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Dr. Joydev Gogoi

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Institutional Apology as Anti-Harassment Measure: Analysis of Stakeholder Perceptions in Higher Educational Institutions of Assam

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ABSTRACT

Gender-based harassment at workplaces is a persistent issue that requires comprehensive and sensitive approaches. This study explores institutional apology as a potential anti-harassment measure in the context of higher educational institutions in Assam. Within the broader aim of creating safer, more equitable learning environments, the study's objectives are to assess stakeholder perceptions towards the importance of institutional apologies and to analyse the stakeholder perceived challenges in issuing institutional apologies in higher educational institutions. A survey-based exploratory methodology was employed, collecting data from 50 stakeholders across higher educational institutions of Assam through a structured questionnaire. The analysis was conducted with the help of Freeman-Halton extension of Fisher's Exact Test to examine the associations. Preliminary findings suggest that a significant portion of stakeholders view institutional apologies as a positive mechanism towards acknowledging harm, fostering healing, promoting trust, preventing recurrence, and providing closure for victims. The study concludes that institutional apologies, when combined with other remedial actions, could enhance the overall climate and trust within higher educational settings.

Keywords: Institutional Apology, PoSH, Higher Education, Stakeholder Perceptions.

Introduction

Gender-based harassment at workplace is a universal problem undermining not only workplace productivity but also affecting the entire socio-economic fabric. Workplace harassment in general, encompasses a range of unwelcome behaviours that create a hostile, intimidating, or offensive work environment. Defined broadly, workplace harassment includes acts of bullying, discrimination, and verbal or physical abuse that undermine the dignity and well-being of employees (Einarsen et al., 2020). Unlike sexual harassment, which specifically involves unwelcome sexual advances,

requests for sexual favours, or other (overt and covert) verbal or physical conduct of a sexual nature (Fitzgerald et al., 1995), general workplace harassment can be rooted in non-sexual forms of power abuse, including prejudice based on race, gender, religion, or status.

The distinction between workplace harassment and sexual harassment is critical. Sexual harassment, though a subset of workplace harassment, is legally defined and often attracts distinct legal and institutional responses due to its specific nature and the severity of its impact on individuals' mental and emotional well-being (McDonald, 2012). Non-sexual workplace harassment, on the other hand, encompasses behaviours that may not involve explicit sexual conduct but can still create an environment where individuals feel unsafe, marginalised, or humiliated (Rayner & Hoel, 1997). Evolving workplace dynamics, which focus on equity, diversity and inclusion; reluctance on the part of the victim to report incidents of harassment accurately; and the subjective nature of perceiving harassment make the distinction between sexual harassment at workplace and workplace harassment a complex and challenging task (*PoSH, 2023*). Understanding these differences allows institutions to develop targeted strategies for addressing and preventing each form of misconduct, particularly within educational settings where trust and respect are foundational.

Rationale of the Study

Harassment and misconduct pose significant challenges to the integrity and well-being of educational institutions. Despite efforts to promote a safe and respectful environment, incidents of harassment continue to occur, necessitating prompt and effective responses from institutional leaders. The negative effects of harassment have been found to extend beyond the concerned individual (Upadhyay et al., 2023) and hence call for strict and timely response from concerned quarters.

Most of the prevention and redressal mechanisms of sexual harassment at workplace mandated by the Prevention of Sexual Harassment (PoSH) Law, 2013, which include creating a comprehensive PoSH Policy, establishing an Internal Committee and providing capacity-building training, conducting awareness programmes for all employees, and displaying awareness posters throughout the organisation, are well known, in place and circulated through institutional websites etc. as per the Supreme Court guidelines (MLJ, 2013; MWCD, 2015). However, a review of existing policy guidelines reveals that except the mention that the Internal Complaints Committee (ICC) can give additional recommendations during the disposal of grievances, no provision has been laid down for a compulsory formal institutional apology, which is but a serious gap in effective grievance redressal delivery. This makes it imperative to explore innovative and effective strategies to make a difference at the ground level. Hence, this paper delves deeper to uncover such innovative approaches.

Objectives of the Study

By identifying gaps, challenges, and best practices in the sphere of anti-harassment measures, the research broadly seeks to contribute to the creation of safer, more equitable learning environments for all members of higher educational institutions. Within this broad objective, the present paper is an attempt to:

1. Assess stakeholder perceptions towards the importance of institutional apologies.
2. Analyse the stakeholder perceived challenges in issuing institutional apologies in higher educational institutions.

