ৰণ কৰি শংকৰদেৱে নতুন নতুন ৰঙ সৃষ্টি কৰিছিল আৰু মানুহক শিকাই বুজাই লৈছিল। সেয়া পৰৱৰ্তী সময়ত তেনে লোকৰ জীৱিকালৈ পৰিণত হৈছিল। একেদৰে পুথি সমূহ প্ৰণয়ন কৰিবৰ বাবে লগা সাঁচিপাত আৰু মহী বা কালি তৈয়াৰ কৰাও একশ্ৰেণীৰ লোকৰ জীৱিকা হৈ পৰিছিল। চৈয়দ আব্দল মালিকৰ শংকৰদেৱৰ জীৱনভিত্তিক উপন্যাস 'ধন্য নৰ তনু ভাল' ত এই প্ৰসংগত এটা ঘটনা উল্লেখ আছে। কথা বতৰা পাতি গম পোৱা গ'ল যে তেওঁ জাল ব'ব জানে। সেয়ে জাল বোৱাৰ সমস্ত উপকৰণ শংকৰদেৱৰ নিৰ্দেশত তেওঁক দিয়া হ'ল আৰু ভকত জনে জাল বৈ নিজৰ ভাত মোকোলাব পৰা হ'ল। এনেবোৰ শিক্ষাৰ দ্বাৰাই সত্ৰই বহুতো লোকক স্বাৱলম্বী হোৱাৰ পথ দেখুওৱাৰ উপৰিও বহুতো জীৱিকাও সৃষ্টি কৰিছিল। সত্ৰৰ দ্বাৰা প্ৰশিক্ষিত গীত নৃত্য, ভাওনা, গায়ন বায়ন আদিৰ বাহিৰেও ঠাই বিশেষে বহুতো সত্ৰত জ্যোতিষ শাস্ত্ৰ আৰু প্ৰাচীন ভাৰতীয় চিকিৎসা বিদ্যাৰো অভ্যাস কৰা হৈছিল আৰু আগ্ৰহী লোকক এই সম্পৰ্কীয় শিক্ষাও প্ৰদান কৰা হৈছিল। এই বিদ্যাৰ দ্বাৰাও কোনো কোনোৱে নিজৰ জীৱিকা মোকোলাব পাৰিছিল। সত্ৰ ব্যৱস্থাত সত্ৰীয়া ভকত সকলে কিবা নহয় কিবা শ্ৰম কৰিহে সত্ৰবাস কৰিব লাগিছিল। গতিকে শ্ৰম ঘণ্টা আৰু তাৰ উৎপাদনৰ লগত সম্পৰ্কৰে সত্ৰই অৰ্থব্যৱস্থালৈ বৰঙনি যোগাইছিল।

এবাৰ এজন ভকতে লখাই দত্ত নামৰ আন এজন ভকতৰ বিৰুদ্ধে গোচৰ দিছেহি যে তেওঁ দেৱীৰ প্ৰসাদ খাইছে যি মহাপুৰুষীয়া ধৰ্মৰ পৰিপন্থী। ভালকৈ বিচাৰ কৰাত দেখা গ'ল যে তেওঁ অত্যন্ত ভোকত আৰু অভাৱত পৰি হে এই কাম কৰিছে। গতিকে তেওঁৰ জীৱিকাৰ ব্যৱস্থা কৰা উচিত।

এই নতুন বিকল্প জীৱিকা সমূহৰ বাহিৰেও অন্য প্ৰচলিত জীৱিকা সমূহেও এই সময় চোৱাত যথেষ্ট গুৰুত্ব পাইছিল।

৪.২. কৃষিৰ সম্প্ৰসাৰন

প্ৰাচীন কালৰ ব্ৰহ্মপুত্ৰ উপত্যকাৰ অৰ্থনীতিৰ মূল ভেটিয়েই আছিল কৃষি আৰু এই কৃষিৰ সম্প্ৰসাৰণত ভূঞা সকলৰ অৱদান আছিল উল্লেখনীয়। কৃষি কৰ্মৰ বাবে তেওঁলোকে জলসিঞ্চনৰ পৰ্যাপ্ত ব্যৱস্থা কৰিছিল। কথা গুৰুচৰিতত উলেখ আছে কেনেদৰে নদী ভেটা দি চণ্ডীবৰ ভূঞাৰ উদ্যোগত সামুহিক উদ্যমেৰে জলসিঞ্চনৰ ব্যৱস্থা কৰা হৈছিল। ভূন্নত পদ্ধতিৰে কৃষি কৰ্ম কৰি অধিক উৎপাদন কৰা বাবে সময়ে সময়ে ভূঞা সকল জুম খেতি কৰি পেট প্ৰৱৰ্তোৱা জনজাতীয় লোক সকলৰ আক্ৰমণৰ লক্ষ্য হৈ পৰিছিল। (কথা গুৰু চৰিত (সম্পা) লেখাৰু, পৃ ১২, ৪৩)

সেয়ে উত্তৰাধিকাৰী সুত্ৰেই শংকৰদেৱকে আদি কৰি নৱবৈষ্ণৱ জাগৰণৰ গুৰুসকলে কৃষি কাৰ্যত যথেষ্ট গুৰুত্ব আৰোপ কৰিছিল। শংকৰদেৱে গুৰু মহেন্দ্ৰ কন্দলিৰ ধান খেতি হাতীৰ পৰা ৰক্ষা কৰাৰ কথা গুৰু চৰিতত উল্লেখ আছে (পৃ:২৬)। সেইসময়ত টেম্বুৱানী জানত হোৱা বানপানীয়ে সমগ্ৰ অঞ্চল প্-াবিত কৰি খেতি খোলা বিস্তৰ ভাবে নষ্ট কৰিছিল। গুৰুচৰিতত উল্লেখ থকা মতে টেম্বুৰা জানে জল সোমাই প্ৰজাৰ শস্য হানি কৰে (পৃ:৩৮)।" সমাজৰ তথাকথিত নিম্নস্তৰৰ ৰাধিকা শান্তিৰ সহায়ত এই জান বান্ধি গুৰুজনাই বানপানী নিয়ন্ত্ৰণ কৰাৰ লগতে সমাজৰ ভেদাভেদো নাইকিয়া কৰিছিল। আকৌ জান খান্দি জলসিঞ্চনৰো সুবিধা কৰি দিছিল। কথাগুৰু চৰিতত একাধিকবাৰ ধান, মাহ সৰিয়হ আদি বিভিন্ন কৃষি কাৰ্যৰ বিষয়ে উল্লেখ আছে। একেদৰে কৃষিৰ আনুষংগিক কাৰ্য হিচাপে গুৰুজনাই কাচিকটাৰ যুগীৰ গৃহত পাত পলু পুহিবলৈ শিকোৱাৰ পৰা আৰম্ভ কৰি তাঁতীকুছিত তাঁতীসকলক বৃন্দাৱনী বস্ত্ৰ ব'বলৈ দিহা দিয়ালৈকে অনেক কাম কৰি সাধাৰণ মানুহক এনেবোৰ কাম কৰিবলৈ উৎসাহ দিছিল।

৪.৩. সমবায় আৰ্হি, সম্পদৰ সমবিতৰণ, শ্ৰম আৰু অৱসৰৰ সন্তুলন

গুৰুজনাৰ সমবায় আৰ্হিও আছিল বৰ অনুকৰণীয়। ৰাইজৰ সহায় সহযোগেৰে আৰু শ্ৰমদানেৰে হৰিমন্দিৰ, সত্ৰগৃহ আদি সজোৱাৰ উপৰিও মাধৱদেৱৰ অনুৰোধত সকলো ৰাইজৰ সহায়েৰে সৰিয়হতলী মোকোলোৱাৰ কথাও কথা গুৰু চৰিতত উল্লেখ আছে। টেম্বুৱানী জান বান্ধোতে, খাল কাটি জলসিঞ্চনৰ পানী বোৱাওতে এনে সমবায় আহিয়েই গুৰুজনে লৈছিল। একেদৰে মহাৰাজ নৰনাৰায়নৰ অনুৰোধত তাঁতীকুছিলৈ গৈ বৃন্দাৱনী বস্ত্ৰ বোৱাওতে এনে আহিয়েই গুৰুজনাই গ্ৰহণ কৰিছিল। সম্পদৰ সমবিতৰণৰো কিছু উদাহৰণ আমি কথা গুৰু চৰিতত পাওঁ। এবাৰ এজন ভকতে নিজৰ দুখ দুৰ্দশাৰ কথা গুৰুজনক অৱগত কৰিলত গুৰুৰ নিৰ্দেশত অন্য সকলো ভকতে মিলি সেই ভকতজনৰ দায়িত্ব ল'বলৈ আগবাঢ়িছিল। আকৌ কোনোবা এজন ভকতে কৃষি কাৰ্যত ব্যস্ত হৈ ঈশ্বৰ চিন্তা কৰিবলৈ সময় নোপোৱা বাবে গুৰুজনাই বিভিন্ন দিহা পৰামৰ্শ দি কম সময়ত অধিক উৎপাদন কৰিবলৈ সুবিধা কৰি দিলে। ফলত অধিক অৱসৰৰ সময় ওলাল আৰু তেখেতে সুন্দৰকৈ হৰি নাম ল'ব পৰা হ'ল। এনেদৰে আধুনিক যুগৰ work life balance নামৰ ধাৰণাটো তেতিয়াই শংকৰদেৱে প্ৰয়োগ কৰিছিল।

৪.৪. সম্পদৰ কাম্যতম ব্যৱহাৰ

সম্পদ সসীম আৰু মানুহৰ অভাৱ অসীম। অৰ্থনীতিৰ এই সুত্ৰৰ প্ৰয়োগ গুৰুজনাৰ জীৱনত বাৰে বাৰে কৰা দেখা যায়। স্থানীয় ভাবে উপলব্ধ সম্পদৰ জৰিয়তে শংকৰদেৱে ধৰ্মপ্ৰচাৰ আৰু সমাজ সংস্কাৰৰ সাধন তৈয়াৰ কৰি লৈছিল। নৱবৈষ্ণৱ ধৰ্মত প্ৰচলিত আৰু ব্যৱহৃত নামঘৰ, গুৰু আসন, ঠগী কুহিলাৰ কঠ, মাহ প্ৰসাদ, ফলমূল, প্ৰসাদৰ পৰিবেশনৰ বাবে ব্যৱহাৰ কৰা কলপাতলৈকে সকলো স্থানীয় ভাবে উপলব্ধ সম্পদৰ পৰাই সৃষ্টি কৰা হৈছিল। এই সকলোবোৰ কথাগুৰুচৰিতত একাধিক বাৰ উল্লেখ কৰা হৈছে।

এই সম্পৰ্কত কথা গুৰু চৰিতত উল্লেখ থকা দুটি আমোদজনক ঘটনাৰ প্ৰসংগ ইয়াত অৱতাৰণা কৰা হ'ল।

"আৰু শ্ৰীৰাম আতা এদোন চাউলৰ অন্ন ভোজন কৰে। এদিন গুৰুজনে লাউ এটি আনি মূৰ কাটি এদোন চাউল ধৰাকৈ শ্ৰী ৰাম আতাৰ হাতে দিলে বোলে এই লাউটি দিছোঁ, আৰো জোখাকৈ খাবা এই শিলতে নিতে একোটি ঘহা মাৰিবা। সেই ক্ৰমে খাই ঘহিছে। টুটিবৰ উমান নপালে, পেটৰো উমান নপালে। কতবা দিনত গৈ একঠাত ৰ'লগৈ। বোলে শ্ৰীৰাম এই জোখে খাবা, নঘহিবা আৰু।"

(কথা গুৰু চৰিত, সম্পাদনা: উপেন্দ্ৰ চন্দ্ৰ লেখাৰু, পৃ: ২৭০-২৭১, ১৯৯৫)

ইয়াৰ উপৰিও গুৰু চৰিতত দুবাৰ বেলেগ বেলেগ প্ৰসংগত উল্লেখ আছে কেনেকৈ গুৰুজনে পেলাই দিব লগা গেলা মাছো নানা উপকৰণৰ সংযোগত সুস্বাদো ব্যঞ্জনলৈ ৰূপন্তৰিত কৰিছিল। তেতিয়া খাওতা সকলে কৈছিল" তেনে মাছ এনে হয় বুলি কোনে জানে ?" (কথা গুৰুচৰিত পৃ: ৬৩)

৪.৫. বাণিজ্যৰ সম্প্ৰসাৰণ

মধ্যযুগত ব্ৰহ্মপুত্ৰ উপত্যকাত দীৰ্ঘ দূৰত্বৰ নৌ বণিজ কৰাৰ অভিজ্ঞতা অকল ভূঞাসকলৰে আছিল। আৰু এই নৌ বাণিজ্যকে ভেটি হিচাপে লৈ মধ্যযুগৰ অসমত সদাগৰ শ্ৰেণীটোৰ অভ্যুদয় ঘটিছিল। ডাঙৰ ব্যৱসায়ী সকলক সদাগৰ বা সাউদ আৰু সৰু ব্যৱসায়ী সকলক মুদৈ বোলা হৈছিল। চৰিত পুথি সমূহত এনে সদাগৰ আৰু মুদৈৰ উল্লেখ বহুবাৰ কৰা হৈছে। ঠাকুৰ আতাৰ বংশাৱলীত উল্লেখ আছে" আৰু নাও বেহা কৰিলে। কালিৰাম, ধৰম, ৰামধন, ভৱানন্দ, ৰংগ আতা, বাকলি পো ৰাম সৈতে সাতজনে বেহা বণিজ কৰে চাইও দ্বাৰে।" (কথা গুৰু চৰিত পৃ ৮৫)। বেহা বেপাৰৰ প্ৰসাৰে নৱবৈষ্ণৱ ধৰ্মৰ সম্প্ৰসাৰণত বিশেষ অৰিহনা যোগাইছিল। দুৰ্গম ঠাইত বেহা বেপাৰ কৰাৰ লগতে এই

মুদৈ সকলে তেওঁলোকৰ নাৱত যাত্ৰী অনা নিয়াও কৰিছিল আৰু বহু সময়ত বাৰ্তা বাহকো হৈছিল।

মাধৱদেৱৰ মাতৃৰ অসুখৰ বাতৰি লোণ ব্যৱসায়ী হীৰামল আতৈৰ মুখেদিয়েই পাইছিল। গুৰুত শৰণ লোৱাৰ আগতে মাধৱদেৱে তামোলৰ বেহা কৰিছিল। তেখেত ঘাঘৰি মাজিৰ ঘৰত থাকোতে ব্যৱসায়ৰ উদ্দেশ্যে কেইবাবিধো শস্য কৰাৰ কথা চৰিত পুথিত উল্লেখ আছে। নাৰায়ন দাস আছিল এজন বিখ্যাত সদাগৰ। তেখেতৰ ব্যৱসায়িক বুদ্ধি আছিল অতুলনীয়। আঢ্যৱন্ত নাৰায়ন দাসে শংকৰদেৱৰ ওচৰত শৰণ লোৱাৰ পিছত শংকৰদেৱে ধৰ্মৰ প্ৰসাৰৰ বাবে অৰ্থকৰি দিশত বিশেষ চিন্তা কৰিব লগা নহৈছিল। বিক্ৰয় যোগ্য প্ৰায় সকলো বস্তুৰে ব্যৱসায় সেইসময়ৰ সদাগৰ আৰু মুদৈ সকলে কৰিছিল (প্ৰাক ঔপনিবেশিক অসমৰ অৰ্থনীতি, পৃ: ২৩০)।

লক্ষীমপুৰৰ পৰা বেহাৰলৈ যোৱা সদাগৰী নাৱত যোৱা সামগ্ৰী সমূহ আছিল

"কতো দিনে পাইলা ক্ৰয় বিক্ৰয়ৰ স্থান

আনো সদাগৰে কৰিলেক মান

মৰিচৰ স্বৰ্ণ বস্ত্ৰ বস্তু আদি কৰি

পশ্চিম যাইবাক শুনি দিলেক সাদৰি (শ্ৰী শ্ৰী বংশীগোপালদেৱৰ চৰিত্ৰ, পৃ: ২৯)"

৪.৬. মানৱ সম্পদ ব্যৱস্থাপনা ঃ

মানৱ সম্পদ ব্যৱস্থাপনাৰ এক সুন্দৰ উদাহৰণ গুৰুজনাই দেখুৱাই থৈ গৈছে। শংকৰদেৱৰ প্ৰৱৰ্তিত নব্য সমাজ ব্যৱস্থাত কোনো ভেদাভেদ নাছিল। গুৰু গৃহত, হৰি গৃহত সকলো সমান। সকলো লোকৰে সমান অধিকাৰ। সেয়ে গাৰোৰ গোবিন্দৰ পৰা চান্দসাই লৈকে সকলো শংকৰদেৱৰ অনুগামী আছিল। পিছৰ কালতো শংকৰদেৱৰ অনুগামী সকলে সত্ৰ ব্যৱস্থাৰ প্ৰৱৰ্তনৰ জৰিয়তে মানৱ সম্পদ ব্যৱস্থাপনাৰ দায়িত্ব লৈ আহিছিল। কিন্তু শংকৰদেৱৰ কালছোৱাত সত্ৰৰ নিজা সম্পদ সৃষ্টিৰ কোনো প্ৰণালীবদ্ধ ব্যৱস্থা নাছিল। বেছিসংখ্যক ভকতে ভিক্ষা কৰিয়েই জীৱন নিৰ্বাহ কৰিছিল (মধাই আতৈ ঠাকুৰ আতাৰ ঘৰত ভিক্ষা, দ্ৰষ্টব্য: কথাগুৰু চৰিত পৃ:১১১)। কিন্তু পিছৰ কালত মাধৱদেৱৰ উদ্যোগত সত্ৰ সমূহ স্বাৱলম্বী হোৱাৰ বাট মুকলি হ'ল। পোন প্ৰথমবাৰৰ বাবে সত্ৰৰ নিজা আয়ৰ উৎসৰ সন্ধান কৰে আৰু সত্ৰৰ এক সমূহীয়া ভাণ্ডাৰৰ সৃষ্টি হয়। লাহে লাহে গৃহস্থী ভকত সকলক ঘৰলৈ গৈ উৎপাদান মূলক কামত লাগিবলৈ উৎসাহ দি উৎপাদিত সামগ্ৰীৰ কিছু অংশ গুৰু কৰ হিচাপে লোৱাৰ ব্যৱস্থাৰ আৰম্ভণি হয়। তদুপৰি কোনো অপৰাধ বা অনুচিত কাৰ্যৰ বাবে জৰিমনাও সত্ৰৰ ভৰালত মুদ্ৰা ৰূপত গোট খাইছিল। (প্ৰাক অৰ্থনৈতিক অসমৰ অৰ্থনৈতিক ইতিহাস পৃ: ২৪৮-২৪৯) চৰিত পুথি সমূহত মুদ্ৰাৰ সঘন উল্লেখ আৰু ব্যৱহাৰে সেই সময়ত প্ৰচলিত এক সুসংহত মুদ্ৰা অৰ্থনীতিৰ ইংগিত দিয়ে। পৰৱৰ্তী কালত সত্ৰ সমূহে ৰাজ অনুগ্ৰহো লাভ কৰি আৰ্থিক ভাবে টনকীয়াল হৈ পৰিল। এনে সত্ৰ সমূহে সম্পদৰ সম বিতৰণৰ জৰিয়তে সত্ৰৰ মাজতে নানা বাব সৃষ্টি কৰি ভকতক বেতনৰ বিনিময়ত নিয়োগ কৰিলে। সত্ৰ অৰ্থনীতি নামৰ সমান্তৰাল অৰ্থনীতিৰ জন্ম হ'ল। মাধৱদেৱৰ অনুগামী ভৱানীপুৰীয়া গোপাল আতাই প্ৰতিষ্ঠা কৰা সত্ৰ সমূহ পোৰোলা নদীৰ পাৰৰ কালজাৰলৈ তুলি নিয়া হৈছিল। এই সত্ৰ সমূহেই কাল সংহতিৰ সত্ৰ। এই গোপাল আতাই সমাজৰ পিছপৰা অৱহেলিত লোক সকলক দলে দলে গাওঁ সমুচাকৈ নীতি নিয়ম শিকাই মহাপুৰুষ ধৰ্মত শৰণ দিছিল। গোপাল আতাৰ পুত্ৰ আৰু নাতি সকলেও পাছত সত্ৰ স্থাপন কৰিছিল। এই সংহতিৰে অনিৰুদ্ধ দেৱে প্ৰতিষ্ঠা কৰা সত্ৰ সমূহক মায়ামৰা সত্ৰ বুলি কোৱা হয়। এই সংহতিৰ প্ৰচাৰক সকলৰ মনোভাৱ উদাৰ আৰু সাম্যবাদী আছিল। সমাজৰ সকলো স্তৰৰ লোকৰ বাবে এই সংহতিৰ দুৱাৰ খোলা আছিল আৰু এনে কৰিবলৈ যাওঁতে কোনো কোনো ক্ষেত্ৰত কোনো কোনো গুৰুৱে জনগোষ্ঠীসমূহৰ মাজত থকা পৰম্পৰাগত ধৰ্মীয় বিশ্বাসকো আংশিক ভাবে স্বীকাৰ কৰি ল'ব লগা হৈছিল। [ঐতিহাসিক পটভূমিত মহাপুৰুষ শংকৰদেৱ (পৃ ১৮৫)]।

৪.৭. বস্ত্ৰ শিল্পৰ সম্প্ৰসাৰণ

ভক্তি আন্দোলনৰ এই সমুজ্জল সময়চোৱাতে বয়ন শিল্পৰো প্ৰচুৰ উত্থান ঘটিল। বৰ্তমানো অসমীয়া সামাজিক জীৱনৰ এক গুৰুত্বপূৰ্ণ অংগ গামোচা প্ৰকৃততে বৈষ্ণৱ পৰম্পৰাৰে দান। সোতৰ শতিকাত ৰচিত চৰিত পুথি সমূহত গামোচাৰ অলেখ প্ৰসংগ আছে। অৱশ্যে ভূঞা সকলে গামোচাৰ দৈনন্দিন ব্যৱহাৰ কৰিছিল আৰু তেতিয়া তাক গান্তা বুলিয়েই কোৱা হৈছিল। (প্ৰাক ঔপনিবেশিক অসমৰ অৰ্থনীতি, পৃ: ১৭০)। কিন্তু সমাজ জীৱনৰ অপৰিহাৰ্য অংগ ৰূপে গামোচাই নৱ বৈষ্ণৱ পৰম্পৰাত ভুমুকি মাৰে। মাধৱদেৱে মাতৃ বিয়োগত মূৰত পথালি গামোচা মৰা, মান্য জনক গামোচাৰে সন্মান যচা, ভাওনাত ব্যৱহাৰ হোৱা, নাম কীৰ্তনত ব্যৱহাৰ হোৱা, দুৰ্ঘটনাত তেজ বন্ধ কৰিবলৈ গামোচা বন্ধা আদি অলেখ কামত গামোচাৰ বিস্তৰ প্ৰয়োগ চৰিত পুথি সমূহৰ পৰা আমি জানিবলৈ পাওঁ। অসমৰ বয়নশিল্পৰ আন এক উল্লেখযোগ্য অৱদান শংকৰদেৱৰ নেতৃত্বত বৃন্দাৱনী বস্ত্ৰৰ বয়ন। মহাৰাজ নৰনাৰায়নৰ পৃষ্ঠপোষকতাত শ্ৰী কৃষ্ণৰ জীৱন লীলা তাতী কুছিৰ তাঁতী সকলে এই বস্ত্ৰ খনৰ জৰিয়তে ফুটাই তুলিছিল। এই বস্ত্ৰখনি বোৱাবলৈ নিতৌ শংকৰদেৱ পাটবাউসীৰ পৰা তাঁতী কুছিলৈ অহাযোৱা কৰিছিল।

ৰামচৰণ ঠাকুৰৰ গুৰুচৰিতত উল্লেখ আছে

“দীৰ্ঘে ছয়কুৰি হস্ত প্ৰস্থে কুৰি তিনি।
এহি পৰিমানে বস্ত্ৰ বুৱাইলা আপুনি ।।”