Hypotheses of the Study

The objectives of the study are probed into by framing the following null hypotheses:

H_{01} : There is no difference in the stakeholder perceptions about the importance of institutional apologies.

H_{02} : There is no difference in stakeholder responses about their perceived challenges to institutional apologies.

Methodology and Scope

A survey-based exploratory methodology has been employed, collecting data from 50 stakeholders across higher educational institutions of Assam through a structured questionnaire. The analysis employs Freeman & Halton's (1951) extension of Fisher's Exact Test to examine the associations between stakeholder groups and their responses. The chi-square test not being accurate for the present data set, Fisher's Exact Test would have worked well in case of 2x2 contingency tables, with some of the cell values in the tables being less than 5. However, the 4x2 Tables 2 and 4 in the following sub-section, being larger with more rows and columns than allowed under Fisher's Exact Test, its extension in the form of Freeman-Halton method has been adopted (Freeman et al., 1951).

The scope of this paper is confined to exploring institutional apologies as a part of redressal of harassment and misconduct within higher educational institutions in Assam. While the findings may have broader implications for other sectors, the primary emphasis of this paper is on the unique context and challenges faced by higher educational institutions in addressing such incidents in Assam. In order to pinpoint the importance of institutional apologies, all the mandated methods and aspects of grievance redressal have been relegated to the background for the purpose of this study. Drawing upon secondary sources such as legal frameworks, institutional policies and guidelines to arrive at the rationale of the study, the two objectives of the study have been fulfilled by analysing the primary data collected from the survey.

Results and Discussion

While all the stakeholders unanimously responded in the affirmative about the inclusion of institutional apology in combination with other disciplinary anti-

harassment measures, further analyses reveal divergent perceptions among them, which are discussed with the help of cross tables.

Stakeholder Perceptions on Institutional Apologies

The perceptions of the stakeholders regarding the importance they assigned to institutional apologies as anti-harassment measures, were categorised as “Very Important”, “Important” and “Neutral”.

Stakeholder Perceptions on Institutional Apology

Stakeholder Perception	Very Important	Important	Neutral	Total
Faculty	5	8	1	14
Student	11	6	1	18
Management	1	1	7	9
Administrative Staff	5	4	0	9
Total	22	19	9	50

Source: Field Survey

Table 1 shows the perception responses of the various stakeholders on institutional apologies as a measure of mitigating harassment from higher educational institutions. For the purpose of performing Fisher-Freeman Halton Test, Table 1 has been converted to Table 2 by combining "Very Important" and "Important" into a single category as "Supportive".

Table 2
Simplified Stakeholder Perceptions

Stakeholder Perception	Supportive	Neutral	Row Totals
Faculty	13 (92.9)	1 (7.1)	14 (100.0)
Student	17 (94.4)	1 (5.6)	18 (100.0)
Management	2 (22.2)	7 (77.8)	9 (100.0)
Administrative Staff	9 (100.0)	0 (0.0)	9 (100.0)
Column Totals	41	9	50

p < 0.001

Figures within parentheses indicate percentage

The analysis of stakeholder perceptions regarding institutional apologies revealed a statistically significant association between stakeholder groups (Faculty, Students, Management and Administrative Staff) and their stance on the importance of such apologies ($p < 0.001$, two sided).

Faculty, Students and Administrative Staff overwhelmingly support the concept of institutional apology as a meaningful anti-harassment measure, with the majority categorising them as either "Very Important" or "Important" (92.9% Faculty, 94.4% Students, and 100.0% Administrative Staff responding positively).

In contrast, the Management group exhibits a markedly different stance. A majority (77.8%) in this group are "Neutral", indicating either reluctance or scepticism about the effectiveness of an institutional apology as a sufficient or necessary response.

Thus, this rejects the null hypothesis that there is no difference in the stakeholder perceptions about the importance of institutional apologies.

Challenges in Issuing Institutional Apologies

Table 3 categorises the stakeholders by their cited reasons as perceived challenges in issuing institutional apologies.

Table 3
Perceived Challenges in Issuing Institutional Apology

Stakeholder Challenge	Reputation Concerns	Legal Concerns	Fear of Admitting Fault	Lack of Guidelines/ Protocols	Total
Faculty	3	4	2	5	14
Student	5	4	6	3	18
Management	0	2	0	7	9
Administrative Staff	2	3	3	1	9
Total	10	13	11	16	50

Source: Field Survey

Faculty responses to lack of guidelines/protocols on institutional apologies (5) are more than concern about institutional reputation (3) and fear of potential legal consequences hindering institutional apologies (4), while only a smaller number cite institutional fear of admitting fault (2).