এই বৃহৎ বস্ত্ৰ খন দীঘে ৩২ মিটাৰ আৰু পথালিয়ে ২৪ মিটাৰ আছিল। গৱেষক ড° ৰক্তিম ৰঞ্জন শইকীয়াৰ মতে ২৪ মিটাৰ বহল কাপোৰ তাতশালত ব’ব নোৱাৰি সেয়ে এক দেৰ মিটাৰ বহলকৈ বৈ পাছত চিলাই কৰি দিয়া হৈছিল। উল্লেখযোগ্য যে বৃন্দাৱনী বস্ত্ৰ মাত্ৰ এখন বৈ উলিওৱা বস্ত্ৰ নাছিল। ই আছিল বয়ন শিল্পৰ এক পৰম্পৰা যি শংকৰদেৱৰ মৃত্যুৰ পিছতো প্ৰায় দুশ বছৰলৈকে বৰ্তি আছিল। অৱশ্যে অন্তৰ্কলহত কোচ ৰাজ্য খণ্ড বিখণ্ড হোৱাৰ পিছত এই গৌৰৱময় পৰম্পৰাৰ অন্ত পৰে। কিন্তু প্ৰাক ঔপনিবেশিক অসমৰ অৰ্থনৈতিক ইতিহাসত ড° ৰক্তিম ৰঞ্জন শইকীয়াই ব্যক্ত কৰিছে যে শংকৰদেৱৰ পিছতো এনে কেইবাখনো বৃন্দাৱনী বস্ত্ৰৰ বয়ন হোৱাটো সম্ভৱ। এনে বৃন্দাৱনী বস্ত্ৰ ভুটানী সকলে কোচ ৰাজ্য দখল কৰাৰ লগে লগে তেওঁলোকৰ জৰিয়তে তিব্বতৰ বৌদ্ধ মঠ পাইগৈ আৰু তাৰ পিছত বৃটেইনৰ বিভিন্ন অঞ্চলৰ যাদুঘৰত সিচৰিত হৈ পৰে। উল্লেখযোগ্য যে বৃন্দাৱনী বস্ত্ৰৰ কাপোৰবিধ লাম্পা পদ্ধতিৰে প্ৰস্তুত কৰা হৈছিল। এই পদ্ধতিটো বৰ্তমান পৃথিৱীৰ পৰা বিলুপ্ত হৈ গ’ল। কিন্তু মধ্যযুগৰ অসমৰ তাঁতী সকলে এই পদ্ধতিৰে কেনেকৈ বৃন্দাৱনী বস্ত্ৰ বৈছিল জনা নাযায়। কাৰণ ইয়াৰ আগত বা পিছত তেনেধৰণৰ কোনো পদ্ধতি বয়নত ব্যৱহাৰ কৰাৰ কোনো নিদৰ্শন পোৱা নাযায়। লাম্পা বোৱাৰ পদ্ধতিটো গুৰুজনাই অসমত প্ৰৱৰ্তন কৰিছিল বুলি ক’ব পাৰি।

৫. সামৰণি

মহাপুৰুষ শংকৰদেৱ আধুনিক অসমৰ ৰূপকাৰ। সমগ্ৰ জাতিটোক জীয়াই থকাৰ উদ্দেশ্যে এটি দি একতাৰ ডোলেৰে বৰ অসম বন্ধা কহনিকৰ জনৰ অৰ্থনৈতিক চেতনাও আছিল আধুনিক। শংকৰগুৰু আৰু তেখেতৰ অনুগামী সকলে প্ৰৱৰ্তন কৰা নৱ বৈষ্ণৱ ধৰ্ম কেৱল ধৰ্ম নাছিল এয়া আছিল এক জীৱন শৈলী। এই পৰিশীলিত জীৱন শৈলীৰ মাজেদি আধ্যাত্মিক, শাৰীৰিক, মানসিক, অৰ্থনৈতিক, সামজিক এই সকলোবোৰ দিশেই নিজৰ সৰ্বোচ্চ আৰু সীমাহীন উজ্জ্বল ৰূপত প্ৰতিভাত হৈ পৰিছিল। শংকৰদেৱৰ অৰ্থনৈতিক চেতনাৰ বাংময় ৰূপ আজি আমি আমাৰ চৌপাশৰ সমাজ জীৱনত মৰ্মে মৰ্মে অনুভৱ কৰো আৰু সেয়ে আজিৰ আধুনিক অৰ্থনীতিত ইয়াৰ প্ৰাসংগিকতা আছে।

প্ৰসংগ পুথি ঃ

গোস্বামী, ড০ কেশৱানন্দঃ সত্ৰ সংস্কৃতিৰ ৰূপৰেখা

দত্তবৰুৱা, হৰিনাৰায়ন (সম্পা) (১৯৯৬) ৰামচৰণ ঠাকুৰৰ গুৰুচৰিত, দত্তবৰুৱা পাব্লিচিং কোম্পানী প্ৰাইভেট লিমিটেড, গুৱাহাটী

নেওগ, ড০ মহেশ্বৰ (সম্পা)ঃ গুৰু চৰিত কথা, বাণী মন্দিৰ, ডিব্ৰুগড়

নেওগ, ড০ মহেশ্বৰ (সম্পা)ঃ (১৯৫০) শ্ৰী শ্ৰী বংশী গোপালদেৱৰ চৰিত্ৰ

বেজবৰুৱা, লক্ষীনাথঃ শ্ৰীশ্ৰীশংকৰদেৱ আৰু শ্ৰীশ্ৰীমাধৱদেৱ, জ্যোতি প্ৰকাশন, ১৯৯৭

মহন্ত, বাপচন্দ্ৰঃ ঐতিহাসিক পটভূমিত মহাপুৰুষ শংকৰদেৱ মহন্ত ড০ নিৰুপমাঃ সত্ৰ সংস্কৃতিৰ ৰূপছায়া- আচাৰ ৰীতি আৰু উৎসৱ অনুষ্ঠান

লেখাৰু, উপেন্দ্ৰচন্দ্ৰ (সম্পা)ঃ কথা- গুৰুচৰিত, দত্তবৰুৱা এণ্ড কোম্পানী

শইকীয়া, ড০ ৰক্তিম ৰঞ্জনঃ প্ৰাক ঔপনিবেশিক অসমৰ অৰ্থনৈতিক ইতিহাস, অসম পাব্লিচিং কোম্পানী

Empirical Assessment of Flexible Count Data Models for Real World Discrete Outcomes

Dr. Ajit Goswami*
Dr. Snigdha Mahanta**

Abstract

Selecting an appropriate statistical model for count data is a persistent challenge in applied research across disciplines such as transportation, public health, insurance, and environmental studies. This paper presents an empirical comparison of three widely used discrete probability distributions-Poisson, Generalized Poisson, and Negative Binomial distributions-using goodness?of?fit techniques. Model parameters are estimated through the method of moments, and the chi?square goodness?of?fit test is applied to evaluate model adequacy using real?world accident data. The findings indicate that while the classical Poisson distribution provides a reasonable baseline, models that account for dispersion effects, particularly the Generalized Poisson and Negative Binomial distributions, offer superior empirical performance. The study highlights the practical importance of flexible count data models in applied statistical analysis.

Keywords : Goodness-of-fit, Poisson distribution, Generalized Poisson distribution, Negative Binomial distribution, Chi square test

1. Introduction

Count data frequently arise in empirical studies involving the number of occurrences of events within a fixed time or space, such as traffic accidents, insurance claims, disease incidence, and equipment failures. Accurate statistical modeling of such data is essential for effective inference and policy formulation. Although the Poisson distribution has traditionally been employed for modeling count data, realworld observations often exhibit overdispersion or underdispersion, violating the equidispersion assumption. Recent empirical studies have demonstrated that real-world count data often violate the equi-dispersion assumption of the Poisson model, necessitating the use of more flexible alternatives such as the Generalized Poisson and Negative Binomial distributions (Faroughi et al., 2023; Omer & Hussian, 2023). Moreover, advances in goodness-of-fit testing for discrete models have strengthened applied

**Assistant Professor, Dept. of Statistics, DHSK Commerce College, Dibrugarh, email: agoswami09@gmail.com*
***Assistant Professor, Dept. of Statistics, MDKG College, Dibrugarh, email: snigdhamahanta11@gmail.com*

count data analysis in diverse fields (Meintanis et al., 2025). Consequently, alternative models such as the Generalized Poisson and Negative Binomial distributions have gained prominence in applied research. This study undertakes a comparative goodnessoffit analysis of these distributions using realworld data.

2. Overview of Discrete Count Models and Parameter Estimation

The Poisson distribution is characterized by a single parameter representing both its mean and variance, making it suitable primarily for equidispersed data. The Generalized Poisson distribution extends this framework by introducing an additional parameter that allows for flexible dispersion structures. Several recent applications have highlighted the inadequacy of the classical Poisson model for empirical data and emphasized the usefulness of extended count distributions capable of handling dispersion effects (Alomair et al., 2025; Berger, M & Tutz, G 2021). Similarly, the Negative Binomial distribution accounts for unobserved heterogeneity and is particularly effective in modeling overdispersed count data commonly encountered in applied settings.

Parameter estimation for all three distributions is carried out using the method of moments. The method of moments continues to be widely adopted in applied count data studies due to its simplicity and effectiveness in empirical settings (Omer & Hussian, 2023). This approach utilizes sample mean and variance to derive consistent estimators and is widely adopted in applied statistical studies due to its simplicity and computational efficiency.

Poisson distribution (PD)

The Poisson distribution is named after Simeon-Denis Poisson (1781–1840). In addition, Poisson is French for fish. A family of probability distributions for a countably infinite sample space, each member of which are called a **Poisson distribution**. Recall that a binomial distribution is characterized by the values of two parameters: n and p. A Poisson distribution is simpler in that it has only one parameter. The parameter must be positive. The Poisson distribution is defined mathematically by the formula

$$P(x/\lambda) = \begin{cases} \dfrac{\lambda^x e^{-\lambda}}{x!}, x = 0,1,2,\ldots \\ 0, \text{otherwise} \end{cases}$$

Estimation of parameters of Poisson distribution

Simon Denis Poisson (1781-1840) gave the moment estimator for the parameter of PD as:

$$\lambda = \overline{x} = m1$$

where λ or m1, is the sample mean.

Generalized Poisson distribution (GPD)

The Generalized Poisson Distribution (GPD), introduced in *Consul and Jain* (1973), and studied extensively by Consul (1989) is defined on the non-negative integers for $0 \le \lambda_1 \le 1$ and $\lambda_2 > 0$ by

$$Px(\lambda_1, \lambda_2) = \left\{ \frac{\lambda_1(\lambda_1 + x\lambda_2)^{x-1} e^{-\lambda_1 - x\lambda_2}}{x!} \right\}, x = 0,1,2,...$$

0 for x>m, when $\lambda_1 < 0$

Applications of the GPD can be found in settings where one seeks to describe the distribution of an event that occurs rarely in a short period, but where we observe the frequency of its occurrence in longer periods of time. It extends the Poisson distribution by its ability to describe situations where the probability of occurrence of a single event does not remain constant (as in a Poisson process), but is affected by previous occurrences. The distribution has been found (Consul, 1989, pp. 117–129) to accurately describe phenomena as diverse as the observed number of industrial accidents and injuries, where a learning effect may be present, the spatial distribution of insects, where initial occupation of a spot by a member of the species has an influence on the attractiveness of the spot to other members of the species, and the number of units of different commodities purchased by consumers, where current sales have an impact on the level of subsequent sales through repeat purchases.

The author's defined mean and variance of the GPD as

$$Mean = \frac{\lambda_1}{1 - \lambda_2}$$

The variance of this GPD model is greater than, equal or less than the mean according to whether the second parameter λ_2 is positive, zero or negative and both mean and variance tend to increase or decrease in values, as λ_1 increase or decrease.

And $Variance = \dfrac{\lambda_1}{(1 - \lambda_2)^3}$

Estimation of parameters of Generalized Poisson distribution.

Consul and Jain (1973) obtained by moment method estimators for the parameter of GPD in the form as:-

$$\lambda_1 = \sqrt{\frac{m_1^3}{m_2}} = \sqrt{\frac{\bar{x}^3}{s^2}}$$

$$\lambda_2 = 1 - \sqrt{\frac{m_1}{m_2}} = 1 - \sqrt{\frac{\bar{x}}{s^2}}$$

where $\bar{x}$ or m_1 and s^2 or m_2 are sample mean and sample variance respectively.

Negative Binomial Distribution (NBD)

The negative binomial distribution (NBD) has appeal in the modelling of many practical applications. A large amount of literature exists, for example, on using the NBD to model: animal populations (see e.g. Anscombe (1949), Kendall (1948a)); accident proneness (see e.g. Greenwood and Yule (1920), Arbous and Kerrich (1951)) and consumer buying behaviour (see e.g. Ehrenberg (1988)). Furthermore, the NBD can be implemented as a distribution within stationary processes (see e.g. Anscombe (1950), Kendall (1948b)) thereby increasing the modelling potential of the distribution. The NBD model has been extended to the process setting in Lundberg (1964) and Grandell (1997) with applications to accident proneness, sickness and insurance in mind.

In case of negative binomial distribution, the following equalities/inequalities are held:

$$(i)\ npq > np \text{ and } q > \frac{np}{np} \text{ or } q > 1$$

$$\text{(ii) Since } p + q = 1,\ p \text{ must be negative, i.e. } p = -p = 1 - q$$

From the above (ii) we have,

$$-p = 1 - q$$

$$\text{and } q = 1 + p, \text{ where } p = 1 + \frac{m}{k}$$

substituting we get

$$q = 1 + \frac{m}{k}$$

The parameters of the distribution are the arithmetic mean (m) and the exponent k.

Since the variance of the population is,

$$\sigma^2 = kpq = kp(1+p) = kp + kp^2,$$

substituting

$$p = \frac{m}{k} \text{ we get,}$$

$$\text{(iii) } \sigma^2 = k\left(\frac{m}{k}\right) + k\left(\frac{m}{k}\right)^2 = m + \frac{m^2}{k}$$

The probability series of the N.B.D. is given by the expansions

$$(q-p)^{-k}$$

The individual terms of $(q-p)^{-k}$ are given by

$$P(x) = q^{-k}\,\frac{(k+x-1)!}{x!(k-1)!}\left(\frac{m}{m+k}\right)^x$$

By using the recurrence formula the individual terms of the series are,

$$P(x=0) = q^{-k} = \left(1 + \frac{m}{k}\right)^{-k} \text{ and}$$

$$P(x+1) = \left(\frac{k+x}{x+1}\right)\left(\frac{m}{m+k}\right)P(x)$$

From above (iii) we have,

$$\sigma^2 = kpq = m + \frac{m^2}{k}$$

The above formula indicates that, the reciprocal of the exponent *k*, i.e., $\frac{1}{k}$ is a measure of the excess of variance or clumping of the individuals in the population. Specifically, as $\frac{1}{k}$ approaches zero and *k* approaches infinity, the distribution converges to the Poisson series (s^2 Þ m). Conversely, if clumping increases $\frac{1}{k}$, 1 approaches infinity (k Þ 0) and the distribution converges to the Logarithmic Series.

Estimation of Parameters of Negative Binomial Distribution

The estimation of the parameters of NBD by the method of moments given as

$$q = \frac{\sigma^2}{m} \qquad \text{where}$$

$$s^2 = \sigma^2 = \frac{1}{\sum_i f_i - 1}\left[\sum_i f_i x_i^2 - \frac{\left(\sum_i f_i x_i\right)^2}{\sum_i f_i}\right]$$

$$\bar{x} = m = \frac{1}{\sum f_i}\sum_i f_i x_i$$

$$-p = 1 - q$$

$$\text{And } \hat{k} = \frac{m}{p}$$

3. Goodness-of-Fit Methodology

The chi-square goodness-of-fit test is employed to assess the adequacy of each distribution in representing the observed data. Expected frequencies are computed based on the estimated parameters and compared with observed frequencies. Chi-square goodness-of-fit tests remain a popular and practical choice for evaluating discrete distributions in applied studies, particularly when dealing with real-world observational data (Müller & Schweim, 2025; Meintanis et al., 2025). The test statistics and corresponding p-values are used to evaluate the suitability of the competing models.

We have used data sets of road traffic accident under Dibrugarh police station during the period of 2022 for fitting the aforesaid distribution. The expected frequencies according to the methods along with the estimates of the parameters and the values of the hi-square are given in the following Table.

Table 1: Data for No. of weekly accidents of the year 2022

No. of accident	**Observed frequency**	**PD**	**GPD**	**NBD**
0	16	15	15.3	15.5
1	17	19	18.3	18.2
2	12	12	11.4	11.3
3	4	5	4.9	4.9
4	3	1	1.6	1.6
5	0	0	0.5	0.5
Parameters		$\lambda = 1.25$	$\lambda_1 = 1.22$ $\lambda_2 = 0.020$	$p = 0.063$ $k = 19.94$
$\chi^2 =$		0.44386	0.15595	0.15380
p value		0.8009	0.9249	0.92598

From the above table 1, it seems to be very logical that GPD and NBD give comparatively better fit to the data. In the table 1, the estimate of the parameter in Poisson ($\lambda = 1.25$), GPD ($\lambda_1 = 1.22$, $\lambda_2 = 0.020$) and NBD ($p = 0.063$, $k = 19.94$). The computed value of chi-square reflected by their p-value further show that non-significant difference is almost same in GPD and NBD followed by PD. Therefore, it may be conclude that the data fits well for all three distribution viz, Poisson, Generalized Poisson and Negative binomial distribution.

4. Conclusion

This study underscores the limitations of relying solely on the Poisson distribution for modeling real-world count data. The empirical evidence supports the use of Generalized Poisson and Negative Binomial distributions as more adaptable alternatives. Researchers and practitioners are encouraged to assess dispersion characteristics before selecting an appropriate count data model.

These results reinforce recent recommendations in the literature advocating the use of flexible count data models for real-world applications where dispersion effects are prominent (Alomair et al., 2025; Berger, M & Tutz, G 2021).

References

Alomair, A. M., et al. (2025). Discrete Poisson Haq distribution with mathematical properties and count data modeling. *Scientific Reports*, 15, 23281.

Anscombe, F. J. (1949). The statistical analysis of insect counts based on the negative binomial distribution. *Biometrics, 5*, 165-173.

Anscombe, F. J. (1950). Sampling theory of the negative binomial and logarithmic series distributions. *Biometrika, 37*, 358-382.

Arbous, A., & Kerrich, J. (1951). Accident statistics and the concept of accident proneness. *Biometrics, 7*, 340-432.

Berger, M & Tutz, G (2021). Transition models for count data: A flexible alternative to fixed distribution models. *Statistical Methods & Applications,* 30, 1259–1283.

Consul, P. C. (1989). *Generalized Poisson Distributions: Properties and Applications*, Textbooks and Monographs. New York: Marcel Dekker Inc.

Consul, P. C. and G. C. Jain (1973). A generalization of the Poisson distribution. *Technometrics 15*(4), 791–799.

Ehrenberg, A. (1988). *Repeat-buying: Facts, theory and applications*. London: Charles Griffin & Company Ltd.; New York: Oxford University Press.

Faroughi, P., Li, S., & Ren, J. (2023). Applications of generalized Poisson regression models to insurance claim data. *Risks*, *11*(12), 213.

Grandell, J. (1997). *Mixed poisson processes*. Chapman & Hall.

Greenwood, M., & Yule, G. (1920). An inquiry into the nature of frequency distributions representative of multiple happenings with particular reference to the occurrence of multiple attacks of disease or of repeated accidents. *J. Royal Statistical Society*, *93*, 255-279.

Kendall, D. G. (1948a). On some modes of population growth leading to R. A. Fisher's logarithmic series distribution. *Biometrika*, *35*, 6-15.

Kendall, D. G. (1948b). On the generalized "birth-and-death" process. *Ann. Math. Statistics*, *19*, 1-15.

Lundberg, O. (1964). *On Random Processes and their Application to Sickness and Accident Statistics*. Uppsala: Almquist and Wiksells.

Meintanis, S. G., NgatchouWandji, J., & Santana, L. (2025). Goodnessoffit tests for discrete response models with covariates. *Statistical Papers*, 66, 54.

Müller, T., & Schweim, D. (2025). From theory to practice: Chisquared goodnessoffit testing for Poisson distributions with car parking data. *Journal of Statistical Theory and Applications,* 24, 1033–1055.

Omer, P. A., & Hussian, T. M. (2023). Fitting Generalized Poisson and Negative Binomial regression models for analysing count time series. *Mitanni Journal of Humanitarian Sciences*, 4(2), 116–126.

School Sanitation and Girls' Education in Rural Assam: Post-Swachh Bharat Insights

Dr. Lipi Bhuyan*
Dr. Kasturi Saikia**

Abstract

Education is a foundational pillar for social transformation and inclusive development. Ensuring adequate sanitation facilities, particularly for adolescent girls, remains essential to safeguarding health, dignity, and equal educational participation. In rural India, challenges related to school sanitation continue to hinder attendance and learning outcomes, especially among female students. This study evaluates the influence of school sanitation infrastructure on girls' educational engagement in rural Assam, drawing insights from national initiatives such as Swachh Bharat: Swachh Vidyalaya and UNICEF's WASH in Schools programs. Using both primary data and recent secondary sources from UDISE+ 2024, NFHS-6 (2024), and WHO-UNICEF JMP (2024), the research explores how sanitation quality, menstrual hygiene management, and behavioural factors impact attendance and retention. Findings reveal that while over 91% of Indian schools have separate girls' toilets, only 70% remain functional and hygienic. In Assam, nearly 28% of rural schools still lack adequate menstrual hygiene facilities, directly affecting female attendance. The study underscores that infrastructural improvement must be accompanied by behavioural change, regular maintenance, and gender-sensitive policies to ensure educational equity.

Keywords: Education, Sanitation, Girls' Attendance, Rural Assam, WASH, Swachh Bharat

1. Introduction

Education serves as the cornerstone of national development and human progress. It empowers individuals to overcome poverty, inequality, and social exclusion. For young girls, education also functions as a transformative force, enhancing empowerment and breaking intergenerational cycles of disadvantage. A hygienic learning environment enables girls to attend school regularly, engage fully in classroom activities, and continue their education without interruption during menstruation. The relationship between sanitation and educational participation has gained global attention under the Sustainable Development

**Assistant Professor, Department of Business Administration, University of Science and Technology, Meghalaya*
***Assistant Professor, Department of Management, DHSK Commerce College, Dibrugarh*

Goals (SDGs), particularly SDG 4 (Quality Education) and SDG 6 (Clean Water and Sanitation). Despite significant progress in sanitation infrastructure, the quality, maintenance, and gender sensitivity of these facilities remain uneven across developing nations, especially in rural regions.However, for many girls in rural India, education is constrained by inadequate school sanitation infrastructure.

Globally, according to the WHO–UNICEF Joint Monitoring Programme (JMP, 2024), around 4.5 billion people, roughly 60% of the global population, lack access to safely managed sanitation systems. This gap is most pronounced in South Asia and sub-Saharan Africa, where gender-based disparities are amplified by cultural taboos and infrastructural deficits. In India, the Swachh Bharat Mission (SBM) launched in 2014 revolutionized sanitation by mobilizing national efforts to end open defecation and promote cleanliness. However, ensuring the sustainability of constructed toilets, particularly in schools, continues to be a major challenge.

The *Swachh Vidyalaya Abhiyan*, launched as a component of SBM, set a target to provide separate toilets for boys and girls in every government school.UDISE+ (2024) data indicate that nearly 93% of schools in India have separate toilets for girls. Yet, only about 68% of these are fully functional, highlighting maintenance gaps, poor water access, and lack of menstrual hygiene management (MHM) provisions. In Assam, a largely rural state with diverse topography and socio-economic disparities, sanitation accessibility shows regional variation. Flood-prone areas often experience damaged facilities, while remote villages struggle with water scarcity and limited government monitoring.

School sanitation in Assam is thus not just an infrastructural concern but a developmental and gender equity issue. NFHS-6 (2024) data reveal that nearly 60% of adolescent girls in rural Assam miss at least one or more school days during menstruation due to the lack of hygienic facilities. This situation perpetuates educational inequality, contributing to higher dropout rates among girls at the upper primary and secondary levels.

Within this framework, the present study aims to evaluate the real-world outcomes of sanitation interventions in rural Assam. It investigates how sanitation infrastructure affects attendance, participation, and retention among adolescent girls, while also exploring the cultural and administrative factors influencing facility usage.This research gains relevance as Assam, like many northeastern states, faces unique geographical and administrative challenges that complicate national policy implementation.

2. Review of Literature

The relationship between sanitation infrastructure and girls' education has been examined across multiple disciplines including public health, education, and gender studies. Scholars consistently emphasize that sanitation facilities within schools play a decisive role in ensuring attendance, retention, and academic achievement among female students. The literature demonstrates that while the provision of toilets has increased substantially over the past decade, functionality, cleanliness, and menstrual hygiene management (MHM) remain persistent challenges.

Adukia (2017) provides one of the most rigorous econometric analyses linking sanitation infrastructure to schooling outcomes in India. Using national data, the study demonstrates that the introduction of school toilets under India's Total Sanitation Campaign significantly increased girls' enrollment and reduced absenteeism. This empirical connection between sanitation and educational persistence illustrates how infrastructure investments can yield gender-specific educational benefits.

Complementing this macro-level evidence, Mara et al (2010) reviewed global data and concluded that inadequate sanitation perpetuates preventable disease burdens and indirectly undermines educational progress through poor health, especially among school-age children. Their findings situate sanitation within the larger framework of human development and poverty reduction.

At the community level, Joshi et al. (2011) analysed sanitation practices among the urban poor in India and found that social stigma, inadequate facilities, and infrastructural neglect contribute to chronic health risks and feelings of marginalization. Their qualitative findings highlight the intersection of poverty, gender, and urban exclusion in shaping sanitation behaviours. Similarly, the *National Family Health Survey–6* (NFHS-6, 2024) documents persistent regional disparities in access to household toilets, with rural women and adolescent girls disproportionately affected.

Gender-sensitive sanitation remains a critical concern in South Asia. Mahon and Fernandes (2010) observed that menstrual hygiene management (MHM) has been historically neglected in WASH (water, sanitation, and hygiene) programs, despite its centrality to girls' participation in education. They argue for integrating MHM education, waste disposal facilities, and privacy measures into school sanitation policies.

Building on this perspective, Sommer et al. (2014) conducted a cross-national comparative study across Tanzania, Ghana, Cambodia, and Ethiopia, revealing that inadequate menstrual facilities and entrenched social taboos lead to reduced classroom participation and missed school days. Although their research is not India-specific, its findings resonate strongly with conditions reported in the Indian context, where menstruation continues to intersect with stigma and infrastructural insufficiency.

Synthesizing these themes, Mara et al. (2010) emphasize the public-health dividends of sanitation reform, while Mahon and Fernandes (2010) extend the discussion toward gender-equitable WASH policies. Together, these works underscore that achieving Sustainable Development Goal 6 (clean water and sanitation) is not only a matter of infrastructure but also of social inclusion and behavioural change. Recent national datasets such as NFHS-6 (2024) demonstrate progress in sanitation coverage, yet emphasize the continued need for targeted interventions in schools to sustain hygiene practices and safeguard adolescent health. These foundations justify the present study's focus on assessing the relationship between school sanitation infrastructure and girls' educational experiences in rural Assam, situating local observations within a globally recognized evidence base.

3. Objectives

The present study aims to evaluate the relationship between school sanitation infrastructure and girls' educational participation in rural Assam with the following objectives:

i. To assess the current status, functionality, and accessibility of sanitation facilities for girls in rural schools of Assam.

ii. To analyse the relationship between sanitation infrastructure and girls' attendance, retention, and participation in schooling, with special attention to absenteeism during menstruation.

4. Methodology

The present study employs a descriptive and analytical research design to examine the relationship between sanitation infrastructure and girls' educational participation in rural Assam. The approach combines field-based observations with secondary data analysis, enabling a comprehensive understanding of infrastructural and behavioural dimensions of the issue.

The study was conducted in rural government schools located in the districts of Nagaon and Sonitpur, Assam, both characterized by agrarian economies, periodic flooding, and limited infrastructure funding. A multistage sampling technique was applied. In the first stage, two blocks from each district were selected randomly. In the second stage, four government secondary schools (two per district) were chosen based on criteria including co-education system, availability of separate toilets for girls, and willingness to participate. In the final stage, 80 adolescent girls aged 11–16 years were selected through stratified random sampling, ensuring representation from different socio-economic and caste groups.

Structured questionnaires and semi-structured interviews were administered to 80 female students and 8 teachers. Observational checklists were used to assess sanitation infrastructure (toilet condition, water availability, waste disposal system, and privacy). The survey included items on absenteeism patterns, comfort in using school toilets, and perception of hygiene facilities during menstruation. Official datasets such as UDISE+ (2024), NFHS-6 (2024), and WHO–UNICEF JMP (2024) were used for contextual benchmarking.

Quantitative data were analysed using percentage analysis and comparative interpretation, focusing on correlations between toilet functionality and attendance levels. Qualitative data—derived from interviews and open-ended questions—were coded. Words such as "privacy concerns," "water scarcity," and "social stigma" were identified and interpreted to complement statistical findings. This mixed-method design enhanced both the reliability and validity of results by triangulating numerical trends with lived experiences.

5. Limitations of the Study

While the study provides valuable insights into the relationship between sanitation and girls' education in rural Assam, certain limitations must be acknowledged:

i. **Limited Sample Size:** The primary data were collected from four government secondary schools across two districts (Nagaon and Sonitpur), with 80 adolescent respondents. While representative of rural settings, the sample size restricts broader generalization across the entire state of Assam.

ii. **Geographic Scope:** Assam exhibits significant regional diversity, including hill districts, riverine islands (chars), and flood-prone zones. The study does not fully capture variations across all geographical contexts.

iii. **Reliance on Self-Reported Data:** Some findings, particularly regarding absenteeism and menstrual practices, rely on self-reported responses from students. Social desirability bias may have influenced certain responses.

iv. **Cross-Sectional Design:** The study employs a cross-sectional research design, capturing sanitation conditions and attendance patterns at a specific point in time. Longitudinal studies would be required to assess long-term impacts of sanitation reforms on educational retention.

v. **Limited Exploration of Male Perspectives:** While the study focuses on girls' educational experiences, it does not extensively explore the role of boys' attitudes, male teachers, or broader gender norms in shaping sanitation usage.

6. Findings and Analysis

This section presents the empirical findings of the study, combining primary field data with secondary datasets from national and international sources such as UDISE+ (2024), NFHS-6 (2024), and the WHO–UNICEF JMP (2024).

6.1 Availability and Functionality of Toilets

The *Swachh Bharat Mission (SBM)* and *Swachh Vidyalaya Abhiyan* have substantially increased toilet coverage in Indian schools. According to UDISE+ (2024), 93% of schools in India now have separate toilets for girls compared to 37% in 2010. However, the functionality of these facilities continues to be inconsistent.

Table 1: Availability of Functional Toilets in Schools (2024)

Facility Type	Assam (%)	India (%)
Schools with Separate Girls' Toilets	91	93
Schools with Functional Toilets	68	70
Schools with MHM Facilities (water, disposal, privacy)	72	75

Source: UDISE + (2024); UNICEF (2024)

These statistics reveal that while almost all schools have toilets on paper, only two-thirds maintain full functionality. In rural Assam, around 32% of schools experience water scarcity or sanitation breakdowns at least once a year. Field observations confirmed that some toilets lacked door locks, regular cleaning, or separate waste bins for menstrual disposal.
Interviews with teachers indicated that maintenance funds are often delayed or insufficient. In many schools, janitorial staff are either unavailable or shared across multiple institutions, resulting in irregular cleaning schedules. Consequently, several girls reported avoiding school toilets altogether and waiting until they return home—an issue that affects both concentration and attendance.

6.2 Sanitation and Attendance Patterns

The study found a clear correlation between the presence of functional toilets and higher attendance rates among girls. Schools with regularly maintained sanitation facilities reported 5–8% higher monthly attendance compared to those with irregular maintenance.
Teachers noted that absenteeism peaks during the monsoon months (June–September), when floods and waterlogging disrupt water supply and access to sanitation. Conversely, schools that engaged community members through School Management Committees (SMCs) or parent-teacher associations reported better maintenance and improved student comfort.

Table 2: Girls' Absenteeism During Menstruation (2024)

Frequency	Assam (%)	India (%)
Regularly Absent	29	24
Sometimes Absent	31	27
No Absenteeism	40	49

Source: NFHS-6 (2024); Field Survey (2024)

These figures indicate that nearly 60% of girls in rural Assam miss at least one or more school days during menstruation, which is significantly higher than the national average of 51%. The main reasons cited were:

- Lack of privacy (42%)
- Absence of water or soap (36%)
- Unavailability of sanitary napkins or disposal bins (31%)
- Fear of staining uniforms or embarrassment (28%)

Qualitative interviews also revealed strong psychological factors; many girls expressed discomfort discussing menstruation with male teachers or parents, and some reported ridicule from peers. This social stigma amplifies absenteeism and leads to reduced classroom engagement even when present.

Water availability emerged as a decisive factor in sanitation usability. Although most schools had handpumps or piped water sources, consistent water supply was lacking in several cases. In one surveyed school in rural Sonitpur, toilets were functional but locked because the water tank remained empty for weeks due to mechanical failure.

Additionally, soap or handwash was available in only 57% of surveyed schools, and 40% of girls admitted not washing hands after toilet use due to unavailability of soap. Such practices increase the risk of urinary tract infections (UTIs) and other health issues, further affecting attendance and concentration.

The study found that menstrual hygiene management (MHM) is still inadequately addressed in many rural schools. While 72% of schools reported having some form of MHM facility (e.g., disposal bins, water, privacy), only 40% had regular supplies of sanitary napkins. In certain cases, used napkins were burned in open pits, leading to health and environmental hazards.

Field data corroborate UNICEF (2024) findings that awareness programs and open discussions on menstruation significantly improve girls' attendance and comfort levels. Schools with trained female teachers conducting health education sessions showed a 10–12% reduction in menstruation-related absenteeism compared to those without such programs.

Government initiatives have played an essential role in improving sanitation coverage. The Swachh Bharat Mission (SBM) and its educational component, *Swachh Vidyalaya*, achieved near-universal toilet construction by 2019. However, the shift toward *Swachh Vidyalaya 2.0 (2022–2024)* reflects recognition that maintenance and hygiene education are ongoing challenges.

Under the Menstrual Hygiene Scheme (2023), schools were expected to install incinerators and provide free sanitary pads. However, implementation varies widely—interviews revealed that many schools had received equipment but lacked training to operate or maintain it.

Teachers noted that reporting mechanisms for maintenance issues are slow and fragmented. In one case, a head teacher had to personally request funds for toilet repair from the district office, leading to a three-month delay. These administrative bottlenecks undermine the effectiveness of well-intentioned policies.

7. Policy Recommendations

The findings of this study indicate that while toilet construction under Swachh Bharat and Swachh Vidyalaya has substantially improved infrastructural coverage, the core challenge in rural Assam lies in functionality, maintenance, and gender-sensitive implementation. Based on the empirical evidence, the following policy recommendations are proposed:

i. Shift from Construction to Sustainability: Government policy must transition from infrastructure creation to long-term sustainability. Dedicated and ring-fenced funds for toilet maintenance, water supply repair, and cleaning staff salaries should be institutionalized under school development grants. Periodic third-party audits of sanitation functionality should be conducted to ensure accountability.

ii. Strengthen Menstrual Hygiene Management (MHM): Provision of toilets alone is insufficient without adequate MHM facilities. Schools must be equipped with:
   - Regular sanitary napkin supply
   - Functional disposal mechanisms (incinerators or eco-safe bins)
   - Water availability and soap
   - Privacy-enhancing infrastructure (locks, doors, lighting)

iii. Community-Based Monitoring Models: Evidence from field observations suggests that schools with active School Management Committees (SMCs) perform better in maintaining sanitation. Policymakers should formalize community participation frameworks, empowering parents and local bodies to monitor sanitation conditions and report deficiencies.

iv. Integration with Health and Education Departments: Sanitation policy should not function in isolation. A coordinated approach between the Departments of Education, Health, and Rural Development is essential to ensure:
   - Regular health check-ups
   - Hygiene education sessions
   - Timely infrastructure repair

v. Special Focus on Flood-Prone and Remote Areas: Given Assam's unique geographical vulnerabilities, region-specific sanitation models are necessary. Flood-resilient toilet structures and alternative water storage systems should be prioritized in vulnerable districts.

vi. Data Transparency and Digital Reporting: A digital grievance redressal and monitoring platform should be established at the district level to reduce delays in maintenance approvals. Real-time sanitation status reporting through UDISE+ integration can strengthen policy responsiveness.

8. Conclusion

The findings of this study clearly demonstrate that sanitation infrastructure in schools has a profound and measurable impact on girls' educational participation in rural Assam.While Assam has made notable strides in toilet construction, functionality and MHM implementation lag slightly behind the national average. Nationally, around 70% of schools maintain fully functional toilets; in Assam, the figure is closer to 68%. Similarly, MHM coverage in Assam (72%) trails India's average (75%).

However, Assam performs comparatively better in community participation. Field interviews revealed that parent-teacher associations often assist with cleaning and monitoring sanitation facilities, especially in smaller rural schools. Such local ownership models are crucial for long-term sustainability.

These findings collectively suggest that the real challenge in rural Assam is not infrastructure creation but infrastructure sustainability. While progress under Swachh Bharat is undeniable, the gap between policy intent and ground-level functionality continues to restrict the transformative potential of sanitation in advancing girls' education.

The findings reinforce the broader argument advanced by UNICEF (2024) and WHO–UNICEF JMP (2024) that access alone does not guarantee usage. The existence of toilets must be complemented by privacy, safety, cleanliness, and gender sensitivity. In the absence of these, infrastructure remains symbolic rather than transformative.

Overall, this research concludes that sanitation must be reframed as an educational right and gender justice issue, not merely as an infrastructural target. The success of any educational reform depends on ensuring that girls can attend school with dignity, safety, and confidence. For rural Assam, achieving this vision requires integrated policy implementation, context-sensitive infrastructure, and sustained behavioural transformation.

References

Adukia, A.(2017). Sanitation and Education. *American Economic Journal: Applied Economics,* 9 (2): 23–59**.** DOI: 10.1257/app.20150083

Joshi, D., Fawcett, B., & Mannan, F. (2011). Health, hygiene and appropriate sanitation: experiences and perceptions of the urban poor. *Environment & Urbanization*, *23*(1), 91-111. https://doi.org/10.1177/0956247811398602

Mahon, T., & Fernandes, M. (2010). Menstrual hygiene in South Asia: A neglected issue for WASH (water, sanitation and hygiene) programmes. *Gender & Development, 18*(1), 99–113. https://doi.org/10.1080/13552071003600083

Mara, D., Lane, J., Scott, B., & Trouba, D. (2010). Sanitation and health. *PLoS Medicine, 7*(11), e1000363. https://doi.org/10.1371/journal.pmed.1000363

NFHS-6. (2024). *National Family Health Survey: India Factsheet 2024.* Ministry of Health and Family Welfare, Government of India. https://www.mohfw.gov.in

Sommer, M., Ackatia-Armah, N., Connolly, S., & Smiles, D. (2014). A comparison of the menstruation and education experiences of girls in Tanzania, Ghana, Cambodia and Ethiopia. *Compare: A Journal of Comparative and International Education*, *45*(4), 589–609. https://doi.org/10.1080/03057925.2013.871399

UDISE+. (2024). *School Education in India: Statistics and Indicators 2023–24.* Ministry of Education, Government of India.

UNESCO. (2023). *Gender Report: Progress in achieving gender parity in education.* Paris: United Nations Educational, Scientific and Cultural Organization.

UNICEF. (2024). *Water, Sanitation and Hygiene (WASH) in Schools: Progress Review for South Asia.* United Nations Children's Fund.

WHO–UNICEF JMP. (2024). *Progress on Household Drinking Water, Sanitation and Hygiene: 2000–2024.* World Health Organization and UNICEF.

World Bank. (2023). *Education and gender equity in India: The role of sanitation and health.* Washington, DC: The World Bank.

Asia's Largest Dry Fish Market in Jagiroad, Assam: A Study of Product Diversity, Trade Networks, and Institutional Support

Swarnata Shil*
Dr. Anita Baruwa**

Abstract

The Jagiroad Dry Fish Market, located in the industrial town of Jagiroad, Assam, is not only the largest of its kind in Asia but also a crucial player in both the local economy and the international seafood trade. This research paper aims to explore the dynamics of the market, including its historical significance, product diversity, economic impact, and the challenges and opportunities faced by its stakeholders. Using primary data collected through field study in October 2023, the paper also investigates the role of government financial schemes and assesses the overall impact of this market on both regional and international trade. Through a detailed analysis, this paper provides insights into the operational mechanisms and future prospects of Jagiroad's dry fish market.

Keywords: Jagiroad, Dry Fish, Asia's Largest Dry Fish Market

1. Introduction

Jagiroad Dry Fish Market, located in the north-eastern state of Assam, India, is renowned as Asia's largest dry fish market. The market serves as a pivotal hub for the trade and distribution of a wide range of dried seafood products. It plays a significant role in the international business landscape, attracting buyers and traders from various parts of the world. This dry fish market is functioning in the industrial town of Jagiroad in Morigaon district of Assam, where transactions worth about Rs. 40 crores take place every year. It is situated just 50 km from state capital Guwahati towards eastern side of Assam. Besides the largest dry fish market of Asia, it is also famous for the Nagaon paper mill.

In this unique market, various dried seafood products are traded, including dried fish, prawns, shrimps, and more are traded. The market caters to a diverse clientele, from local consumers to international buyers, making it a crucial player in the global dry fish industry.

Dry fish is a low cost protein food for the common people. Before canning and freezing methods were introduced, drying of fish was the method of fish preservation (Madan et al., 2018). Drying of fish is the best alternative way of fish preservation which not only reduces

*Apprentice, Eastern Region, IOC Limited (Marketing Division)
**Associate Professor, Department of Economics, DHSK Commerce College, Dibrugarh

loss after catching fish, but also adds value to the catch. In India, dry fishes are widely sold at local markets and also exported. Dry fish business is a labour-intensive enterprise and plays a significant role in the livelihoods of fishermen, wholesalers, retailers, transporters, and menial workers.

2. Importance of the Study

The Jagiroad Dry Fish Market has been contributing to the growth and development of foreign trade in the region for decades. However, no such study on the various aspects of domestic and international trade of this fish market has been found. Hence, the present study has been attempted.

3. Objectives of the Study

The main objectives of the study are:

i. To understand the establishment and structure of Jagiroad Dry Fish Market.
ii. To learn about the product sources, varieties and prices of Jagiroad Dry Fish Market.
iii. To study the contribution, market reach, supply and logistics of Jagiroad Dry Fish Market.
iv. To know about the Government financial schemes available for the sellers in Jagiroad Dry Fish Market.
v. To understand the challenges and opportunities faced by the sellers in Jagiroad Dry Fish Market.

4. Research Questions

The following research questions were framed:

i. Whether the supply of dry fish to Jagiroad Dry Fish Market originates from diverse locations across India, offering a wide variety of fish species?
ii. Whether the Jagiroad Dry Fish Market has a significant international market reach?
iii. Whether vendors in the market have accessed government financial assistance schemes?
iv. Whether the market presents more opportunities for business growth than challenges?

5. Methodology and Scope

The present study is based on information collected on the Jagiroad Dry Fish Market located in Jagiroad in Morigaon district of Assam. Information has been collected from both primary and secondary sources. Primary data were collected with the help of a structured interview schedule framed for the purpose during the field study conducted in October, 2023. Secondary information was collected from books, online articles and websites. The collected information has been organized on the basis of the set objectives and the findings from there have been analysed with the help of tables and diagrams in the subsequent sections.

6. Limitations of the Study

The following are the limitations of the present study:

i. The study is based on a preliminary survey; as such in depth study of the market has not been done.

ii. Time and resource constraints have confined the study to a few limited trade aspects of the market.
iii. No statistical or quantitative analysis was done.

7. Findings and Discussion

In this section, the findings of the study have been analysed in a manner so as to fulfill the objectives set for the study.

7.1 Establishment and Structure

As informed by the office-bearers of the Jagiroad Dry Fish Merchants Association, the origin of this market can be traced back to the early sixties. In the late 1940s, there used to be a Sunday market in Silchar. People from places like Shillong and Karimganj used to go to the market. However during the Indo-Pak partition a big market in Dacca closed down. As a result the market in Silchar was also affected. Some traders from Karimganj came to Jagiroad to check the feasibility of setting up a market in Jagiroad which was well connected by train and road. They started a Sunday market here somewhere around the early 1940s and after partition, sea fish also started to be brought here. In the beginning this market was created for local needs. Slowly, neighbouring states like Meghalaya, Mizoram, Nagaland, Tripura and Manipur entered the market and Jagiroad became an important dry fish trading center of the North-East.

In its present form, the Dry Fish Market was founded in 1975. Geographically this market is not too big, approximately having total numbers of 200 shops operated by mahalders with less than a kilometer in length. But this is a place where the maximum transactions of dry fish in Asia take place. These 200 stalls contribute significantly to the sustenance of their localities. The market generally operates 3 days in a week - Thursday to Saturday. More or less 4000-5000 people are directly and indirectly associated with this trade. It sees an impressive turnover, with approximately 500 tons of dry fish sold weekly. The market experiences fluctuations in demand and supply, with peak seasons during winter, influenced by factors like transportation, labour, and power costs. The dry fish marketing channel starts with a farmer (dry fish producer) and ends with the ultimate consumer involving a number of intermediaries in between. The involvement of these marketing intermediaries provides services for producing, assembling, loading, packaging and transporting of dry fishes and these activities result in cost addition at every stage of marketing.

This market is situated near New Jagiroad Railway Station which is well connected by rail and National Highway 37. This famous dry fish trade is controlled by the Jagiroad Dry Fish Merchants Association. The Association has to pay a substantial amount of money as taxes. The Association also donates parts of its profits to schools, colleges, and sports activities. Thus, Section 7.1 fulfils the first objective, *"To understand the establishment and structure of Jagiroad Dry Fish Market."*

7.2 Fish Varieties, Prices and Sources

The market offers a wide variety of dried seafood products, including sea bass, cuttlefish, stock fish, eel, mackerel, and more; with some of the most popular items being dried fish (hilsa, rohu, and catla), dried prawns, dried shrimp, dried fish snacks, and more. The availability of species fluctuates with the seasons, with winter showcasing the widest range of options.

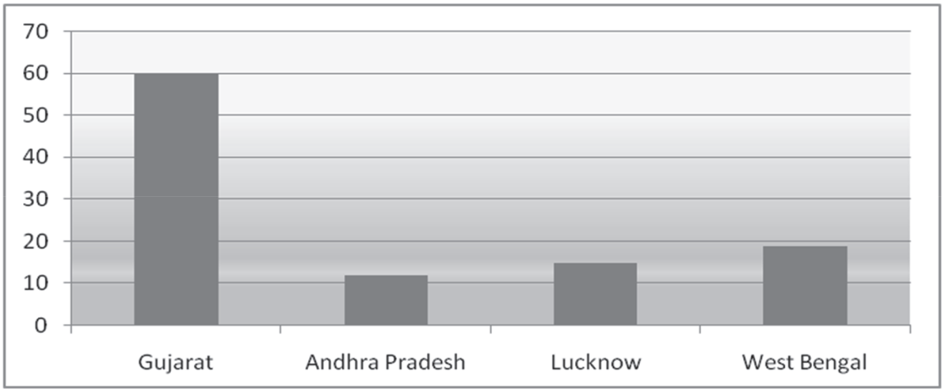
Table 1 shows the different varieties of fish such as Goroi/Taka/Lati, Ari/Air, Puthi/Punti, Moa/Mola, Sitol/Chital, Borali/Boal, Rau/Rohu, Loitta/Bamla etc. are found in this market. The price of fish varies according to size and quality. Sea fish and freshwater fish like Bamla, Puthi, and Misa range from Rs.7 to Rs.110 per kilogram. It can also be seen that the prices of different fish varieties depend on the process of drying, viz. sun dried or smoked. It is found that the price of sun dried fish is more than that of smoke dried fish because the sun drying process involves more time and labour.