Students cite fear of admitting fault as a primary issue (6), while the highest concern for Management is the lack of guidelines/protocols as mandated references (7). It is notable that none from Management feels reputational concerns or admitting fault can hinder an apology.

Administrative staff's responses are almost similar to Faculty responses, but with lesser concerns about the absence of guidelines (1).

To perform Fisher-Freeman-Halton Test in this dataset with multiple categories, the 4x4 contingency table has been simplified by combining challenges into two broader groups:

- i. Institutional Concerns: Combining "Reputation Concerns" and "Fear of Admitting Fault", as they both relate to institutional image and liability.
- ii. Operational Concerns: Combining "Legal Concerns" and "Lack of Guidelines/Protocols", as they both deal with procedural and legal frameworks.

This results in a new simplified Table 4:

Table 4
Simplified Perceived Challenges

Stakeholder Challenge	Institutional Concerns	Operational Concerns	Row Totals
Faculty	5 (35.7)	9 (64.3)	14 (100.0)
Student	11 (61.1)	7 (38.9)	18 (100.0)
Management	0 (0.0)	9 (100.0)	9 (100.0)
Administrative Staff	5 (55.6)	4 (44.4)	9 (100.0)
Column Totals	21	29	50

p < 0.05

Figures within parentheses indicate percentage

The analysis of stakeholder responses regarding challenges in institutional apologies, which has categorised perceived stakeholder concerns into Institutional Concerns (Reputation and Fear of Admitting Fault) and Operational Concerns (Legal and Lack of Guidelines), yielded a statistically significant result (*p* = 0.0116, two-sided). This indicates a significant association between stakeholder groups (Faculty, Students, Management, and Administrative Staff) and the nature of their concerns about challenges in institutional apologies.

Faculty members primarily expressed Operational Concerns (Legal concerns on the part of higher educational authorities and Lack of guidelines), accounting for 64.3% of their responses, reflecting their focus on the procedural and legal challenges of implementing institutional apologies. This suggests that faculty members are of the opinion that from the viewpoint of higher educational authorities, potential legal consequences of institutional apologies and lack of mandated protocols/guidelines could be standing as challenges for the authorities.

Students' group overwhelmingly leaned toward Institutional Concerns, with 61.1% of responses falling into this category. Their significant emphasis on Reputation

and Fear of Admitting Fault reflects their perception of the authorities' apprehension about the consequences of institutional apologies on accountability and liability.

All in the Management group voted for Operational Concerns (100.0%). Their significant emphasis on Legal concerns and Lack of guidelines reflects policy lapses in implementing institutional apologies.

Administrative staff showed a slight tilt for Institutional Concerns (55.6%). Their responses were more comparatively evenly distributed. This slightly balanced perspective could indicate their awareness of institutional limitations while still valuing institutional accountability.

Thus, this rejects the null hypothesis that there is no difference in stakeholder responses about their perceived challenges to institutional apologies.

Policy and Practice Implications

The results suggest that while the majority of stakeholders in higher educational institutions of Assam view institutional apologies as a critical component of anti-harassment measures, there is notable hesitation from Management mainly due to lack of guidelines/protocols in this matter. This indicates potential challenges in gaining full administrative support for implementing such policies. This gap underscores the need for targeted dialogue and interventions to address the concerns of Management and can guide policymakers in higher educational institutions to stress the importance of aligning views among different groups to ensure effective implementation of anti-harassment policies that include formal institutional apologies.

The statistically significant divergent concerns across stakeholder groups regarding the perceived challenges to institutional apologies reflect differing priorities and apprehensions about such formal apologies. These results suggest that effective implementation of institutional apologies requires customised strategies to address these varied concerns, particularly by alleviating reputational fears for Management and introducing robust procedural protocols within the existing framework.

Thus, this paper highlights the absence of this provision as a major lapse in the existing Supreme Court and UGC mandates and argues for the inclusion of this provision as an additional innovative strategy for promoting a culture of respect, safety, and accountability within educational institutions. In the meantime, higher educational institutions should showcase the same as a best practice.

Conclusion

While the Management cites a lack of procedural and structural barriers as challenging concerns about institutional apologies, its perceptions are largely driven by reputational risks and accountability fears, which could hinder efforts to institutionalise apologies as an anti-harassment measure. A few of the Faculty and Administrative Staff may be similarly aligned, indicating a possible cultural barrier within academia that prioritises institutional reputation over transparency or accountability. Faculty, Students and Administrative Staff are more open to institutional apologies but also emphasise the need for clearer frameworks and legal

safeguards to ensure such measures can be implemented effectively.