Table 1: Fish Varieties and their price in Jagiroad Market

Sl. No.	Fish Type	Price of Sun Dried Fish	Price of Smoked Fish
1	Goroi/Taka/Lati	750	550
2	Ari/Air	630	600
3	Puthi/Punti	780	700
4	Moa/Mola	---	100
5	Sitol/Chital	---	550
6	Borali/Boal	---	450
7	Rau/Rohu	---	450
8	Loitta/Bamla	---	1200 (Retail)

Source: Adapted from Mallick et al. (2022)

Figure 1: Import of Dry Fish (%)



Source: J Krishi Vigyan 2022, 10(2):301-305

Fish from all over India comes to this market. Siliguri in West Bengal, Porbandar in Gujarat, Lucknow and Gorakhpur in Uttar Pradesh and Teliamura in Tripura. Sea fish come from West Bengal and Gujarat. From Figure 1, it can be seen that highest quantity of dry fish is sourced from Gujarat, followed by West Bengal, Lucknow and Andhra Pradesh respectively. Apart from these places, dry fish also arrives in Jagiroad Market from Tamil Nadu, Barpeta and local beels.

Thus, analysis of Table 1 and Figure 1 fulfills the second objective, namely, *"To learn about the product sources, varieties and prices of Jagiroad Dry Fish Market."*

Hence, the first research question, *"Whether the supply of dry fish to Jagiroad Dry Fish Market originates from diverse locations across India, offering a wide variety of fish species?"* has been answered: The supply of dry fish to Jagiroad Dry Fish Market originates from diverse locations, offering a wide array of fish varieties.

7.3 Economic Impact and Contribution of the Market

The Jagiroad Dry Fish Market is the economic backbone of the region, serving as the sole major industry in the town. It generates an estimated annual turnover of Rs. 40 crore. Its impact on the local economy is defined by the following key factors:

i. **Direct and Indirect Employment:** Around 4000 to 5000 individuals directly and indirectly derives its livelihood from this market, making it a cornerstone of the town's economy. This includes wholesalers, retailers, labourers, transporters, packaging workers, cleaners etc.

ii. **Local Dependence:** Notably, the market stands as a testament to job creation and the sustenance of the local populace, highlighting its pivotal role in the town's economic fabric. Roughly 25-30% of the local population in Jagiroad depends on this trade for their livelihood. It serves as the primary industry in the area.

iii. **Socio-Economic Support:** Engaging in social responsibility, the Jagiroad Dry Fish Merchants' Association or the market authorities contribute to various local community infrastucture, including schools, colleges, festivals, sports and relief funds, including the Chief Minister's Relief Fund.

iv. **No-Waste Policy:** Economic efficiency is maintained through a zero-waste approach where rejected fish are re-purposed into manure and feed for poultry and fish farming.

v. **Government Revenue:** While the market is currently exempt from GSt, it contributes significantly to the economy through income tax paid by its traders.

7.4 Supply and Logistics

The supply chain in Jagiroad Dry Fish Market involves a network of fishermen, wholesalers, retailers, and exporters. The market acts as an intermediary between fishermen and buyers, ensuring that products meet quality standards and regulatory requirements. The market operates through a high-volume multi-modal transportation network that connects the coastlines of Western and Southern India to the landloacked states of Northeast. Its strategic location adjacent to the Jagiroad Railway Station and National Highway makes it the central logistics node for the entire region.

The transportation methods used are:

i. **Heavy-Duty Trucks:** This is the primary method for long-distance haulage. Approximately 1000 to 1200 trucks arrive at the market annually. Large consignments from coastal states like Gujarat and West Bengal arrive in 10-wheel or 12-wheel trucks.

ii. **Railways:** The market, located just behind the Jagiroad Railway Station, allows for the bulk import of dried fish from Veraval (Gujarat) and Digha (West Bengal).

iii. **Local Distribution:** For secondary distribution to the hill states (Meghalaya, Mizoram), smaller pick-up trucks and vans are used to navigate the mountainous terrain.

With transportation mainly limited to roadways, the market navigates logistical challenges while maintaining a robust supply chain. The process of fish seed marketing is totally different from that of fresh fish sales as the seeds are to be sold in live condition. Locally available carp and other freshwater fish seeds are marketed in the village areas by fish seed vendors by carrying them on their bicycles keeping in aluminum hundies filled with water. The hatchery-produced seed is sold by producers by packing them in steel pool sand transported throughout the State and other Northeastern States by means of mini trucks.

Table 3: Major Logistical Routes of Jagiroad Market

Route Type	Source/Destination	Primary Cargo
Inbound (Sea Fish)	Gujarat (Porbandar, Veraval), West Bengal (Digha, Mohana), Tamil Nadu, Andhra Pradesh	Marine species like Bamla, Misa and Ribbon fish
Inbound (Freshwater)	Uttar Pradesh (Lucknow, Gorakhpur), Bihar, West Bengal (Siliguri)	River species like Puthi and Barb fish
Outbound (Regional)	Nagaland (Dimapur), Meghalaya (Shillong), Mizoram, Manipur, Arunachal Pradesh, Tripura	Re-packaged wholesale sacks for local retailers
Outbound (International)	Bhutan, Myanmar, Bangladesh, South East Asia (Malaysia, Singapore)	Variety of high-demand species for international export

Source: Field Study

The market follows a strict weekly timeline to manage its 500-ton weekly volume:

i. Early Week (Monday - Tuesday): A steady stream of heavy trucks arrives from outside the state to offload stock.

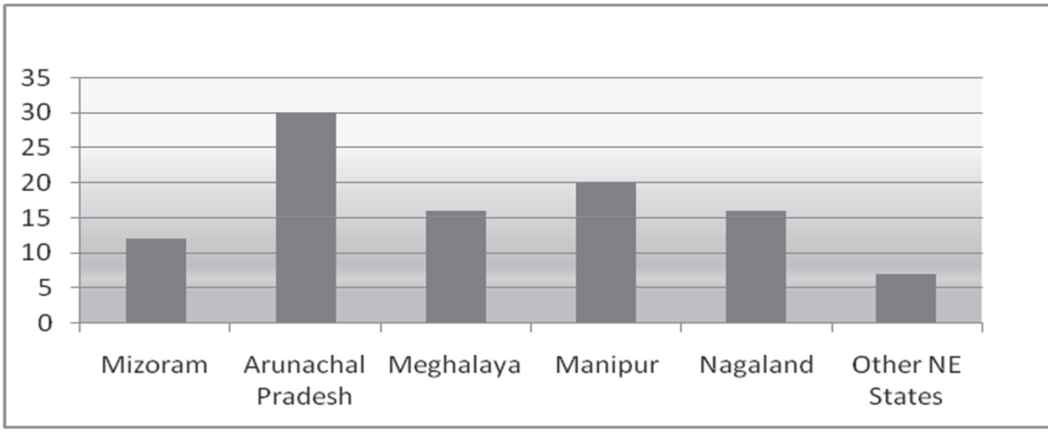
ii. Peak Trading (Thursday - Saturday): Traders from across the Northeast arrive via train and bus to purchase and transport stock to their respective states.

iii. End of Week: Final transport of sold goods out of the market and administrative accounting.

7.5 Market Reach in terms of Exports

Beyond catering to local needs, the market exports to the neighbouring states and neighbouring countries like Bangladesh and Bhutan. Wholesalers from Bhutan come to procure the items, whereas in case of Bangladesh, the dry fish products are exported through Tripura. Apart from Sikkim, dry fish from the market goes to all the Northeastern states. Some of the dry fish are exported to Singapore, Bhutan, Malaysia and other Southeast Asian countries. 1000-1200 trucks come to the market every year. 70% sales happen during the peak season and 30% sales happen during the off season. Retail sale does not happen here and a minimum of one sack has to be bought by a customer.

Figure 2: Export of Dry Fish (%)



Source: J Krishi Vigyan 2022, 10(2):301-305

Further, Figure 2 shows that highest quantity of dry fish is exported to Arunachal Pradesh, followed by Manipur, Nagaland, Meghalaya, Mizoram respectively. The other NE States of Tripura & Sikkim gets the lowest share.

Table 3: Popular Destinations of Fish Varieties

Sl. No.	Fish Type	Destination of Dried Fish
1	Chotka/KK	Tripura
2	Puthi (Hidol/Shidol)	Manipur

Source: Field Study

Moreover, studying about the most popular destinations on the basis of fish varieties, it is found from Table 3 that among the different destinations, Chotka, locally known as "KK", is very popular in Tripura, and Puthi (Hidol/Shidol) is widely demanded in Manipur. This was found during the market survey.

Thus, Sections 7.2, 7.3, 7.4 and 7.5 fulfill the second objective, namely, *"To study about the contribution, market reach, supply and logistics of Jagiroad Dry Fish Market."*

Thus, major export destinations of the Jagiroad dry fish market are within the country. Hence, the second research question, *"Whether the Jagiroad Dry Fish Market has a significant international market reach?"* has been answered.

7.6 Financial Assistance Schemes for Marine Food Exporters

Operating expenses, including employee salaries and cleanliness, amount to around Rs. 55,000 (per month), showcasing the market's operational costs. Interestingly, while the market has evaded GST, it diligently contributes to the government's coffers through income tax.

In order to boost the exports of marine products from the country, Marine Products Export Development Authority (MPEDA) is operating various developmental financial assistance schemes for the benefit of the seafood industry in the country. In the following Tables 4 and 5, the details of the various developmental financial assistance schemes are shown.

Table 4: MPEDA Marketing Services Schemes for Marine Exporters

Sl. No	Name of Schemes	Objectives	Quantum of Assistance	Whether Availed by Jagiroad Dry Fish Marketeers
1	MPEDA Quality Logo scheme	Promotion of value added fish and fishery products, processed/ produced in a MPEDA registered processing plant possessing a certificate of approval under the Marine Products (Quality Marking) Scheme and thereby carrying the MPEDA quality Logo.	25% of promotional expenses subject to a maximum of Rs. 25 lakh in a market for one product. A manufacturer exporter will get assistance on three products in a market (first come first served) and introduce the logo products in three markets with assistance of this scheme.	**Not Availed**
2	Assistance for ware-housing/transportation/ placement of value added marine products abroad	Storage of product in an accredited frozen ware-house, local mobilization to retail supplies and for display of branded seafood in retail outlets by paying slotting money.	Provided as reimbursement of 25% of the expenses incurred for warehousing; transportation and slotting for value added marine products in retail outlets in abroad markets, subject to a maximum of 25 lakh per exporter per year.	**Not Availed**

Source:https://sansad.in/getFile/annex/236/Au184.docx?source=pqars

Table 5: Processing Infrastructure and Value addition Services Schemes

<table>
<tr><th>Sl. No</th><th>Name of the Scheme</th><th>Objective</th><th colspan="4">Quantum of subsidy</th><th>Whether Availed by Jagiroad Dry Fish Marketeers</th></tr>
<tr><td>1</td><td colspan="6">Assistance for processing machinery & Equipments for value addition:</td><td></td></tr>
<tr><td>a)</td><td>Subsidy for acquisition of machinery for tuna cannery / processing of value added tuna product</td><td>To assist seafood processors to set up tuna cannery / processing facilities for value added tuna products</td><td colspan="4">25% of the cost of machinery & equipment subject to a maximum of Rs.65.25 lakh</td><td>Not Availed</td></tr>
<tr><td rowspan="4">b)</td><td rowspan="4">Technology Upgradation Scheme for Marine Products (TUSMP)</td><td rowspan="4">To encourage seafood processors to set up new facility / expanding / diversifying their existing facilities for production and export of value added seafood items</td><td>Type of assistance</td><td>Category I</td><td>Category II</td><td>Category III</td><td></td></tr>
<tr><td colspan="4"></td><td></td></tr>
<tr><td>Interest Subsidy</td><td>Rs.150 Lakh</td><td>Rs.125 Lakh</td><td>Rs.125 Lakh</td><td>Not Availed</td></tr>
<tr><td>Capital Subsidy</td><td>Rs.100 Lakh</td><td>Rs.85 Lakh</td><td>Rs.85 Lakh</td><td>Not Availed</td></tr>
<tr><td>2.</td><td colspan="6">Cold Chain development for the seafood industry</td><td></td></tr>
<tr><td>a)</td><td>Financial support for acquisition of Refrigerated Truck / Containers</td><td>To encourage seafood processors to acquire Refrigerated Trucks / Containers for transportation of raw material / finished products.</td><td colspan="4">25% of the cost of Refrigerated Truck/ Container, subject to a maximum of Rs.3.50 lakh</td><td>Not Availed</td></tr>
<tr><td>b)</td><td>Financial assistance for setting up Large Cold Storages</td><td>To encourage individuals to establish Cold Storages to keep the surplus seafood.</td><td colspan="4">25% of the cost of cold storage subject to the maximum of Rs.60 lakh.</td><td>Not Availed</td></tr>
<tr><td>c)</td><td>Subsidy for setting up New/ Modern Ice Plant / renovation of existing plant</td><td>For ensuring quality of ice for fish preservation.</td><td colspan="4">25% of the cost of the setting up of new ice plant subject to a maximum of Rs.31 & 14 lakh for new block ice and flake/chip/tube ice units respectively. For renovation, the assistance is extended @ 50% subject to a maximum of 26 lakhs.</td><td>Not Availed</td></tr>
</table>

<table>
<tr><td>d)</td><td>Subsidized distribution of Insulated Fish Boxes</td><td>For proper preservation of raw materials in iced condition on board fishing vessels, in shrimp farms, peeling sheds and processing plants.</td><td>Molded synthetic insulated fish boxes of various capacities are distributed at 50% subsidy.
<table>
<tr><th>Category</th><th>Max subsidy / Unit (Rs.)</th></tr>
<tr><td>1. Per Pre-processing plant</td><td>50,000</td></tr>
<tr><td>2. Per Processing plant</td><td>1,00,000</td></tr>
<tr><td>3. Fresh/Chilled Fish Handling Centres</td><td>1,00,000</td></tr>
<tr><td>4. Mechanized Boat owners</td><td>15,000</td></tr>
<tr><td>5. Small mechanized Boat / country craft</td><td>4,500</td></tr>
<tr><td>5. Shrimp farmers above 5 ha.</td><td>50,000</td></tr>
<tr><td>6. Shrimp farmers 5 ha. And less</td><td>35,000</td></tr>
</table></td><td>Not Availed</td></tr>
<tr><td>3.</td><td colspan="3">Assistance to exporters for creating basic infrastructure</td><td></td></tr>
<tr><td>a)</td><td>Financial assistance for Basic facilities (new) for Chilled fish / Chilled Tuna for export.</td><td>To facilitate creation of adequate facilities necessary and essential for chilled fish export and also to ensure quality product for export markets.</td><td>33⅓ % of the actual cost incurred with a maximum financial assistance of Rs.35 lakh per beneficiary.</td><td>Not Availed</td></tr>
<tr><td rowspan="2">b)</td><td rowspan="2">Financial assistance for creating basic facilities for fish curing / drying / packing / storage for export</td><td rowspan="2">To facilitate creation of adequate facilities necessary and essential for dry fish handling, processing, packing and storage also to ensure quality product for export markets.
To increase the share of dried fish items in the seafood export basket of India.
To boost the export of dried fish items and to earn valuable foreign exchange to the country.</td><td><u>Scheme – A</u>: Financial assistance for setting up of dried fish handling / curing / drying facility (with solar system with LPG back up)
Maximum assistance shall be Rs.23.50 lakh per beneficiary @ 33⅓% of the actual cost incurred.</td><td>Not Availed</td></tr>
<tr><td><u>Scheme – B</u>: Financial assistance for the setting up of dried fish packing and storage facilities by dried fish processors / exporters registered with MPEDA.
Maximum assistance shall be Rs.8.25 lakh per beneficiary @ 33⅓% of the actual cost incurred.</td><td>Not Availed</td></tr>
</table>

Source: Source:https://sansad.in/getFile/annex/236/Au184.docx?source=pqars

It was found during the study that no such facilities have been availed by the sellers in the Jagiroad Dry Fish Market. This could be either due to lack of proper dissemination of the various government schemes or due to lack of awareness on the part of the seller and market association or due to both.

Thus, Tables 4 and 5 fulfill the fourth objective, namely, *"To know about the Government financial schemes available for the sellers in Jagiroad Dry Fish Market."*

Hence, the third research question, *"Whether vendors in the market have accessed government financial assistance programs?"* has been answered in the negative.

7.7 Challenges and Opportunities

The market faces the following challenges and opportunities:

7.7.1 Challenges

i. **Quality Control:** Maintaining consistent product quality can be a challenge, as it relies on natural drying processes.
ii. **Sustainability:** Sustainable fishing practices and resource management are becoming increasingly important in the industry.
iii. **Regulatory Compliance:** Meeting international food safety standards and regulations can be demanding.
vi. **Infrastructure Struggles:** Despite its scale, the market faces economic threats due to poor infrastructure, lack of modern cold storage, and reliance on leased land, which traders claim hinders higher profitability.

7.7.2 Opportunities

i. **Market Expansion:** The market has opportunities for expansion, catering to a broader international clientele.
ii. **Diversification:** Exploring value-added products and diversifying the range of dried seafood.
iii. **Sustainability Initiatives:** Implementing sustainable practices can enhance the market's reputation and attract eco-conscious buyers.
iv. **Local sourcing advantage:** Leveraging the proximity to fishing areas to source fresh fish directly from local fishermen, ensuring quality and reducing transportation costs.

Thus, Section 7.7 fulfills the fifth objective, namely, *"To understand the challenges and opportunities faced by the sellers in Jagiroad Dry Fish Market."*

Hence, the fourth research question *"Whether the market presents more opportunities for business growth than challenges?"* has been answered: The Jagiroad Dry Fish Marketers have more prospects in their business than challenges.

8. Conclusion and Suggestions

In this section, the summary of the main findings are laid down. Along with it the conclusion and a few suggestions have been drawn from the study.

8.1 Summary of the Main Findings

The summary of the main findings is laid down as follows:

i. The Dry Fish Market was founded in 1975.

ii. This market houses 200 stalls and acts as the promary distribution nucleus for all of Northeast India, supplying dry fish to Nagaland, Mizoram, Manipur, Meghalaya, Arunachal Pradesh and Tripura. Different varieties of dried fish are popular in different states.

iii. It operates from Thursday to Saturday with approximately 500 tons of dry fish sold weekly.

iv. There are many channels (intermediaries) in this market involved in assembling, distribution etc.

v. The market boasts a rich variety of dry fish, including sea bass, cuttlefish, stock fish, eel, mackerel, and more. Price of sun dried fish is more than smoked fish.

vi. The availability of species fluctuates with the seasons, with winter showcasing the widest range of options.

vii. Roughly 25-30% of the local population derives its livelihood from this market.

viii. Approximately 70% of the dried fish is imported. Dried fish items are brought from Siliguri in West Bengal, Porbandar in Gujarat, Lucknow and Gorakhpur in Uttar Pradesh, with highest quantity (approximately 58%) from Gujarat.

ix. The market association engages in socially responsible donations, including the Chief Minister's Relief Fund.

x. Beyond local needs, it exports to the neighbouring states and neighbouring countries like Bangladesh and Bhutan.

xi. Operating expenses, including employee salaries and cleanliness, amount to around Rs 55,000 (per month).

xii. Quality control, sustainable fishing practices and resource management and meeting international food safety standards and regulations are the challenges before the market.

xiii. The market has opportunities for expansion, diversification and implementing sustainable practices.

8.2 Suggestions

The Jagiroad Dry Fish Market is one of its kinds in the entire Asian sub-continent. To maximize its potential, the market must address challenges related to quality, sustainability, and regulatory compliance while embracing opportunities for expansion and diversification. From the findings, the market was found to be lacking in the following areas which therefore serves as recommendations for its further development:

i. Collaboration: Collaboration with government agencies and industry associations to address quality control and sustainability concerns.

ii. Marketing and Promotion: Implementation of marketing strategies to attract a broader international clientele.

iii. Research and Development: Investment in research and development for product diversification and value addition.

iv. Awareness: Efforts to raise awareness among vendors at the Jagiroad Dry Fish Market about the various Govt. schemes available to them.

Jagiroad Dry Fish Market plays a significant role in the global dry fish trade in the Asian subcontinent. Its scale, diversity, and international connections underscore the potential for growth and development in the industry. With a wide variety of fishes from many places of India catering to the entire North-East region and many neighbouring countries, the Dry Fish Market has a lot of prospects. But there are a lot of challenges in the growing market dynamics as well as the fact that the marketers are not aware of the different government schemes available for them.

Acknowledgement

The primary data for this paper was collected as part of the field visit to Jagiroad Dry Fish Market, organized by the Department of Economics and International Business, D.H.S.K. Commerce College, Dibrugarh in October, 2023.

References

Madani, M., S.K. Radhakrishnan, L. Ranjith, R. Narayankumar, N. Aswathy and K. P. Kanthani (2018). "Economics and marketing of dry fish production in Thoothukudi District, TamilNadu, India ''. Indian J. Fish., 65(4): 135-141, 2018 135 DOI: 10.21077/ijf.2018.65.4.53463-16.Accessed at https://core.ac.uk/download/pdf/168386564.pdf on 30/12/23.

Mallick, S. Gogoi, R. Sarma, D. R. Deka, P.M. and Hoque, J. (2022). Study on North-East India's Largest Dry Fish Market, its Production and Marketing Channels. J Krishi Vigyan 2022, 10 (2) : 301-305.

MPEDA Financial Scheme: https://sansad.in/getFile/annex/236 Au184.docx?source=pqars

Representing Turbulent Assam: A Study of Realism in Bhabendranath Saikia's Hindi Film *Kaal Sandhya*

Dr. Luku Morang*

Abstract

The paper examines the realistic representation of insurgency in Assam in Bhabendranath Saikia's Hindi film Kaal Sandhya (1997). Situated within the tradition of parallel cinema, the film departs from mainstream Bollywood narratives on insurgency in the Northeast by foregrounding an insurgent youth as its protagonist rather than a state agent. Through the story of Ranjit, an educated but unemployed young man drawn into militant activities, the film explores the socio-economic compulsions, moral dilemmas, and political manipulations that shape insurgent movements. The narrative reconstructs the turbulent atmosphere of 1990s Assam, marked by violence, extortion, military operations, and widespread civil unrest. The film adopts a realist aesthetic to critique both insurgent violence and state repression. It further highlights the human cost of conflict, portraying the anguish of families and the erosion of ethical values. The paper argues that Kaal Sandhya functions as a cinematic document of its time, offering a nuanced and balanced representation of insurgency that exposes the complex interplay of power, corruption, and disillusionment in Assam during the 1990s.

Keywords: Insurgency in Assam, Cinematic Realism, Political Violence, State Repression, Human rights violation

1. Introduction

Cinema has long served as a powerful medium for representing socio-political realities of a country. In the Indian context, the issue of insurgency in the Northeast has often been marginalised or stereotypically portrayed in mainstream Hindi cinema. Bhabendranath Saikia's *Kaal Sandhya* (1997) emerges as a significant cinematic intervention. As Bhabendranath Saikia's only Hindi film, *Kaal Sandhya* occupies a distinct place within the tradition of Indian parallel cinema for its nuanced and realistic engagement with the insurgency-ridden landscape of Assam during the 1990s.

The decade of the 1990s was marked by intense armed conflict in Assam, primarily associated with the activities of the United Liberation Front of Assam (ULFA) and counter-

**Assistant Professor, Department of English, DHSK Commerce College, Dibrugarh*

insurgency operations by state forces. Widespread violence, extortion, kidnappings, military operations, and allegations of human rights violations created a climate of fear and instability. While many Hindi films dealing with insurgency in the Northeast foreground state agents or military officers as protagonists, *Kaal Sandhya* subverts this convention by introducing Ranjit as protagonist, an educated yet unemployed Assamese youth who becomes entangled in insurgent activities. This shift in perspective enables the film to humanise the insurgents while simultaneously critiquing both militant violence and state repression.

Bhabendranath Saikia employs a realist aesthetic to reconstruct the socio-political turbulence of the time. The film's opening montage of newspaper reports, its depiction of custodial torture, and its portrayal of the nexus between politicians, industrialists, and insurgent groups collectively function to blur the boundary between fiction and lived history. Rather than presenting insurgency as a simplistic binary between nationalism and rebellion, the film exposes the complex interplay of power, corruption, and economic deprivation. This paper seeks to examine how *Kaal Sandhya* constructs a realistic representation of insurgency in Assam and how it challenges dominant cinematic narratives about conflict in the Northeast. By analysing the film's narrative strategies and political critique, the study situates it as an important realist text documenting a turbulent chapter in Assam's contemporary history.

2. Objectives of the Study

i. To examine how *Kaal Sandhya* represents insurgency in Assam through a realist cinematic framework.
ii. To explore the film's critique of both insurgent violence and state repression, including police brutality and political corruption.
iii. To investigate how the film reconstructs the socio-political climate of 1990s Assam, highlighting issues such as unemployment, organised crime, and the nexus between politicians and insurgent groups.

3. Methodology

This study adopts a qualitative research methodology with a textual and contextual film analysis. The primary method employed is close reading of Bhabendranath Saikia's *Kaal Sandhya* (1997), focusing on its narrative structure, character construction, and visual composition. Drawing upon the theoretical framework of cinematic realism, particularly realist film theory associated with André Bazin, the study examines how the film constructs an authentic representation of insurgency and socio-political unrest in Assam.

The theoretical foundation of this study draws upon André Bazin's realist film theory, which emphasises cinema's intrinsic relationship with reality. Bazin argues that film, as a photographic medium, possesses the unique ability to capture and preserve the ambiguity of lived experience without excessive manipulation. According to him, "The photographic image is the object itself, the object freed from the conditions of time and space that govern it" (Bazin 14). He advocates for techniques such as long takes, deep focus, and minimal montage, which maintain spatial and temporal continuity and allow viewers to interpret events independently.

In this context, *Kaal Sandhya* reflects Bazinian realism through its restrained narrative style, location shooting, use of long takes, deep focus, and less use of melodramatic excess of songs and dance routines. The film presents insurgency not as a sensational spectacle but as a lived socio-political reality shaped by moral ambiguity, systemic corruption, and human suffering. By foregrounding realism over spectacle, the film aligns with Bazin's notion that cinema should reveal, rather than construct, reality.

4. Bollywood Hindi Movies and Insurgency in the Northeast:

Tejaswini Ganti states that patriotic Bollywood films of the 1980s marked a significant turning point in addressing the theme of terrorism in the narrative. "Films about terrorism, which began in the late 1980s, increased in the 1990s as separatist insurgencies intensified and bomb blasts, religious riots, high-level kidnappings, and hijackings became more common in contemporary India" (Ganti 45). All these incidents have had a profound influence on the way Bollywood movies started to address issues of violence and terrorism in the narrative. Hence, diverse socio-political events, security challenges, and conflicts in the country and different parts of the world significantly shaped the way Bollywood filmmakers started depicting crime, violence, and terrorism.

The Bollywood film industry depicts insurgency, violence, and terrorism in a wide array of film genres, including action thrillers, crime thrillers, war films, and anti-terror films. The commercial Bollywood films that depict insurgency, violence, and terrorism are mostly made as patriotic films, which contribute to the promotion of nationalism and patriotism. As such, Bollywood movies frequently manifest "hegemonic nationalism" through the lens of patriotism in the depiction of the issues of insurgency, violence, and terrorism in the narrative. In addition, Bollywood movies depicting insurgency, violence, and terrorism mostly introduce characters who stand as advocates of the nation-state. Therefore, dramatising patriotism and nationalism is a recurrent pattern in the narrative of Bollywood movies.

Bollywood movies frequently portray insurgency and terrorism through a lens of binary discourse between violence and the rule of law. Furthermore, Bollywood movies typically depict insurgents and terrorists as malevolent groups that carry out clandestine acts of terror against the nation-state and its citizens. The narrative consistently highlights the bravery and selfless sacrifice of the Indian paramilitary forces and security agencies in encountering the anti-national outlaws. In addition, Bollywood movies often blur the line between insurgency and terrorism, although both ideologies have distinct connotations. Bollywood movies draw pejorative connotations around the insurgent and terrorist characters depicted in the narrative.

Daisy Hasan contends that Bollywood films focus on nationalism by marginalising and stereotyping the Northeast region. She argues that the Bollywood movies on insurgency in Northeast India have mostly emphasised the prowess and patriotism of the North Indian male protagonist. "The films have either misrepresented the various 'insurgencies' in the regions or glossed over the region's political discontent and cultural nuances. This attitude has alienated some sections of people in the region from Hindi cinema, even as it has managed to seduce others" (Hasan 33).

Bollywood movies frequently represent Northeast India as a hazardous tribal territory on the outskirts of the nation-state. The narrative often depicts the region as an exotic and volatile region where Indian paramilitary forces and militants engage in deadly confrontations. Furthermore, the insurgent groups of the region are consistently depicted as perpetrators of terrorism and terror-induced violence, committing atrocious crimes against state agents and citizens. Therefore, Bollywood films recurrently feature cliched scenes depicting combats, riots, armed violence, gunfights, explosions, and military pursuits in the narrative. Such scenes in the narrative contribute to the construction of Northeast India as a hostile zone and a region inhabited by the anti-national "other." In addition, Bollywood movies are mostly set in unidentified and idealistic settings, with limited concern for geographical accuracy.

The Bollywood movies depicting insurgency in the region portray the insurgents as minor characters in the narrative, with very little role in the progression of the plot. In addition, the insurgent characters are depicted as an exotic group of outlaws involved in clandestine acts of violence. Thus, Bollywood movies tend to homogenise and stereotype the insurgents as perpetrating acts of terror and violence, unlawfully exporting arms and drugs, and being involved in warfare with state agents by violating the democratic ethos of the nation-state. According to Sumita S. Chakravorty, Bollywood films resort to a nationalist discourse and imagine a utopian national community by denigrating the character of the terrorists in the narrative as the communal "other" from the margin. "Nationalism—the integrity of the nation-state and the imagined belongingness of its citizens—is predicated on its dreaded Other, namely, the enemy within, the dissident, the terrorist" (Chakravarty 220). Bollywood movies tend to depict the insurgents as the "other." Therefore, Bollywood movies resorts to othering of the insurgent characters in the narrative.

The parallel-genre and middle-genre Hindi movies have also extensively explored the themes of terrorism, insurgency, and violence in the narrative. These movies often feature realistic narratives in contrast to the popular and commercial Bollywood movies. These movies could avoid the melodramatic and "masala" elements of commercial Bollywood movies by portraying a realistic picture of terrorism, insurgency, and violence in the narrative.

Dr. Bhabendranath Saikia, the exceptionally gifted Assamese filmmaker and writer, made the Hindi film *Kaal Sandhya* in 1997. This is his sole attempt at directing a Hindi film. The film is one of the Hindi films made within the parallel cinema tradition. The shooting of the film was entirely completed in Guwahati and different parts of Assam. The renowned Assamese filmmaker examines the impact of ULFA (United Liberation Front of Assam) violence in Assam in this film. The insurgent group is not specified in the narrative. However, the identical Assam setting apparently conveys the insurgent group as ULFA from Assam. The film holds a significant place within the parallel genre of Hindi cinema for its realistic appeal. In the film, prominent actors from Bollywood, such as Ashish Vidyarthi and Debashree Roy, portrayed important characters.

This Hindi indie movie significantly differs in its treatment of the issue of insurgency in the narrative. In Bollywood movies depicting insurgency in the Northeast, the paramilitary force or a secret service agent from mainland India is the protagonist. This film features an insurgent character from Assam as the protagonist. This makes the film different from the host of Hindi movies on insurgency and violence in the Northeast. The film concentrates on depicting the genuine concerns, worries, and aspirations of the insurgent characters. In the narrative, insurgency is depicted as an illusory rebellion and a daydream for independence, peace, and harmony.

The plot revolves around Ranjit (Jatin Borah), a well-educated and unemployed young man from Assam. Ranjit joins an insurgent group in search of employment and prospects for an improved livelihood. However, he is led to carry out covert missions, eliminate innocent civilians, and execute blasts in the region. He is incarcerated on charges of killing an innocent man. He is assisted by an upright police officer, Chowdhury (Ashish Vidyarthi), in getting released from jail. He begins a fresh chapter in his life by severing all ties with the insurgent organisation. However, a strong sense of guilt for his misdeed haunts him. He embarks on a mission to uncover the motive of the insurgent group in the killing of innocent civilians. He becomes aware of the intricate dynamics of power and nexus that exist among politicians, industrialists, and insurgents on the way to finding out the truth.

The film provides an authentic depiction of the state of armed insurgency in Assam. The film begins with a montage sequence of news articles highlighting the unlawful activities of the insurgent group in Assam. The news items present an overview of the various elements that have contributed to the armed insurgency situation in Assam. The news items attribute the causes of insurgency to factors such as infiltration from Bangladesh and Nepal, logistical assistance from China and Pakistan, and the presence of training facilities in Bangladesh and Bhutan. Furthermore, the voiceover narrator in the opening sequence contends that the insurgent group was originally formed as a revolutionary group to change society. However, it has regressed into a ruthless criminal organisation perpetrating organised crimes and violence. The film attempts to provide an authentic introduction to insurgency violence in Assam with this initial statement made in the opening scene.

The film aptly reenacts the situation in 1990s Assam. During this time, the region was reeling under clandestine operations of the insurgent organisation ULFA and military operations of the state agents. The film recreates the situation of turmoil in the region by incorporating scenes of IED blasts, shootouts, and military persecution of civilians. Furthermore, a few subplots and scenes of organised crimes such as kidnapping and extortion are incorporated into the narrative to refer to the situation of unrest in the region. The film also depicts how insurgency violence led to civil unrest and political turmoil in the 1990s. The film also sheds light on the pervasive corruption in the government and the administrative set-up. The film also depicts a close nexus between politicians and insurgent groups in the region. This close nexus hinders effective administrative functioning in the region. The scenes depicting insurgents extorting money from businessmen and politicians emphasise the close nexus between the insurgents and the government apparatus. Additionally, the narrative portrays the politicians as impeding police operations through excessive administrative pressure.

The film dramatises state violence in the form of police brutality towards innocent civilians. A scene depicts the police conducting an anti-insurgency search operation. In the scene, the police forces are seen questioning and intimidating an elderly couple to obtain information about the whereabouts of an insurgent member. In a subsequent scene, a group of policemen are seen disposing of the corpse of a woman who has been sexually assaulted and killed. Furthermore, Ranjt is subjected to third-degree torture at the police station to extract a confession and information about the insurgent group. All these scenes highlight how the police, as representatives of the nation-state, violate fundamental human rights by resorting to excessive state violence.

Furthermore, the film aptly portrays the plight of families who have been victims of clandestine acts of violence by the insurgent group. The narrative features subplots that explore the profound anguish experienced by individuals who have suffered the loss of their loved ones due to insurgency-induced violence. Therefore, film emerges as an authentic endeavour that depicts the turbulent era of Assam during the 1990s. The film recreates 1990s Assam, when the region was engulfed in substantial unrest due to organised acts of crime and violence perpetrated by an insurgent group.

5. Conclusion

Kaal Sandhya stands as a significant contribution to Hindi parallel cinema through its realistic portrayal of insurgency in Assam. By centring the narrative on an insurgent protagonist rather than a state agent, the film departs from Bollywood conventions that often simplify regional conflicts into binaries of nationalism and terrorism. Instead, Bhabendranath Saikia presents insurgency as a complex socio-political phenomenon shaped by unemployment, ideological manipulation, political corruption, and systemic injustice. Through its realist aesthetic, the film reconstructs the turbulent atmosphere of 1990s Assam. Most Importantly, it critiques both insurgent brutality and state repression, exposing the moral ambiguities and power nexuses that perpetuate cycles of violence. In this context, *Kaal Sandhya* offers a balanced and introspective examination of insurgency. As a realist political text, the film not only documents a turbulent chapter in Assam's history but also invites critical reflection on the broader dynamics of violence and governance. Thus, *Kaal Sandhya* remains an important cinematic endeavour that contributes meaningfully to discussions on realism and the representation of insurgency in Indian cinema.

References :

Bazin, André. *What Is Cinema?* Vol. 1. Translated by Hugh Gray, University of California Press, 1967.

Chakravarty, Sumita S. "Fragmenting the Nation- Images of Terrorism in Indian Popular Cinema." *Cinema and Nation*, edited by Mette Hjort and Scott MacKenzie, Routledge, 2005, pp. 209–23, doi:10.4324/9780203977279-11.

Ganti, Tejaswini. *Bollywood - A Guidebook to Popular Hindi Cinema*. Second, Routledge, 2013.

Hasan, Daisy. "Talking Back to 'Bollywood': Hindi Commercial Cinema in North-East India." *South Asian Media Cultures- Audiences, Representations, Contexts*, edited by Shakuntala Banaji, Second, Anthem Press, 2011.

Kaala Sandhya. Directed by Bhabendra Nath Saikia, NFDC,1997.

Cinematic Representation of Business, Corporate Life and Entrepreneurial Practices in Hindi Films (2000-2025)

Dr. Pallavi Kashyap*
Tejal Pareek**

Abstract

This study explores the portrayal of business, corporate life, and entrepreneurship in Hindi films released between 2000 and 2025, situating these representations within India's post-liberalization economic transformation. Adopting a qualitative thematic approach, the paper examines selected mainstream films to analyze how cinema depicts corporate governance, financial markets, startup culture, ethical tensions, and social enterprise. The findings indicate a noticeable transition from narratives centered on inherited industrial wealth and patriarchal authority to those emphasizing merit-based entrepreneurship, youth-led ventures, and innovation-driven growth. In addition, social entrepreneurship is increasingly framed as a responsible and community-oriented alternative within a competitive market economy. The study concludes that Hindi cinema not only mirrors India's evolving economic landscape but also contributes to shaping public perceptions of ambition, success, and legitimacy in contemporary capitalism.

Keywords: Hindi Cinema, Entrepreneurship, Neoliberal Capitalism

1. Introduction

The transformation of India's economic landscape after the 1991 liberalization reforms profoundly altered not only policy frameworks and market structures but also cultural production. Hindi cinema, popularly known as Bollywood, has functioned as a significant cultural archive through which economic anxieties, aspirations, and ideological tensions are mediated and disseminated. Between 2000 and 2025, Hindi films increasingly engaged with themes of corporate governance, entrepreneurship, speculative finance, startup culture, and social innovation. The cinematic text thus emerges as an interpretative site where capitalism is aestheticized, critiqued, normalized, and occasionally resisted.

This study examines how Hindi films represent business organizations and corporate culture, and how they construct the figure of the entrepreneur within evolving socio-economic

**Assistant Professor, Department of Banking, DHSK Commerce College, Dibrugarh*
***Assistant Professor (Guest Faculty), Department of Banking, DHSK Commerce College, Dibrugarh*

contexts. Moving from inherited industrial empires to youth-led startups, from stock market speculation to inclusive social enterprise, the films under review demonstrate a marked shift in narrative emphasis and ideological framing. The analysis situates these films within broader discourses of neoliberalism, post-liberalization consumerism, financialization, and the rise of aspirational middle-class subjectivity.

2. Research Objectives

i. To examine how Hindi films portray business organizations, corporate governance, and institutional power structures.

ii. To analyse the cinematic depiction of entrepreneurs, startups, innovation processes, and ethical dilemmas within market-driven environments.

3. Methodology

A qualitative thematic research design is employed to provide an in-depth analysis of the representation of business, corporate life, and entrepreneurial practices in selected Hindi films (2000–2025). The study primarily relies on secondary sources, including close examination of cinematic texts and relevant academic literature in film studies, cultural studies, and political economy. Efforts have been made to incorporate scholarly works published within the last decade that explore cinema, entrepreneurship, gender, and economic transformation. The study systematically identifies recurring patterns related to corporate governance, financialization, startup culture, ethical dilemmas, and social entrepreneurship in the Indian context.

4. Scope and Limitations

The study focuses on selected mainstream Hindi films released between 2000 and 2025. While these films were chosen for their explicit engagement with business or entrepreneurial themes, they do not represent the entire spectrum of Indian cinema. Independent films, OTT-exclusive productions, and regional industries such as Tamil or Malayalam cinema may offer alternative economic narratives beyond the scope of this research. Furthermore, the analysis is based on qualitative thematic interpretation of narrative structure, characterization and dialogic construction.

5. Literature Review

Gadgil, N. M., Sunanda, C., & Yadav, T. (2025, May) examines representations of rural India in Hindi popular cinema through films such as Mother India, Do Bigha Zamin, Lagaan, Swades, and Peepli Live. By integrating cinematic analysis with scholarly discourse, the study highlights how these films shape public perceptions of rural identity and contribute to debates on rural development and policy.

Munde, P. D., & Londhe, S. (2025) critically examines portrayals of female entrepreneurs in literature and film, identifying the persistence of stereotypical narratives that overstate work–

family tensions and offer narrow models of success. By employing both qualitative and quantitative methods, including media analysis and case studies, the paper assesses prevailing trends and advocates for more inclusive storytelling and supportive policy frameworks to enable realistic depictions and strengthen women's participation in entrepreneurship.

Banate, A. B. (2025) examines Mirch Masala as a key cinematic text that represents women's economic agency and collective resistance within a patriarchal context. It interprets the spice factory as a symbol of cooperative labor and financial self-reliance, arguing that the film links economic autonomy with gender equity and continues to influence representations of women's empowerment in Indian cinema.

Pol, A. P. (2025) study reviews women's entrepreneurship in the screen industry, focusing on ownership patterns, access to funding, and the underrepresentation of women-owned production enterprises. The study also considers the impact of COVID-19 on data collection and industry dynamics, and incorporates case studies to illustrate challenges and opportunities.

Jogdand, S. D., & Pol, A. (2025) examines the evolving representation of women entrepreneurs across literature, cinema, and media, analysing how these narratives both reflect and shape public perceptions. Through selected case analyses, the study evaluates how such representations influence women's aspirations and contribute to broader debates on gender and entrepreneurship. It also incorporates an intersectional lens, considering how race, class, and sexuality intersect with gender to shape both lived experiences and mediated portrayals of women entrepreneurs.

Vasanthan, R., Keerthi, D., & Karthikeyan, J. (2024) analyses how business language, leadership, and ethics are represented in The Social Network, The Wolf of Wall Street, Office Space, The Big Short, and Margin Call, evaluating the realism of their business portrayals and their influence on societal perceptions. The study concludes that critical engagement with these cinematic texts enhances analytical thinking and ethical awareness, highlighting their pedagogical value in business and management education.

Mittal, P., & Bansal, R. (Eds.) (2023) highlights the role of film as both a reflective and constitutive force in shaping societal attitudes toward gender equality, entrepreneurial participation, and sustainable development, emphasizing its significance in advancing contemporary discourses on empowerment and social transformation.

6. Theoretical Framework

The analysis draws upon three interrelated conceptual frameworks:

i. **Neoliberalism and Post-Liberalization Capitalism**: Hindi cinema after 2000 frequently mirrors the ideological shift toward deregulation, privatization, and market expansion. Corporate success becomes synonymous with ambition, mobility, and modernity.

ii. **Cultural Political Economy**: Films serve as cultural texts that construct meanings around capitalism, class mobility, risk, and institutional power. They participate in legitimizing or critiquing economic structures.

iii. **Entrepreneurial Subjectivity**: Influenced by global startup discourse, the entrepreneur is often portrayed as innovative, resilient, risk-taking, and self-made, aligning with the neoliberal ideal of individual agency.

7. Analysis and Interpretation

Analysis is majorly categorised into five phases:

I. Business as Inherited Power and Symbolic Capital

Movie: Kabhi Khushi Kabhie Gham

In this film directed by Karan Johar and produced by Dharma Productions, business is not depicted as a dynamic economic activity but as a hereditary institution. The Raichand empire operates primarily as a symbol of elite authority and class dominance. Corporate structures are aestheticized through palatial homes, luxury consumption, and ritualized boardroom settings, yet the mechanisms of production, labour management, or market competition remain invisible.

Leadership is genealogical rather than meritocratic. Economic authority is transmitted through patriarchal lineage, reinforcing traditional authority rather than rational-legal bureaucracy. Women are excluded from financial decision-making, and economic power remains consolidated within male familial hierarchies. Business functions as symbolic capital, prestige, respectability, and social control, rather than entrepreneurial innovation.

This early 2000s portrayal reflects a transitional moment in Indian cinema where wealth is aspirational but still tied to feudal-industrial legacies rather than startup dynamism.

II. Corporate Realism and Institutional Structures

Movie: Corporate

Directed by Madhur Bhandarkar, this film marks a decisive movement toward institutional realism. Corporate rivalry, regulatory manipulation, brand warfare, and political lobbying structure the narrative. The boardroom replaces the family mansion as the central arena of power. Hierarchy defines professional mobility. Accountability diffuses upward, highlighting structural opacity within large organizations. Female executives occupy visible yet precarious roles, exposing gendered vulnerabilities within male-dominated hierarchies. Unlike earlier celebratory portrayals of wealth, the film interrogates systemic compromise embedded in competitive capitalism. Corporate culture is portrayed as performance-driven, legally complex, and ethically ambiguous. The narrative resonates with post-liberalization anxieties surrounding deregulation and crony capitalism.

Movie: Guru

Directed by Mani Ratnam, this film centers on the ascent of a self-made industrialist navigating India's restrictive economic regime. Industrial licensing, shareholder mobilization, public listings, and factory expansion anchor the narrative in procedural detail. Unlike inherited wealth narratives, the protagonist's success emerges through ambition, risk-taking, and capital mobilization. However, regulatory bending and political proximity complicate the moral framing. The film reflects the tension between entrepreneurial aspiration and systemic corruption characteristic of India's pre-liberalization and early reform years. Factories, stock exchanges, and press conferences provide visual realism. Business leadership appears merit-driven yet ethically ambivalent, indicating cinema's nuanced engagement with capitalism.

Movie: Baazaar

Here, financial markets replace industrial production as the dominant economic site. Speculation, insider trading, and mentorship networks structure ambition. Wealth becomes synonymous with information asymmetry and elite access. Deal-making supersedes productive enterprise. Corporate mentorship intertwines with manipulation, reflecting financial capitalism's psychological pressures. The narrative aligns with global discourses of financialization, where intangible assets and speculative instruments overshadow tangible production.

Movie: The Big Bull

This film foregrounds brokerage systems, regulatory loopholes, and aggressive risk-taking. Trading floors supplant conventional office spaces. Entrepreneurial brilliance and fraud blur into indistinguishable categories. The narrative highlights systemic vulnerabilities within banking and stock markets. Capital accumulation appears rapid and unstable, mirroring post-2008 global financial skepticism. The portrayal neither fully condemns nor glorifies speculative ambition, instead presenting capitalism as structurally precarious.

III. Youth-Led and Small-Scale Enterprise

Movie: Rocket Singh: Salesman of the Year

Corporate sales culture is depicted as target-driven and dehumanizing. Hierarchical humiliation structures professional life. In response, the protagonist establishes a small ethical enterprise grounded in transparency and trust. Entrepreneurial practice is procedural with client acquisition, pricing strategies, paperwork management etc. Success is defined through dignity rather than profit maximization. Authority becomes collaborative rather than coercive. This representation aligns with post-2008 recession-era skepticism toward aggressive corporate capitalism and reflects growing youth aspiration toward independent ventures.

Movie: Band Baaja Baaraat

Urban entrepreneurship materializes through a wedding planning startup. Branding, budgeting, vendor coordination, and reputation management structure enterprise formation.

Authority is distributed through partnership, challenging patriarchal hierarchies. The film normalizes hustle culture, risk-sharing, and networking as essential components of business growth. A female co-founder participates equally in strategic decision-making, marking a progressive shift in gender representation. The startup narrative reflects India's expanding service sector and youth employment anxieties during the early 2010s.

Movie: Sui Dhaaga

Economic self-reliance replaces corporate dependency. Skill-based manufacturing, branding exhibitions, and customer trust underpin growth. Failures are foregrounded, emphasizing gradual scaling rather than instant success. Household collaboration strengthens resilience. Female participation extends to strategic co-leadership, repositioning women as economic agents rather than dependents. The film engages with "Make in India" discourse, aligning entrepreneurship with nationalist self-sufficiency.

Movie: Made in China

Cross-border trade, product sourcing, and consumer psychology structure venture development. Trial-and-error learning dominates the entrepreneurial journey. Branding and promotional strategy overshadow production. Entrepreneurship appears adaptive yet opportunistic. Ethical ambiguity persists, reflecting the competitive pressures of transnational commerce.

IV. Social and Inclusive Entrepreneurship

Movie: Swades

Directed by Ashutosh Gowariker, this film reframes enterprise within rural development. Managerial expertise is redirected toward infrastructure creation and resource planning. Profit maximization is replaced by social impact. Participatory governance empowers villagers and women. Entrepreneurship becomes ethical responsibility rather than capital accumulation.

Movie: Gori Tere Pyaar Mein

Urban corporate professionalism is contrasted with grassroots engagement. Real estate targets symbolize profit-oriented detachment, while rural development embodies ethical transformation. The female protagonist leads socially meaningful work, reversing conventional gender hierarchies within economic discourse.

Movie: Pad Man

Directed by R. Balki, the narrative centers on innovation through prototyping and cost-efficient manufacturing. Distribution barriers, stigma, and awareness campaigns structure enterprise growth. Women transition into collaborators and advocates. Entrepreneurship is empathy-driven and impact-oriented, aligning with social innovation discourse.

Movie: Srikanth

Enterprise is framed as inclusive innovation shaped by resilience. Funding negotiations and institutional skepticism define the journey. Business becomes empowerment rather than privilege. Structural barriers are foregrounded, emphasizing mentorship networks and accessibility.

V. Entrepreneurial Deviance and Informal Capitalism

Movie: Badmaash Company

Market awareness initially drives growth, but ambition converges with illegality. Smuggling and customs evasion replace legitimate enterprise. Innovation is framed as morally compromised. Informal trade networks dominate. The film critiques shortcut-driven wealth while acknowledging its seductive appeal.

8. Structural Shifts in the Representation of Business in Hindi Cinema (2000–2025)

i. From Industrial Capitalism to Financialization

Earlier films such as Guru focus on factories, manufacturing, and industrial expansion. Later narratives like Baazaar and The Big Bull shift attention to stock markets, trading floors, and speculative finance. Business moves from production-based wealth to finance-driven accumulation.

ii. From Patriarchal Lineage to Merit-Based Entrepreneurship

In films such as Kabhi Khushi Kabhie Gham, business authority is inherited within elite families. In contrast, films like Band Baaja Baaraat highlight youth-led startups built on skill, effort, and partnership. Leadership becomes earned rather than inherited.

iii. Ethical Ambivalence as a Recurring Theme

Across films—from Corporate to Badmaash Company—entrepreneurial success often involves moral compromise. Regulatory manipulation, shortcuts, and power politics complicate the idea of clean capitalism. Business is portrayed as ambitious but ethically contested.

iv. Emergence of Social and Impact-Oriented Enterprise

Films such as Swades and Pad Man present entrepreneurship as a tool for social change. Profit is secondary to community development, innovation, and social inclusion. Enterprise becomes linked to responsibility and impact.

v. Gendered Transformation in Business Narratives

Earlier films marginalize women in corporate decision-making. Later films like Sui Dhaaga depict women as co-founders, innovators, and strategic leaders. Female participation shifts from symbolic presence to active economic agency.

9. Results of the Study

i. Hindi cinema presents business as a multi-layered construct encompassing inherited industrial power, corporate governance, speculative finance, and grassroots entrepreneurship.
ii. Corporate culture evolves from symbolic wealth display to procedural realism involving regulatory negotiations and institutional complexity.
iii. Post-2008 narratives foreground merit-based entrepreneurship and startup ecosystems.
iv. Financial capitalism increasingly dominates cinematic representation.
v. Ethical complexity remains central; capitalism is critically engaged rather than unconditionally celebrated.
vi. Social entrepreneurship emerges as a corrective discourse within neoliberal capitalism.
vii. Female participation expands significantly in entrepreneurial narratives.
viii. Overall, Hindi cinema reflects India's post-liberalization economic transformation, portraying capitalism as aspirational, competitive, unstable, and socially contested.

10. Conclusion

Between 2000 and 2025, Hindi cinema has transitioned from representing business as inherited privilege to depicting entrepreneurship as innovation-driven and socially embedded practice. Corporate life is no longer a decorative backdrop but a contested arena structured by governance, ambition, risk, and ethical ambiguity. Financial markets, startups, and social enterprises collectively map India's evolving capitalist imagination.

Cinematic narratives do not merely mirror economic change; they shape public perception of what constitutes legitimate ambition, acceptable risk, and responsible leadership. The films analysed herein demonstrate that Bollywood functions as a critical cultural mediator of India's neoliberal transformation—simultaneously aspirational and interrogative, celebratory and skeptical.

The representation of business in Hindi cinema thus becomes an essential site for understanding how capitalism is narrativized, normalized, and contested within contemporary Indian society.

References

Gadgil, N. M., Sunanda, C., & Yadav, T. (2025, May). *Rural imaginations in Bollywood cinema: A critical literature review on narratives, representation and socio-cultural discourses*. Kesari Mahratta Trust Journal, 1(1).

Young Researcher Association. (2025). *International Journal of Advance and Applied Research (IJAAR), 6*(11), January–February. Kolhapur, Maharashtra, India. https://ijaar.co.in

Munde, P. D., & Londhe, S. (2025). *Opportunities and difficulties for women entrepreneurs in literature, film, and media*. International Journal of Advance and Applied Research, 6(11), 38. https://doi.org/10.5281/zenodo.15202472

Banate, A. B. (2025). *Spice, strength, and self-reliance: Mirch Masala as a cinematic representation of women's economic empowerment in India*. International Journal of Advance and Applied Research, 6(11), 109. https://doi.org/10.5281/zenodo.15221491

Pol, A. P. (2025). *A review of women entrepreneurs in film industry*. International Journal of Advance and Applied Research, 6(11), 111. https://doi.org/10.5281/zenodo.15221537

Jogdand, S. D., & Pol, A. (2025). *Representation of women entrepreneurs in literature, cinema, and media: A shifting narrative*. International Journal of Advance and Applied Research, 6(11), 147. https://doi.org/10.5281/zenodo.15222147

Vasanthan, R., Keerthi, D., & Karthikeyan, J. (2024). *Cinematic depictions of business: Realism, ethics, and education*. ShodhKosh: Journal of Visual and Performing Arts, 5(1), January–June (Part 1). https://doi.org/10.29121/shodhkosh.v5.i1.2024.894

Mittal, P., & Bansal, R. (Eds.). (2023). *Social development and governance: Innovations in education, technology & management*. QTanalytics. https://doi.org/10.48001/978-81-966500-9-4_4

Skills and Competencies required for the LIS Professionals in the Information Technology Era

Dipankar Debnath*

Abstract

This paper describes overview of the skills and competencies of LIS professional in information technology era. It presents key skills and competencies of new LIS professionals which can be classified as technological skills, service skills, research skills, management skills, generic skills and communication skills. The main purpose of this study is to identify the essential skills and competencies required for library and information professionals. Library professionals have to play different role that require different skills. The library professionals are responsible for the proper preservation, maintenance and delivery of resources to society. Therefore it is very important for library and information science professionals to possess the skills and competencies necessary to provide library information and services, offer proper guidance and solve user problems for library users.

Keywords: Library and information science, Professional Competencies, Information technology, Library Professionals, Digital Skills

1. Introduction

Rapid developments in information and communication technologies (ICTs) in the present era and its use in different spheres have revolutionized the information handling activities in library and information centers and commuted the magnitudes of information needs of the users. The nature, type and speed of dissemination of information, access to electronic media, advanced telecommunication system, audio visual technology, multimedia etc. in library and information science along with information centers and documentation centers changed due to the emergence and application of ICTs. ICT has become indispensable and most viable platform for retrieval of information through electronic form. The user attitude, needs and interests to information is also radically shifting in the changing environment. Hence the role of LIS Professionals has been also changed dramatically with the change in the entire scenario of information domain.

2. Objectives of the Study

i. To enable professionals to efficiently acquire, organize, preserve and provide access to information while adapting to digital, user centric environments.

**Library Assistant, DHSK Commerce College, Dibrugarh, email: debnathdipankar5@gmail.com*

ii. To utilize and manage modern information technology including library software, digital libraries, databases and online services, adapting to new tools as they arise.
iii. To foster a culture of continuous skill development to keep pace with evolving technological and information seeking behaviour.
iv. To build relationships with users and stakeholders, facilitate user education, and promote library services
v. To enable effective organization, classification, cataloging and retrieval of information, whether in print or digital formats.

3. Training and Development

Library training is the process of assisting the library professional for enhancing his efficiency, skills, effectiveness and competencies at the library by improving and updating his/her professional knowledge by developing skills relevant to his/her work and cultivating appropriate behaviour and attitude towards the library profession. Training is the quickest way of acquiring skills and experience under Supervision and it gives essential support to all forms of education especially continuing education. It is practically important to train existing staff and provide basic skills for new entrants. The library graduates and post graduates who pass out from different library schools in India do not possess adequate skills and confidently carry out IT based services. Even those professionals who are already on job are crippled if they don't have enough opportunities and self initiation to adapt and update the necessary skills and expertise related to IT.

Library training is different from library education, while library education is concerned mainly with enhancement of knowledge, training aims at increasing knowledge but essentially stimulating aptitude and imparting skills related to specific library jobs especially for the present situation. Many organizations and libraries are organizing some form of training. However there is a lack of understanding of how to use the IT based services. So training perhaps needed to be tackled more seriously.

3.1 IT Training

The information society of the new millennium will depend on a skilled and literate workforce. There is a need to equip people with information handling skills that will make them more effective as citizens and more productive as individuals. All we know that our roles as information professionals continue to change and evolve dramatically in the networked environment. While many of these roles have always been there, the emphasis on some of them has changed and some have expanded greatly. IT training should be designed not only for the imparting of knowledge of particular systems but also to encourage individual staff in developing their knowledge and skills own interest in their subjects. An IT training normally intends to fulfill the following objectives:-

a) To develop knowledge and skills;
b) To achieve a sense of unity;

c) To encourage staff for personal development;
d) To improve staff morale

3.2 Levels of IT training

Levels of training need to be assessed so that appropriate training can be arranged and offered a suitable time and place for the staff concerned.

3.2.1 Basic Level

The computing skill is necessary for library professional to create efficient workforce. These skills cover the following.

- Knowledge to handle keyboard, mouse, computer file etc.
- Knowledge about computer fundamentals
- Knowledge of the range of electronic information sources available on the internet, CD-ROM etc.
- Ability to communicate through E-mail.

3.2.2 Intermediate Level

Once a person has mastered the basics of computer fundamentals and learned the essential vocabulary of the technology it becomes easier to improve IT skill. After intermediate level the person will gain.

- The ability to select, acquire, process and shelved electronic resources.
- Ability to understand, select and implement suitable library management and information retrieval software.
- Ability to exploit the capabilities of search engines.

3.2.3 Advanced Level

At this level the personnel's requirements and development needs will need to be monitored through appraisals and regular content with the line manager or staff development officer.

4. Broad Skills for the Library Professionals

Skill is an ability or proficiency in execution or performance, which is required for a person to plan and execute an action designed to achieve some goals or accomplish a particular task. A skilled person has the ability to perform any task successfully. He can face the challenges occurs in a particular profession because of the social, economic, education and technological changes. Thus in order to cope up with the ever changing library and information science profession, the library professional must be a skilled professional. The modern library is fully a web-based digital library. So the library professional should be more acquainted with technological skills and so this skill should be enhanced among the working professionals.

4.1 Technological Skills

Technological skills mean those skills which are required to handle information technology and its other related fields such as computer operation, telecommunication media, creation of online database, designing to websites, searching information from internet of information technology on the library, so the library professionals should have to familiar with the skills to handle IT and its application in the library environment in the relevant context. Technological skills needed for a library professional can be discussed as follows:-

4.2 Computer and Information Technological Tools using skills

The librarian in the IT era must have the skill of using computer and other information technological tools properly. Because quality of the library services is dependent on the quality of the librarian's performance. Skill of computer operation, application of bar code technology, creation of database and its updating, designing and updating of website etc. are required for the web-based librarians.

4.3 Skills of Using Internet and Computer Communication Networks

Skills of handling different computer communication networking architectures and systems i.e. LAN, MAN and WAN as well as using of internet and other library related networks like INFLIBNET, DELNET etc. are required for a modern library professional working in IT environment to tackle the problems and challenges raised in building and maintaining a digital web-based library. Speedy resource sharing and dissemination of information is possible only with the proper computer networking skills.

5. Core Skills of Library Professionals

The following are the core skill of new breed information professional.

a) **Information handling skills:** Cataloguing indexing, general management and organization of information, organization of knowledge.

b) **Training and facilitating skills:** Helping people of any age, background, specialization or need to use libraries and information resources in any media, user support, user instruction.

c) **Evaluation skills:** Selection, critical evaluation and review, quality assurance of information, fitness for purpose as needed in both traditional and digital library environments.

6. Training Providers

Normally library training programmes are conducted in India under the following auspices.

(i) Training centers under an autonomous institution under the control of Govt.

(ii) The responsibility of training entrusted to a university or an academic institution.

(iii) A professional library organization Association handling a training programme.

(iv) National Institute of Science Communication and Information Resources (NISCAIR)

(v) Administrative Staff Training College
(vi) Information and library network (INFLIBNET)
(vii) Defence scientific information and documentation centre (DESIDOC)

7. Library and Information Profession

A profession is defined as "a calling requiring specialized knowledge and often long and intensive preparation including instructions in skills and methods as well as in the scientific, historical or scholarly principles underlying such skills and methods, maintaining by force of organization or concerted opinion, high standards of achievement and conduct and committing its members to continued study and to a kind of work which has for its prime purpose the rendering of a public service." The major characteristics of library professionals:

(i) **Body of specialized knowledge and technical skills:** A profession calls for specialized knowledge and technical skills. There is no doubt that librarianship requires specialized knowledge and technical skills.

(ii) **Formal training and experience:** It requires intensive preparation for acquiring the necessary knowledge of methods for putting knowledge to work and technical skills. For this these should be formalized method of acquiring training and experience. Experience shows that an intensive course of two years training leading to Master's degree in library and information science is desirable.

(iii) **An ethical code or standard of conduct:** There should be an ethical code or standard of conduct to be followed by its members with clients and colleagues. Various library associations have laid down code of professional ethics for their members. IASLIC has done this for its members. However there is no universal code of ethics.

(iv) **A commitment of public service rather than to monetary gain:** The main aim being to render public service, therefore it requires that its members should regard service to customers/clients/patrons as the basis of their work rather than monetary gain. Librarianship is a service profession, therefore the user is regarded as a king.

(v) **Formal organization to espouse professionalization:** There should be some formal organization that will bind all the members together for the smooth and efficient functioning of the profession. The aim of the formal organization being to : (a) achieve a high standard of performance on the part of its professionals (b) work towards a common goal (c) carry out collective thinking (d) serve as a forum for achieving consensus on matters of professional concern.

(vi) **Licensing of practitioners:** In Medicine, each person who intends to practice medicine, get himself registered with Medical Council of India (MCI). Then he is given a license to practice. There is no practice of this kind of librarians prevailing in India.

8. Emergence of Technology and Social Software

Today library has entered into the world of virtual library by using digital technology. It is considered that library and information science profession has a great role to play in content development in the ICT environment. The university and institutions engaged in library and information science manpower. Additionally, with the development of more interactive technologies. Such as wikis, blogs and RSS (Really Simple Syndication), new forms of democratic participation are flourishing on the Internet, which can have profound influences on the future of library services. For instance, the drawing of "Web 2.0" has prompted the "Association of College and Research Libraries" (ACRL) to commission a monograph entitled, Library 2.0 Initiatives in Academic Libraries which explores the roles of new web technologies in the transforming academic library environment. Some of the guiding principles of "Library 2.0" include the use of Social information tools favoured by users; the building of personalized, participatory library services driven by user needs; an embrace of radical trust; the shift towards taking the library to users; and the rapid change mobilized by assessment. This re-envisioning of academic library services includes, for example the use of blogging and social networking tools for community outreach, research and teaching. In academic libraries, in particular but also in some corporate libraries, we are seeing a growing number of Digital Services Librarians, Context Developer, Electronic Resources Librarians, Metadata Librarians, Web Services Librarians, Branch Librarians, Web Services Librarians, Branch Librarians and Digital Repository Services Librarians. Libraries that create positions like this recognize the need to keep up with the latest technologies and with their patrons who may be accessing resources remotely. New library and information professionals also have opportunities to work outside of libraries as consultants, technology evangelists and knowledge managers. All of these positions tend to require a high comfort level with bleeding edge technologies – something rarely taught in library schools.

9. Competency required for LIS professionals

The competency (knowledge, skill and attitude) required for LIS professionals in the 21st century in the context of ICT implications are outlined under six core areas of competencies.

Information resources / services skills

- Information Sources
- Specialized reference materials
- Collection development and management
- Archiving, organizing and delivering
- Documentation skills
- Classification and cataloguing
- Indexing language skill
- Information searching technology
- Information analysis and processing
- Abstracting service
- Client services
- Information consolidation and packaging (ICP)
- Design, development and evaluation of information system

- Information structuring and modeling
- Information storage and retrieval
- Database management

Information technology skills

- Computing skills
- Operating system
- Library software (Digital / Automation Library Software)
- Database management system
- Telecommunication and networking
- Information retrieval technique
- INTERNET (Web authoring)
- Digitization
- System analysis and system design
- Desktop publishing
- Programming language
- Online searching and retrieval
- Data Mining / Warehouse
- Web publishing (RSS, Blogging, Wikis etc.)
- Technical service skills
- E-Resources skills (e-journal, e-books, etc.)

Research Skills

- Application of Metrics techniques (books, information and web)
- Qualitative technique
- Quantitative technique
- Statistical techniques
- Operational research skills
- Evaluation skills
- Analysis skills
- Observation methods
- User study techniques
- Literature analysis

Management Skills

- Management of information centre
- Leadership skills
- Team work
- Time management
- Decision making ability
- Supervisory skills

- Personal management and development
- Motivation skills
- Marketing of LIS services
- Budgeting skills

Generic Skills

- Soft spoken
- Learning skills
- Interpersonal skills
- Behavioural characteristics
- Professionals attitude
- Negotiation skills
- Making judgments
- Achieving professionals goals
- Problem solving aptitude
- Plan and organize independently

Communication Skills

- Oral communication
- Written communication skills
- Technical communication skills
- Presentation skills
- Report writing skills
- Technical writing skills
- Editing skills
- User instruction method
- User orientation skills
- Transportation skills
- Interpretation skills

New technologies means Library and Information Science is currently characterized by fast-paced change, with staff needing to be flexible in adapting and adopting new skills and levels of awareness. New developments need to be marketed and evaluated and these are additional skills for information professionals to adopt. There is the need for LIS professionals to develop marketing and evaluation skills and strategies for new technologies. Other emerging skills in the electronic information environment are communication, negotiation and collaboration with information professionals being called upon to teach new skills. According to Fourie (2004), the value of task analysis, work analysis, needs assessment and market research are very necessary for library professionals. Apart from knowledge (cognitive level), teaching should focus on affective and meta-cognitive skills, decision making abilities, environmental scanning, change management and typical personality characteristics required to survive in the cyber age (e.g. assertiveness, self-confidence, supervision, creative thinking and innovativeness). In an earlier article, Roy Tennant (1999) acknowledged that the rapid rate of change in technology meant that certain skills might be obsolete in a short time. To remedy this, he recommended that employers seek librarians with the following attributes or personal traits: flexibility; innate skepticism; propensity to take risks; good interpersonal skills; abiding public service perspective; capacity to learn constantly and quickly; skill at enabling and fostering change; and capacity for and desire to work independently.

Thus, LIS professionals are now expected to be aware of, and capable of, using and demonstrating emerging ICTs. Professionals trained in the creation, management and use of information particularly to: design, produce, acquire, organize, store, filter, classify, retrieve, represent and disseminate information with an emphasis on working with people in order to help them understand and manage their information requirements. LIS professionals must be flexible and adapt traditional skills to incorporate the requirements of technological advances. Given the current situation, wherein ICTs are being continuously updated or introduced and traditional formats are being replaced or supplemented by digital formats (such as e-journals and e-books). There is also an increased focus on communication skills, with more players involved in the electronic information environment. LIS professionals are being called upon to work closely with ICT users and providers (including IT staff) and to work in collaboration with others in the profession. Some groups of users lack the necessary IT skills to obtain quality information and LIS professionals will therefore be called upon to act as both educators and intermediaries. Given these circumstances, LIS professionals are required to have increased teaching and communication skills.

10. Conclusion

Information and communication technology has revolutionized the information handling activities in the libraries and information centre's during the past few years. The information society demands that all the relevant technologies; that are involved in information processing, consolidation, repackaging and communication system; capable of providing diversified services. Therefore, there is a need to redefine the boundaries of our profession in order to continue to be relevant in terms of developing and providing human resources for the typical 21st century workplaces, which require knowledge and skills of a different kind and of a different order should be evident from the foregoing discussion. Education and training on emerging technologies is essential to learn, improve and develop various kinds of professional skills. To become able to face the technological challenges, a continuous professional development is an essential part of modern LIS professionals and it is way to successful career planning and prospectus. The library professionals with better managerial, personal, professional and technological skills have greater demands and bright future in the modern library. Frequent change in the ICTs and in libraries required immediate improvement of different skills and knowledge among LIS professionals.

References

Ashcroft, L., & Watts, C. (2005). ICT skills for information professionals in developing countries. *IFLA Journal, 31*(1), 6–12.

Baruah, S. R. (2000). *Libraries & information centres: Changing scenario in modern information society*. IASLIC.

Bavakutty, M., Veeran, M. C. K., & Muhammed, S. K. (2002). *Organization of libraries and information centres in 21st century*. Ess Ess.

Fourie, I. (2004). Librarians and the claiming of new roles: How can we try to make a difference? *Aslib Proceedings, 56*(1), 62–74.

Ramamurthy, C. R. (2004). *Globalization and library information networking*. Authors Press.

Webber, S. (1999). Competencies for information professionals. *Bulletin of the American Society for Information Science, 25*(1), 28–29.

Skills and competencies in LIS. (n.d.). Retrieved February 20, 2026, from http:// books.google.com/skills and competencies in LIS.html

Importance of Information Literacy in Higher Education

Nayan Jyoti Gogoi*

Abstract

Information literacy (IL) has evolved into a core competency in higher education, enabling students to navigate information overload, evaluate sources critically, and engage ethically in knowledge creation amid rapid digital advancements. This literature review synthesizes key scholarly works from 2003 to 2025 to examine IL's role in fostering critical thinking, independent learning, and academic success. Drawing on systematic searches across databases such as Google Scholar, JSTOR, ERIC, and Scopus, the study reviews 9 influential sources, with in-depth analysis of three pivotal studies (Yevelson-Shorsher & Bronstein, 2018; Khan & Sohail, 2025; Kwame, 2023). Findings reveal persistent stakeholder perception gaps where faculty and librarians view IL as a complex, transformative practice, but students often see it as a functional tool for assignment completion undermining initiative effectiveness. Evidence strongly supports curriculum-embedded, sustained IL programs over isolated workshops, demonstrating improvements in source evaluation, ethical practices, synthesis, and academic confidence. Persistent gaps in critical evaluation, citation, and ethical use among digitally familiar students highlight the need for early, structured assessment and targeted interventions. The review underscores IL's centrality to equitable, lifelong learning and graduate employability, particularly in resource-constrained contexts like India. Recommendations include enhanced faculty-librarian collaboration, alignment on learning outcomes, and ongoing evaluation to bridge divides and maximize IL's transformative potential in higher education.

Keywords: Information, literacy, education, library, research.

1. Introduction

In the modern knowledge-based society, higher education plays a vital role in preparing students to navigate an increasingly complex information environment. The rapid growth of digital technologies, open-access resource offers significant opportunities for learning and research, it also presents challenges related to information overload, misinformation, and ethical use of information. In this context, information literacy has emerged as a fundamental element for students in higher education.

Information literacy is essential for fostering independent learning, critical thinking, and academic success. In higher education students are expected not only to locate information but also to evaluate its credibility, integrate it effectively into their academic work, and use it

* *Library Assistant (Part Time), DHSK Commerce College, Dibrugarh*

exactly. Information literacy is the ability to identify, locate, evaluate, organize, and effectively use information to address issues or problems at hand (UNESCO,2003). These abilities are particularly important in higher education, where students engage in research-based learning, scholarly communication etc. Without information literacy skills, students may struggle with plagiarism, poor-quality research, and an inability to critically assess sources. Information literacy is a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information (ALA, 1989). In higher education, information literacy plays a vital role in helping students make sense of the vast and often overwhelming amount of information they encounter throughout their academic journey. As universities place greater emphasis on independent learning and research-based study, students are expected to do more than simply find information; they must learn how to question its reliability, understand its context, and use it responsibly in their academic work. Information literacy supports the development of critical thinking, problem-solving, and reflective learning by encouraging students to engage thoughtfully with sources rather than accepting information at face value. When these skills are underdeveloped, students may struggle with issues such as weak research arguments, inappropriate source selection, or unintentional plagiarism.

Therefore, the information literacy is a key driver of inclusive education, democratic participation, and sustainable development. Understanding the role of information literacy in higher education is crucial for enhancing learning outcomes. Beyond the classroom, information literacy also helps students grow into informed and responsible individuals who can participate meaningfully in academic and social discussions. Recognizing the role of information literacy in higher education is therefore essential for creating learning environments that support both academic success and lifelong learning.

2. Literature Review

Johnston and Webber (2003) were among the first to challenge skills-based assumptions, arguing that information literacy is closely tied to critical thinking, problem-solving, and independent learning—abilities that sit at the heart of higher education. From their perspective, students do not simply "learn" information literacy; instead, they grow into it through meaningful engagement with their academic disciplines. This view suggests that isolated instruction sessions, while useful, are unlikely to produce lasting learning unless information literacy is embedded within the curriculum itself.

Journal of Academic Librarianship (2004) highlighted a shift away from libraries functioning solely as support units and toward becoming active partners in teaching and learning. When librarians collaborate with faculty to design research-based assignments, students are encouraged to engage more critically with information rather than relying on surface-level searching. Importantly, this collaborative approach was found to improve not only the quality of students' research but also their confidence in navigating academic expectations.

Yevelson-Shorsher and Bronstein (2018) explored the perspectives of librarians, faculty members, and students, uncovering a significant gap in how information literacy is understood and valued. While librarians and faculty members tend to conceptualize information literacy as a complex practice involving critical thinking, ethical information use, and knowledge creation, students often perceive it as a functional skill primarily aimed at completing assignments efficiently. This divergence in understanding can weaken the impact of information literacy initiatives, as students may fail to appreciate the broader relevance of these skills beyond immediate academic tasks. The study highlights the need for clearer articulation of information literacy learning outcomes and stronger collaboration among librarians, faculty, and academic administrators to create a shared understanding and more coherent instructional strategies.

Flierl, Maybee, and Bonem (2021) introduced the Informed Learning Scale, piloted with nearly 8,000 students in redesigned courses at a large U.S. university. Grounded in Christine Bruce's Informed Learning theory (2008), which views IL as relational where engaging with information simultaneously transforms understanding of disciplinary content and information use the scale uses Likert items aligned with three principles: building on prior experiences, simultaneous learning of content and information practices, and enabling new ways of using information.

Bhuyan and Bipasha (2022) demonstrated that frequent use of digital resources does not automatically lead to effective information use. Despite being comfortable with online tools, many students lacked the analytical skills needed to compare sources, recognize bias, or integrate information meaningfully into academic writing. Together, these findings reinforce the argument that information literacy instruction is most effective when it is embedded within subject courses, where students can immediately apply what they learn in authentic academic contexts.

Wickramasinghe and Seneviratne (2022) found that many first-year university students expressed confidence in their ability to locate information, yet struggled when asked to evaluate the credibility and relevance of sources. This gap between perceived and actual competence highlights a common issue in higher education: confidence does not always equal capability. Without early and structured guidance, students may prioritize convenience over quality when selecting sources.

Kwame (2023) identified persistent weaknesses in key areas such as citation practices, ethical use of information, and critical evaluation of sources. Despite students' familiarity with digital tools and online resources, many lacked the analytical skills required for effective academic research. The study emphasized that regular and structured assessment of information literacy competencies is essential for identifying learning gaps and informing instructional design. By using assessment data strategically, institutions can develop targeted interventions that support students' academic development from the early stages of higher education.

Taylor and DiGiacomo (2023) observed a noticeable move away from narrow skills-based models toward more integrated and reflective frameworks. Their review suggests that modern information literacy includes ethical awareness, an understanding of how information is created, and the ability to contribute knowledge responsibly. This shift is particularly significant in a digital environment where students are not only consumers of information but also potential creators, making information literacy a continually developing competence rather than a fixed outcome.

Khan and Sohail (2025) demonstrated that continuous, curriculum-integrated information literacy programmes significantly enhance students' research skills, critical thinking abilities, and academic confidence. Their study showed that students who received ongoing instruction were better able to evaluate sources, synthesize information, and apply ethical research practices. Importantly, the authors argued that one-time workshops or isolated training sessions are insufficient for developing deeper information literacy competencies. Instead, they advocated for a systematic and sustained approach that embeds information literacy across academic programmes, allowing students to progressively develop and refine these skills throughout their studies.

3. Objectives

i. To examine the ability of undergraduate students to identify, seek, and access relevant and reliable information.
ii. To assess the level of information literacy skills among undergraduate students.
iii. To evaluate the awareness of undergraduate students in differentiating reliable and filtered information from unreliable or misleading information**.**

4. Methodology

In this study, a qualitative research approach centered on a comprehensive literature review was adopted to explore the role of information literacy in higher education. Given the exploratory nature of the topic and the wealth of existing scholarly work, secondary sources were exclusively relied upon, rather than collecting primary data. This method allowed synthesis of insights from established research, avoiding the need for new empirical investigations while building on the foundations laid by experts in the field. The findings represent piecing together a puzzle from various perspectives, drawing from academic discussions that have evolved over time.

To gather the relevant materials, systematic searches were conducted across multiple academic databases information science literature. Search strategy involved using key terms such as "information literacy," "higher education," "student learning outcomes," "digital literacy in universities," and "information skills development," often combined with Boolean operators like AND, OR, and NOT to refine results. For instance, queries like "information literacy AND higher education" or "role of information literacy OR digital skills in academia" helped narrow down the focus. The search was limited to peer-reviewed journal articles, books, conference papers, and reports published between 2000 and 2023, prioritizing recent works to capture contemporary trends while including seminal pieces for historical context. This timeframe struck a balance acknowledging the rapid evolution of digital information environments without overlooking foundational theories.

4.1 Analysis

The qualitative exploration by Yevelson-Shorsher and Bronstein (2018) reveals a troubling but insightful disconnect in how different stakeholders perceive information literacy. Through in-depth interviews with librarians, faculty members, and students, the study uncovers that while librarians and faculty tend to view information literacy as a sophisticated, multi-layered practice—one that demands critical thinking, ethical decision-making, and active participation in knowledge creation—students frequently reduce it to a set of practical, task-oriented steps needed just to finish assignments on time. This perceptual gap is not merely academic; it directly undermines the effectiveness of IL instruction. When students see these skills only as short-term tools rather than lifelong competencies, they are less likely to engage deeply or transfer what they learn beyond the immediate deadline. The authors' analysis suggests that without deliberate efforts to bridge this understanding—through clearer communication of learning outcomes and genuine collaboration among librarians, faculty, and administrators—information literacy initiatives risk remaining superficial and fragmented.

In contrast, Khan and Sohail (2025) provide compelling evidence from a more recent context that sustained, curriculum-embedded information literacy programme can produce meaningful and measurable gains. Their study, conducted among university students in the United Arab Emirates, demonstrates that students who receive continuous, progressive IL instruction throughout their degree perform noticeably better in key areas: evaluating the credibility of sources, synthesizing complex information, applying ethical citation practices, and building overall academic confidence. The data clearly show that one-off workshops or standalone library sessions fall short; they may offer temporary familiarity with tools, but they rarely lead to the deeper transformation of research behaviour that ongoing integration achieves. This finding reinforces the idea that information literacy is most powerful when treated as a developmental thread woven through the entire academic journey rather than a one-time skill to be checked off. The authors' emphasis on long-term embedding offers practical hope for institutions willing to invest in structured, faculty-librarian partnerships.

Finally, Kwame (2023) brings a sobering but constructive perspective by highlighting persistent weaknesses even among digitally native students. Despite their comfort with online searching and social media platforms, many undergraduates still struggle significantly with fundamental academic research practices—particularly proper citation, ethical use of sources, and critical evaluation of information quality. The study's analysis of assessment results shows that these gaps are not minor oversights; they represent systemic shortcomings in how students approach scholarly work. What stands out most is the author's strong argument for regular, structured assessment of information literacy competencies right from the early semesters. By systematically collecting and analysing data on student performance in these areas, institutions can identify specific learning needs and design targeted interventions before bad habits become entrenched. This diagnostic, evidence-based approach turns assessment from a compliance exercise into a genuine tool for supporting student growth and closing equity gaps in higher education.

5. Findings and Discussion

Drawing primarily from the three key studies Yevelson-Shorsher and Bronstein (2018), Khan and Sohail (2025), and Kwame (2023) along with broader trends in the field, this section highlights recurring patterns, implications, and practical takeaways. As someone piecing this together for a context like higher education in Assam or similar resource-constrained settings in India, it's striking how universal these challenges and opportunities feel, even across different regions.

One of the most consistent findings across the sources is the existence of a perceptual divide among stakeholders, which can quietly sabotage even well-intentioned information literacy efforts. Yevelson-Shorsher and Bronstein (2018) captured this vividly through their interviews: librarians and faculty members often see information literacy as a rich, transformative practice—rooted in critical thinking, ethical engagement, and contributing to scholarly conversations—while students tend to treat it as a utilitarian checklist for getting assignments done quickly. This mismatch isnot just theoretical; it means students may disengage from deeper learning opportunities, viewing IL sessions as extra hurdles rather than tools for intellectual growth. In discussion, this gap explains why many IL initiatives feel fragmented or underappreciated. In places like Guwahati's colleges, where students juggle heavy course loads and limited library access, this functional mindset could be even more pronounced, making it essential for educators and librarians to explicitly connect IL to real-world benefits like better research quality, reduced plagiarism risks, and stronger employability skills.

On a more optimistic note, the evidence points strongly toward sustained, integrated approaches as the path forward for meaningful impact. Khan and Sohail (2025) demonstrated this through their UAE-based study, where ongoing curriculum-embedded IL programs led to clear improvements in source evaluation, information synthesis, ethical practices, and students' overall academic confidence. Their data underscores that isolated workshops—common in many institutions—offer only surface-level gains, while progressive embedding across semesters allows skills to build cumulatively and transfer to disciplinary contexts. This resonates deeply in the discussion: if higher education aims to produce independent, lifelong learners, treating information literacy as a developmental thread (rather than a one-off module) seems non-negotiable. For Assam's higher education landscape, where digital divides and varying faculty-librarian collaboration exist, adopting similar sustained models could yield outsized returns—perhaps starting with pilot integrations in core courses and scaling based on student feedback.

Finally, the persistent skill gaps identified by Kwame (2023) serve as a practical wake-up call, reminding us that familiarity with digital tools does not automatically translate to academic competence. Even digitally savvy first-year students often falter in citation accuracy, ethical source use, and critical source appraisal—areas that Kwame's assessment data flagged as systemic weaknesses. The study's emphasis on regular, structured evaluation stands out as particularly actionable: by using assessment not just for grading but for diagnosing and addressing gaps early, institutions can intervene proactively and reduce long-term inequities. In discussion, this ties back to broader calls for evidence-based IL programs tools like pre/post surveys or rubrics could help tailor support in resource-limited settings like those in Northeast India. Overall, these findings converge on a shared message: information literacy is far more than a library service; when thoughtfully integrated, collaboratively designed, and regularly assessed, it becomes a powerful enabler of student success, equity, and adaptability in an increasingly complex information world. Future efforts in contexts like Assam could build on this by prioritizing stakeholder alignment, sustained embedding, and ongoing assessment to close the loop between theory and real student outcomes.

6. Conclusion

Information literacy is no longer peripheral but central to higher education's mission: it equips students to navigate complex information ecosystems, discern bias and credibility amid misinformation, contribute ethically as knowledge creators, and adapt to lifelong personal, professional, and civic challenges. In an era of rapid technological change and information abundance, institutions must prioritize collaborative, embedded, and continuously assessed IL initiatives to foster informed, reflective, and empowered graduates. Future efforts should focus on bridging stakeholder divides, leveraging emerging frameworks (e.g., ACRL's Framework for Information Literacy for Higher Education), and measuring long-term impacts to ensure IL remains a transformative force in higher education and beyond.

References

Johnston, B., & Webber, S. (2003). Information literacy in higher education: A review and case study. *Studies in Higher Education, 28*(3), 335–352. https://doi.org/10.1080/03075070309295

Yevelson-Shorsher, A., & Bronstein, J. (2018). Three perspectives on information literacy in academia: Talking to librarians, faculty, and students. *College & Research Libraries, 79*(4), 535–553. https://doi.org/10.5860/crl.79.4.535

Flierl, M., Maybee, C., & Bonem, E. (2021). Developing the Informed Learning Scale: Measuring information literacy in higher education. *College & Research Libraries, 82*(7), 1004–1016. https://doi.org/10.5860/crl.82.7.1004

Bhuyan, M., & Bipasha, N. J. (2022). An inquiry into information literacy (IL) skills among public university students: A developing country perspective. *Indian Journal of Information Sources and Services, 12*(2), 22–27. https://doi.org/10.51983/ijiss-2022.12.2.3352

Wickramasinghe, V., & Seneviratne, W. (2022). Information literacy of first-year undergraduates across disciplines—Engineering, architecture, and information technology. *Edulib: Journal of Library and Information Science, 12*(2), 1–15. https://ejournal.upi.edu/index.php/edulib/article/view/45953

Kwame, R. K. (2023). Assessing the information literacy skills of first-year students at Kwame Nkrumah University, Zambia. *International Journal of Research and Innovation in Social Science,* https://rsisinternational.org/journals/ijriss/articles/assessing-the-information-literacy-skills-of-first-year-students-at-kwame-nkrumah-university-zambia/

Taylor, C., & DiGiacomo, D. K. (2023). Approaches to information literacy conceptualisation in primary, secondary, and higher education contexts: A review of current scholarly literature. *Journal of Information Literacy, 17*(1), 89–104. https://doi.org/10.11645/17.1.3258

Khan, Z. I., & Sohail, M. (2025). Information literacy instructions in higher education institutions: Enhancing academic success and research competencies among university students in the United Arab Emirates. *DESIDOC Journal of Library & Information Technology, 45*(4). https://doi.org/10.14429/djlit.20794

Agentic AI and the Redesign of Managerial Decision-Making Pipelines

Ayetri Roy*

Abstract

Artificial intelligence is no longer just a tool for managers - it is becoming a partner in decision-making. Among the most transformative developments is Agentic AI, which moves beyond traditional decision-support systems to autonomous frameworks capable of planning, learning, and acting in complex organizational settings. This paper explores how Agentic AI reshapes managerial decision-making pipelines across strategic, tactical, and operational levels. By drawing on decision theory, digital transformation literature, and emerging industry evidence, we propose an analytical framework that highlights changes in information flows, authority structures, temporal dynamics, and accountability mechanisms. We also discuss governance challenges, ethical implications, and the evolving role of managers in hybrid human-AI organizations. The conclusion is clear: Agentic AI does not replace managers, but it redefines their role - shifting them toward oversight, strategic interpretation, and ethical stewardship.

Keywords: Agentic AI, managerial decision-making, artificial intelligence, digital transformation, organizational design, governance

1. Introduction

Managerial decision-making has traditionally been structured, sequential, and hierarchical. The classical pipeline-problem identification, data collection, analysis, approval, implementation, and evaluation-was designed for stability in relatively predictable environments. Early information systems enhanced efficiency but kept humans firmly at the center of execution.

However, the rise of Agentic AI marks a turning point. Unlike traditional AI systems that primarily assist managers with analytics, Agentic AI systems can plan, learn, and act autonomously. They decompose goals into sub-tasks, interact with multiple tools, and adapt strategies through continuous learning. This capability transforms decision-making from a static, human-centered process into a dynamic, hybrid ecosystem where humans and intelligent agents share authority.

The implications are profound. Decision-making pipelines are no longer confined to periodic cycles; they become continuous, adaptive, and decentralized. Authority shifts from hierarchical approvals to distributed systems where algorithms execute operational tasks. Accountability mechanisms must evolve to ensure transparency and ethical oversight.

**Business Development Executive, Unacademy, Noida. Email: ayetriroy36@gmail.com*

This paper explores how Agentic AI reshapes managerial decision-making pipelines across strategic, tactical, and operational levels. It addresses three guiding questions:

i. How does Agentic AI transform traditional managerial decision-making structures?
ii. What organizational changes are required to integrate autonomous systems?
iii. How do managerial roles evolve in AI-enabled organizations?

2. Literature Review

2.1 Classical Decision Theory

Herbert Simon's theory of **bounded rationality** (1947, 1957) remains foundational. Managers, he argued, operate under constraints of limited information, time, and cognitive capacity. Decision-support systems were designed to ease these constraints, but they still relied heavily on human judgment and hierarchical approvals.

2.2 Digital Transformation and AI

Digital transformation reshaped competitiveness. Brynjolfsson & McAfee (2014) showed how data-driven technologies enhance productivity. Davenport & Ronanki (2018) categorized AI into automation, cognitive insights, and engagement systems. Yet, most implementations remained assistive, not autonomous.

2.3 Emergence of Agentic AI

Recent research introduces **agentic systems** capable of reasoning, planning, and autonomous execution. These systems interact with multiple tools, adapt to new information, and refine strategies through iterative learning. Decision-making becomes decentralized, continuous, and adaptive

3. Analytical Framework: Redesigning Decision Pipelines

Agentic AI reshapes managerial pipelines through four structural transformations:

3.1 Information Flow Architecture

Traditional organizations rely on periodic reporting structures—monthly reviews, quarterly reports, annual audits. Agentic systems operate on real-time data streams, enabling continuous monitoring and rapid response. This shift reduces latency in decision-making and allows organizations to adapt dynamically to environmental changes.

For example, in finance, autonomous analytics platforms process market data in real time, enabling portfolio adjustments within seconds. In manufacturing, IoT-enabled predictive systems continuously monitor equipment health, triggering maintenance before failures occur.

3.2 Authority Structure

Conventional decision processes depend on hierarchical approvals. Authority flows upward, decisions are sanctioned, and execution follows. With Agentic AI, organizations increasingly delegate operational authority to algorithms. These systems execute predefined objectives, reducing bottlenecks and accelerating workflows.

This raises questions of trust and accountability. Delegating authority requires robust governance frameworks to ensure algorithms act within ethical and strategic boundaries.

3.3 Temporal Dynamics

Decision cycles historically occurred at scheduled intervals-weekly meetings, quarterly reviews. AI-enabled systems operate continuously, updating models and responding dynamically to new inputs. This temporal shift transforms organizations from reactive entities into proactive ecosystems.

For instance, dynamic pricing agents in retail adjust product prices continuously based on demand signals, competitor data, and inventory levels. Healthcare triage systems prioritize patient cases in real time, improving response efficiency.

3.4 Accountability Mechanisms

As decision authority becomes distributed between humans and intelligent systems, accountability structures must evolve. Traditional accountability—anchored in managerial responsibility-becomes insufficient. Organizations must adopt hybrid governance models involving:

- i. Algorithm auditing
- ii. Transparency mechanisms
- iii. Human oversight roles

These mechanisms ensure that decisions remain explainable, ethical, and aligned with organizational values.

4. Sectoral Evidence and Applications

- i. **Finance:** AI-driven portfolio optimization and fraud detection deliver real-time insights.
- ii. **Manufacturing:** Predictive maintenance reduces downtime and costs.
- iii. **Healthcare:** AI triage platforms prioritize patient cases, improving efficiency.
- iv. **Retail & E-Commerce:** Dynamic pricing agents adjust prices continuously to maximize revenue. Industry evidence suggests productivity gains of **15–40%** depending on sector and depth of integration.

5. Governance, Ethics, and Risk Management

Agentic AI raises new governance challenges:

- i. Algorithmic bias
- ii. Lack of transparency
- iii. Cybersecurity vulnerabilities
- iv. Over-reliance on automation

Organizations must adopt **responsible AI frameworks**: algorithm audits, explainability standards, and clear oversight roles. Regulators worldwide are emphasizing ethical AI, making governance a strategic priority.

6. Transformation of Managerial Roles

Managers are not disappearing - but their roles are evolving. They increasingly act as:

i. **System designers and supervisors**
ii. **Strategic interpreters** of algorithmic outputs
iii. **Ethical authorities** ensuring fairness and accountability
iv. **Coordinators** across human–AI teams

Future managerial competencies will include **data literacy, technological fluency, and interdisciplinary decision-making skills**.

7. Critical Discussion

Agentic AI offers efficiency gains, but risks remain:

i. Over-reliance may weaken human critical thinking.
ii. Algorithms may fail in ambiguous or ethically complex scenarios.
iii. Power dynamics may shift as authority moves from individuals to systems.

Hybrid governance models - **Human-in-the-Loop** and **Human-on-the-Loop** - are essential to balance efficiency with oversight.

8. Conclusion

Agentic AI represents a **paradigm shift** in organizational decision-making. Unlike earlier technologies that supported managers, agentic systems actively plan and execute. Organizations must redesign structures, redefine managerial roles, and implement robust governance. The future enterprise will be a **hybrid ecosystem** where algorithmic intelligence and human judgment coexist, continuously adapting to change.

References

Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. W. W. Norton & Company.

Carmeli, A. (2003). The relationship between emotional intelligence and work attitudes, behaviour, and outcomes: An examination among senior managers. *Journal of Managerial Psychology, 18*(8), 788–813. https://doi.org/10.1108/02683940310511881 (doi.org in Bing)

Davenport, T. H., & Ronanki, R. (2018). Artificial intelligence for the real world. *Harvard Business Review, 96*(1), 108–116.

Floridi, L., & Cowls, J. (2019). A unified framework of five principles for AI in society. *Harvard Data Science Review, 1*(1). https://doi.org/10.1162/99608f92.8cd550d1 (doi.org in Bing)

Goleman, D. (1995). *Emotional intelligence*. Bantam Books.

Joseph, D. L., & Newman, D. A. (2010). Emotional intelligence: An integrative meta-analysis and cascading model. *Journal of Applied Psychology, 95*(1), 54–78.

https://doi.org/10.1037/a0017286

Russell, S., & Norvig, P. (2020). *Artificial intelligence: A modern approach* (4th ed.). Pearson.

Simon, H. A. (1957). *Models of man: Social and rational*. Wiley.

The Role of Gamification in E-Marketing and Its Impact on Consumer Engagement among Generation Z

Amar Jyouti Baruah*
Rohit Das**

Abstract

In today's fast-paced digital landscape, marketers are increasingly turning to gamification as a strategy to engage consumers-especially Generation Z, a tech-native demographic that values interaction, personalization, and entertainment. This study explores the role of gamification in e-marketing and its impact on consumer engagement, brand loyalty, and purchasing behaviour among Generation Z. Using a mixed-method approach, the research collected primary data through structured surveys with 70 Gen Z respondents and analysed their experiences with gamified marketing elements like spin-the-wheel offers, quizzes, rewards, and leaderboards. Findings reveal that gamification significantly enhances emotional brand connection and loyalty, though its influence on actual purchase decisions is more moderate. Elements such as instant rewards and ease of participation were found to be key motivators, while features like leaderboards and social sharing were less impactful. The study concludes that for gamification to be effective, it must be simple, rewarding, and genuinely enjoyable. These insights can help businesses and digital marketers design strategies that go beyond surface-level attraction to deliver meaningful consumer experiences.

Keywords: Gamification, E-Marketing, Generation Z, Consumer Engagement

1. Introduction

In today's rapidly evolving digital environment, businesses are continually looking for fresh and creative ways to capture customer attention and maintain long-term relationships. One approach that has become increasingly popular is gamification. Gamification involves integrating game-like elements—such as points, rewards, badges, challenges, and leaderboards—into non-gaming areas like marketing. Instead of relying only on traditional promotional methods, brands now focus on creating interactive and enjoyable experiences

*Assistant Professor (Guest Faculty), DHSK Commerce College, Dibrugarh, email: bhubanjyoutiboruah@gmail.com
**Guest Faculty, Moran Commerce College, email: rd589811@gmail.com

that encourage active customer participation. By turning ordinary online interactions into engaging activities, companies make their brand experiences more memorable and appealing.

Generation Z, born between 1995 and 2010, is particularly responsive to this strategy. As true digital natives, they have grown up surrounded by smartphones, social media, and instant access to information. Because of this, they expect online experiences to be interactive, personalized, and entertaining. For them, shopping is not just about purchasing a product—it is about the overall experience. They value creativity, meaningful engagement, and emotional connection with the brands they choose to support.

Gamification significantly influences how Generation Z engages with brands online. Features such as loyalty programs, spin-the-wheel offers, referral incentives, and interactive quizzes make digital platforms more exciting and immersive. These tools capture attention and motivate users to spend more time exploring brand content. In turn, businesses benefit from stronger customer relationships, improved retention, and greater influence over purchasing decisions. When shopping becomes enjoyable, customers are more likely to return and remain loyal.

However, although gamification is widely adopted, its true impact on Generation Z's behaviour still requires deeper study. Understanding how these strategies shape engagement, buying decisions, and long-term loyalty is essential for businesses seeking sustainable success. Key elements of gamification include reward systems that offer points for purchases or referrals, encouraging repeat interaction. Badges and achievements recognize milestones, building pride and emotional attachment. Leaderboards add a sense of competition, while progress bars motivate users to complete tasks. Interactive content like quizzes and mini-games further enhances the experience.

Overall, gamification is a powerful e-marketing tool that effectively combines entertainment, engagement, and brand connection, particularly for Generation Z.

2. Literature Review

This literature review examines existing research on gamification in e-marketing and its influence on Generation Z's engagement, loyalty, and buying behaviour. As digital platforms continue to evolve, scholars have explored how game-based elements shape consumer experiences and brand relationships. By reviewing recent empirical and theoretical studies, this section highlights key findings, identifies research gaps, and provides a foundation for understanding the role of gamification in today's competitive digital landscape.

i. Ilysa et al. (2025) examine how gamification improves consumer engagement by emphasizing interactive experiences. Using qualitative methods, including in-depth interviews with digital marketers and UX/UI designers alongside a literature review, they find that interactivity transforms basic game mechanics into meaningful cognitive, emotional, and behavioural engagement. Elements such as personalization, user autonomy, and sensory feedback increase immersion and effectiveness.

ii. Sujarwo and Wijayanti (2025) analyse the impact of gamification on Generation Z's behavioural intentions on Indonesia's Shopee platform. Applying the Technology Acceptance Model (TAM) and surveying 178 respondents through SEM-PLS analysis, they conclude that gamification positively affects perceived enjoyment, usefulness, ease of use, and social interaction, thereby strengthening behavioural intention. However, rewards do not significantly moderate these relationships.
iii. Adinata and Soejipto (2025) explore the mediating role of loyalty programs in linking gamification and relationship marketing with Gen Z consumer loyalty. Based on a survey of 385 Gen Z social media users, their findings show that gamification and relationship marketing both directly and indirectly enhance loyalty through effective loyalty programs. Game elements like challenges, points, and leaderboards boost intrinsic motivation and emotional involvement, while trust and personalized communication encourage sustained commitment.
iv. Yadav and Dangi (2023) investigate the influence of gamification on cognitive brand engagement among young consumers in Haryana. Using a descriptive cross-sectional approach with factor analysis and multiple regression, they demonstrate that gamification significantly enhances cognitive engagement, supporting its value as a strategic tool in e-commerce brand management.
v. Nguyen (2024) studies gamification in mobile e-commerce using qualitative interviews. The results indicate that gamification substantially increases engagement and loyalty among Generation Z consumers and provide actionable recommendations for marketers and app developers.
vi. Akbari et al. (2020**)** assess how immersion, achievement, and social interaction affect customer engagement among Digikala users through structural equation modelling. Their findings reveal that immersion drives emotional engagement, achievement fosters cognitive engagement, and social interaction strongly enhances social engagement.
vii. Bhatt et al. (2025) focus on influencer marketing on platforms such as Instagram and Snapchat, concluding that authenticity and trust are key determinants of Generation Z's purchasing decisions.
viii. Bulante et al. (2025) emphasize that Generation Z is reshaping marketing through their demand for transparency, authenticity, and personalized digital experiences. A descriptive survey of 204 students found that self-esteem, mood, and trends strongly influence their buying behaviour. While sex and academic program showed no significant differences, age and allowance did. The findings suggest that maturity and financial capacity affect purchasing decisions, highlighting the need for broader future research.
ix. Givan (2024) studies gamification boosts engagement on e-commerce platforms using interviews and focus groups with active users. Results show that features like competition, achievement, and personalized rewards increase participation,

emotional connection, and loyalty. Younger users respond more positively, highlighting the role of demographics. The study recommends tailored gamified strategies, though findings are limited by a small sample and self-reported data.

x. Punwatkar and Verghese (2025) studies gamification influences customer purchasing intentions in today's competitive market. Using PLS-SEM and data from over 300 respondents in Durg and Raipur, the findings show that gamification indirectly boosts buying intentions by strengthening customer engagement and brand loyalty. The results highlight gamification as a powerful marketing tool that shapes consumer behaviour and enhances the overall customer journey.

Overall, these studies collectively confirm that gamification significantly influences Generation Z's engagement, loyalty, and purchasing behaviour within digital marketing contexts.

3. Statement of the Problem

i. Gamification is increasingly popular in digital marketing, but research on its effectiveness for Generation Z remains limited. Understanding whether these strategies genuinely enhance engagement or offer only short-term appeal is essential.
ii. Despite widespread adoption, local marketers and small businesses often struggle to gauge if gamification drives real engagement, loyalty, and sales, or merely creates temporary excitement.
iii. Generation Z's technology use can differ from global trends, influenced by device access, culture, and social media habits, affecting responses to gamified marketing.
iv. This gap underscores the need for research on how local Gen Z perceives gamification and its impact on engagement, brand perception, and purchasing decisions, guiding more effective campaigns.

4. Research Objectives

This study aims to examine how gamification is used in e-marketing and how it affects the way Generation Z engages with brands. It seeks to understand how gamified marketing strategies can boost motivation, encourage interaction with brands, and influence purchasing decisions, offering valuable insights for marketers looking to connect effectively with this dynamic generation. As per this research paper our objectives are as:

i. To understand the key gamification elements used in e-marketing.
ii. To examine the level of consumer engagement among Generation Z with gamified marketing.
iii. To analyse the impact of gamification on consumer behaviour such as brand loyalty, purchase intent, and product interaction.

5. Research Methodology

This study follows a quantitative research approach using both primary and secondary data. The quantitative method was chosen to examine measurable variables related to gamification elements, Generation Z's engagement, purchase intentions, and brand loyalty. The research aims to establish relationships between gamified marketing strategies and consumer responses. A descriptive–analytical research design was employed to describe and interpret how gamification influences Generation Z's interactions with marketing campaigns, identifying patterns, preferences, and behavioural trends.

The primary instrument used for data collection was a structured questionnaire, which included:

- Demographic questions (age, gender, educational background, etc.)
- Questions on exposure to gamified marketing campaigns
- Questions on preferences for gamification features (spin-the-wheel offers, rewards, quizzes, leaderboards, coupons, etc.)
- Likert-scale questions on engagement frequency, perceptions of loyalty, and purchase behaviour.

5.1 Data Collection Techniques

Primary data were collected via online surveys distributed to respondents, consisting of both closed-ended and Likert-scale questions measuring experiences, preferences, and interactions with gamified elements. Secondary data were obtained from journals, articles, websites, and previous studies on gamification in marketing, digital consumer behaviour, and Generation Z purchasing patterns. These sources helped develop the conceptual framework and provided a benchmark for comparing and analysing survey findings.

Collected data were analysed using descriptive statistical tools, including frequency distribution, percentage analysis, and visual representations such as graphs and pie charts. The results were interpreted to identify trends, engagement patterns, and the most preferred gamification features among Generation Z consumers.

5.2 Sampling Technique & Sample Size

A non-probability convenience sampling technique was applied. Respondents were selected based on accessibility and familiarity with gamified marketing campaigns. The study included 70 participants, primarily digitally active Generation Z consumers, providing sufficient data to explore general trends, preferences, and behavioural patterns related to gamified marketing engagement.

6. Data Interpretation

This study is based on primary data collected from 70 respondents through a structured Google Form questionnaire. The responses provide direct insights into Generation Z's perceptions, attitudes, and behaviours regarding gamified e-marketing strategies. The subsequent analysis interprets these findings to identify key trends, preferences, and factors influencing consumer engagement, brand interaction, and purchase intentions in the context of gamified digital marketing campaigns.

Figure 1 : Online Ads or Promotion of fun features

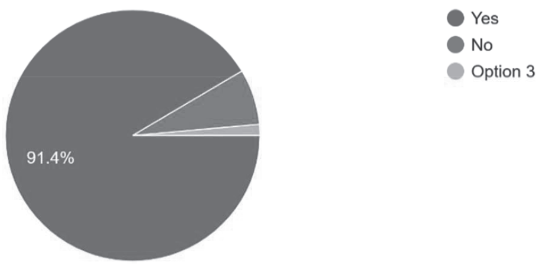


Figure 1 shows that there is 91.4% of persons are basically come across online ads or promotions that include fun, game-like features like points, rewards, spin-the-wheel offers, or leaderboards. There is less percentage of people they are not came across the online ads and promotions.

Figure 2 : Most Attractive Gamification element

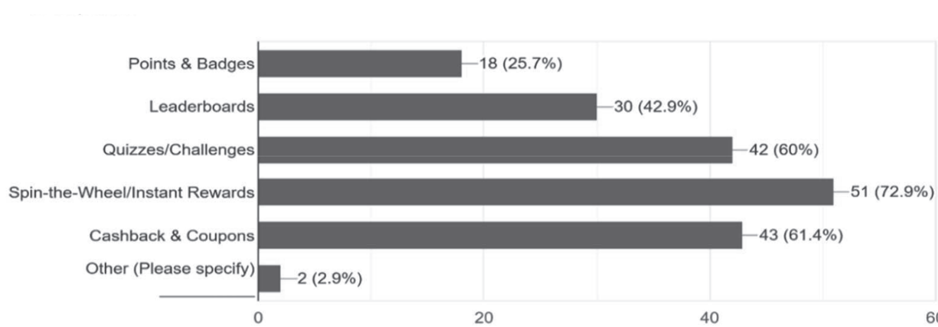


Figure 2 reveals the varying appeal of different gamification elements, with "Spin-the-Wheel/Instant Rewards" emerging as the most attractive, chosen by 72.9% of participants. "Quizzes/Challenges" and "Cashback & Coupons" also exhibit high popularity, selected by 60% and 51.4% of respondents, respectively. In contrast, "Leaderboards" and "Points & Badges" are less favoured, attracting 42.9% and 25.7% of respondents, while "Other" elements garnered minimal interest at 2.9%, indicating a clear preference for immediate gratification and tangible benefits in gamified experiences.

Figure 3 : Frequency of Interaction with Website / App

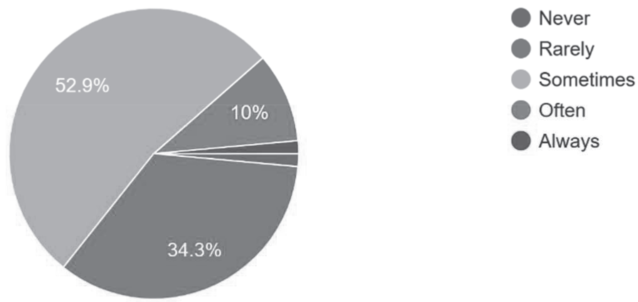


Figure 3 based on 70 responses, illustrates how often gamification features motivate users to interact with a brand's website or app. The majority of respondents, 52.9%, indicated that they are "Often" motivated by gamification, while a significant portion, 34.3%, are "Sometimes" motivated. A smaller percentage, 10%, are "Rarely" motivated, and a very small segment (indicated by the smallest slice, likely representing "Never" or a similar low frequency) is almost entirely unmotivated by such features. Overall, the data suggests that gamification features are a considerable motivator for a large segment of users when interacting with brand platforms.

Figure 4 : Influence of Gamified marketing campaigns

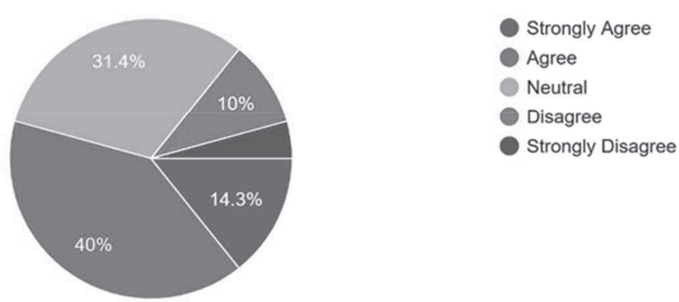


Figure 4 reveals that gamified marketing campaigns have significantly influenced consumer purchasing decisions. A combined majority of respondents, 71.4% (40% strongly agree and 31.4% agree), indicate that such campaigns have influenced their decisions. A smaller portion, 14.3%, remained neutral, while only 14% (10% disagree and 4% strongly disagree) reported no influence from gamified marketing campaigns on their purchasing choices. This suggests a strong positive impact of gamified marketing on consumer behaviour among the surveyed group.

Figure 5 : Brand Loyalty based on Rewards

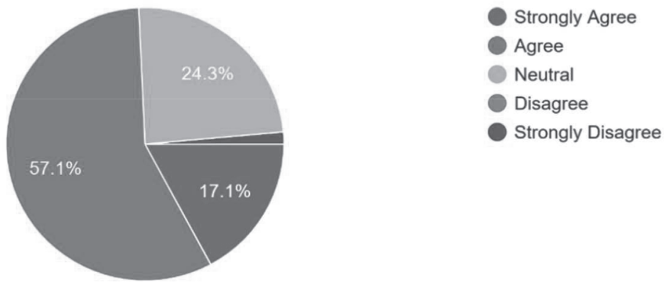


Figure 5 indicates a strong positive sentiment towards reward-based games increasing brand loyalty. The majority of respondents, specifically 57.1%, agree that these games enhance loyalty, while another 24.3% strongly agree. A smaller portion, 17.1%, remains neutral on the matter, suggesting neither agreement nor disagreement. Notably, the percentages for "Disagree" and "Strongly Disagree" are not explicitly shown but are implied to be very low, as the sum of the visible percentages (57.1% + 24.3% + 17.1% = 98.5%) leaves only a small remainder, suggesting that very few people believe reward-based games do not increase brand loyalty. In essence, the data suggests that most people feel more loyal to a brand when offered rewards like points or cashbacks.

Figure 6 : Brand connections based on gamified campaigns

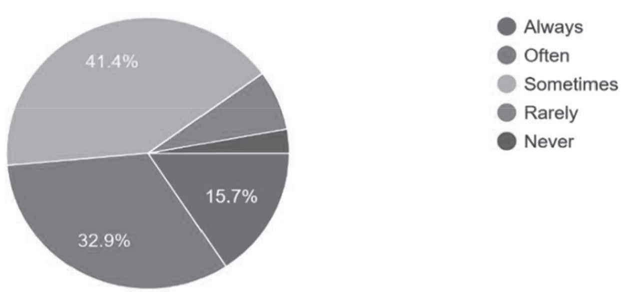


Figure 6 illustrates their perceived connection to a brand when engaging in gamified campaigns. The majority of respondents, 41.4%, indicated they "Always" feel more connected, followed by 32.9% who "Often" feel more connected. A smaller portion, 15.7%, reported feeling connected "Sometimes," while "Rarely" and "Never" represent the smallest segments of the responses. This suggests that gamified campaigns are largely effective in fostering a sense of brand connection among the surveyed group

Figure 7 : Factor Ratings of influence on Gamified marketing participation

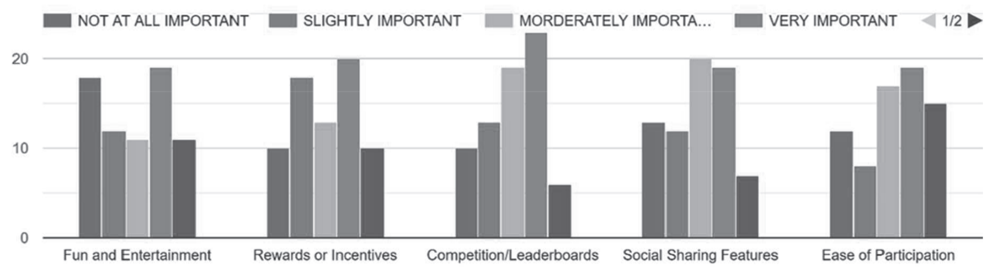


Figure 7 illustrates the perceived importance of various factors influencing participation in gamified marketing campaigns. It categorizes responses into "Not at all important," "Slightly important," "Moderately important," and "Very important" for each factor.

"Ease of Participation" and "Rewards or Incentives" emerge as the most crucial elements, with a significant portion of respondents rating them as "Very Important." "Fun and Entertainment" also rates highly, indicating that enjoyment is a key driver for engaging with gamified campaigns.

Conversely, "Social Sharing Features" and "Competition/Leaderboards" are perceived as less critical. While still holding some importance for a segment of the audience, these factors receive a higher proportion of "Slightly Important" and "Moderately Important" ratings compared to the top-tier factors.

Overall, the data suggests that while gamified marketing benefits from social and competitive elements, the primary motivators for participation are the simplicity of engagement, the promise of rewards, and the inherent enjoyment derived from the experience.

7. Results and Discussion

A survey of 70 Generation Z respondents shows that gamification strongly influences engagement, purchase decisions, and brand loyalty. Most participants (91.4%) had encountered ads with game-like features such as points, rewards, or spin-the-wheel offers, highlighting its growing role in digital marketing.

Spin-the-Wheel and Instant Rewards were the most popular (72.9%), followed by Quizzes/Challenges (60%) and Cashback/Coupons (51.4%), while Leaderboards (42.9%) and Points/Badges (25.7%) were less favoured, indicating a preference for immediate, tangible rewards. Over half (52.9%) said gamified features "often" motivated them to interact with brands, and 71.4% reported an impact on purchase decisions, with 81.4% noting increased loyalty.

Gamification also strengthened emotional connections, with 41.4% saying it "always" and 32.9% "often" deepened their bond with a brand. The main motivators were ease of use, rewards, and enjoyment, while social sharing and leaderboards mattered less. Overall, Generation Z prefers simple, fun, and rewarding experiences over competitive or social elements in gamified marketing.

8. Limitations

i. The study is based on survey responses from only 70 Generation Z respondents, which may not be sufficient to generalize findings to the broader Gen Z population. Additionally, the data seems to be collected from a specific local or regional context, which may not reflect the diversity of preferences, behaviours, and cultural influences in other regions or countries.

ii. The study captures consumer behaviour at a single point in time, without tracking changes over a longer period. As such, it cannot assess the long-term impact of gamification on brand loyalty or purchasing behaviour, which are essential for determining sustained marketing effectiveness.

iii. While the research explores perceived engagement and brand connection, it does not directly measure actual consumer behaviour (e.g., click-through rates, conversion metrics, repeat purchases). This creates a gap between what users say they feel or do versus what they actually do in response to gamified marketing.

9. Conclusion

The study reveals that gamification has a significant positive impact on Generation Z's consumer engagement, brand loyalty, and emotional connection with brands. While its influence on purchase intention is comparatively weaker, gamified features such as spin-the-wheel rewards, quizzes, coupons, and interactive challenges emerged as powerful tools for capturing attention and sustaining interest.

The findings confirm the alternative hypothesis (H), as gamification elements clearly enhance engagement and strengthen brand relationships. Generation Z consumers particularly value ease of participation, instant rewards, and entertainment, while social sharing and competitive leaderboards are less influential.

Overall, gamification is not just a passing trend but a strategic marketing approach that can build long-term loyalty and emotional attachment, provided it is designed with simplicity, personalization, and meaningful rewards. Businesses aiming to connect with Gen Z should prioritize user-friendly gamified experiences that balance fun with genuine value.

References

Adinata, A., & Soetjipto, B. E. (2025). Exploring the impact of gamification and relationship marketing on Gen Z loyalty: Evidence from Indonesian culinary MSMEs. *International Journal of Economics and Management Sciences, 2*(2), 200–215. https://doi.org/10.61132/ijems.v2i2.725

Akbari, M., Bigdeli, M., & Charestad, P. (2023). The impact of gamification elements on customer engagement. *Business Intelligence Management Studies, 12*(46), 297–326. https://doi.org/10.22054/ims.2021.49284.1659

Bhatt, D., Vyas, C., & Vohra, A. (2025). Exploring the role of influencer marketing in shaping consumer behaviour in the age of social media among Generation Z. *International Journal of Environmental Sciences, 11*(19), 190–197.

Bulante, R. A., Catalan, J. M., Miranda, N. G. L., & Torres, D. T. (2025). The consumer behaviour of Generation Z: An impact in modern marketing innovations. *International Journal of Research and Innovation in Social Science, 9*(14), 950–979. https://doi.org/10.47772/IJRISS.2025.914MG0074

Eklesia, J., Sujarwo, A., & Wijayanti, C. A. (2025). The impact of gamification on Gen/Z's behavioural intention through e-commerce Shopee: Does reward moderate the relationship? In *Proceedings of the 4th International Conference on Entrepreneurship (IConEnt); The Future of Work: Advancing Employment and Entrepreneurship for Sustainable Economic Growth* (Karawaci, Banten).

Givan, B. (2024). The role of gamification in enhancing consumer engagement in e-commerce platforms. *Journal of Economic Business and Accounting (COSTING), 7*(6), 9966–9976. https://doi.org/10.31539/costing.v7i6.14273

Ilyas, A., Rahman, A. V., & Hartati, B. (2025). Gamification in marketing: Leveraging interactive experiences for higher consumer engagement. *International Journal of Economics and Management Research, 4*(1), 733–740. https://doi.org/10.55606/ijemr.v4i1.489

Nguyen, A. V. (2024). *Gamification in mobile e-commerce: Engaging and building loyalty among Gen Z* (Bachelor's thesis, Haaga Helia University of Applied Sciences). Theseus. https://www.theseus.fi/bitstream/handle/10024/870512/Nguyen_Anh.pdf?sequence=2

Punwatkar, S., & Verghese, M. (2025). Investigating the impact of gamification on customer engagement, brand loyalty, and purchase intent in marketing. *Journal of Applied Research and Technology, 23*(1), 94–102. https://doi.org/10.22201/icat.24486736e.2025.23.1.2592

Yadav, M. (2023, February). The impact of gamification on cognitive brand engagement in e-commerce context. *Pacific Business Review (International), 15*(8). https://www.pbr.co.in/2023/2023_month/February/3.pdf