In conclusion, prevention is and always will be better than cure. No amount of apologies can erase a misdeed. However, if viewed from the undeniable impact that institutional apologies can have on stakeholders by preventing the recurrence of harassment and misconduct, over and above the mandated written apology by the offender, the importance of making this provision compulsory will hold ground. Apart from being mechanisms for acknowledging harm, expressing remorse, and promoting healing and reconciliation, the importance of institutional apologies lies in the fact that the concerned institution will be held accountable for each misconduct by any of its stakeholders.

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A Conceptual Sketch of Review on Sustainable Tourism for the Period from 1990 to 2024

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ABSTRACT

Tourism is one of the largest and fastest-growing industries in the world. Just like an enterprise today, sustainability is the long-term objective pursued by the tourism industry. Various extensive research studies exist on different aspects of tourism and the tourism industry; however, little effort has been made to systematically provide a review of the literature on the topic to academicians and practitioners who have great research interests in sustainable tourism. Therefore, this paper aims to provide a sketch of sustainable tourism research for the period from 1990 to 2024. This study is exploratory in nature and purely based on secondary sources of information. This paper surveys the existing research and research dimensions related to sustainable tourism. The study is confined to limited knowledge; a brief literature survey on sustainable tourism for the period from 1990 to 2024 has been done to explore the theme. Though this research has done a lot, it still has room to be improved. Finally, we present a conceptual sketch of sustainable tourism.

Keywords: sustainable, tourism; enterprise; classification; development, economy.

Introduction and Background of the Study

In the present-day context, the travel and tourism industry is one of the most promising industries in the world. In the seventeenth century, travel for leisure and religious reasons gave rise to tourism, a facet of human civilisation. The Manila Declaration on World Tourism recognised the importance of tourism in the 20th century when it was adopted in 1980. The declaration's outcomes prompted nations with significant tourism potential to view travel as a business and organise it accordingly. Tourism-driven nations benefit greatly from increased foreign exchange

earnings, employment, economic expansion, and local area development. "To ensure that tourism has a beneficial rather than a detrimental influence on the environment, communities, and the future economy for the benefit of future generations, sustainable tourism aims to manage these impacts. According to the United Nations World Tourism Organization, sustainable tourism is "tourism that takes full account of its current and future economic, social, and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities". Further, sustainable tourism can be considered as a tool to improve the quality of visitor experiences at destinations by balancing environmental quality and tourism activity with one another (Hunter and Green, 1995; Middleton and Hawkins, 1998). Sustainable tourism development has gained substantial interest in numerous scientific investigations, specifically in the field of tourist studies. Since the late 1980s, Sustainable tourism has experienced rapid growth. The present study is an attempt to draw out a review of the literature on sustainable tourism and identify the domain area of research on sustainable tourism. This study is confined only to the Period from 1990 to 2024

Objectives of the Study

The prime objective of the present study is to draw a conceptual sketch of a review of the literature on sustainable tourism. This study further investigates the domain area of research on sustainable tourism that has been undertaken by previous researchers.

Scope of the Study

The present study mostly relies on and is confined only to the research studies conducted for the period from 1990 to 2024

Methodology of the Study

The current study is exploratory and is solely based on secondary sources of data. The study utilises a qualitative approach. A total of 58 research papers were selected from Google Scholar, excluding books, working papers, and unpublished theses and dissertations. Previous studies related to 'sustainable tourism' published between 1990 and 2024 were the main focus of this study.

Review of Literature

Tourism is a phenomenon that has demonstrated continuous growth for at least half a century at the global scale and most of this growth has been in mass tourism. (World Tourism Organization).

The concept of sustainable development originated in the 1970s (Bramwell & Lane, 1993; Serrano et al., 2019). Early research on the topic was conducted by geographers, approaching it from an environmental perspective (Butler, 1999). Sustainable development was formally defined in the late 1980s, and since then, sustainability has become a significant focus in tourism research (Espiner et al., 2019; Liu, 2003). Despite the availability of definitions and objectives for sustainable

tourism, academics in the 1990s observed that the term was often used without clear meanings (Butler, 1999; Cater, 1993). Liu (2003) highlighted that one criticism was the inconsistent and interchangeable use of the terms sustainability, sustainable development, and sustainable tourism in the literature.

Buckley (2012) states that research on sustainable tourism has progressed from examining fundamental frameworks in tourism, economics, and environmental management to incorporating various re-examinations and analyses. Among the earliest scholars in this area, Bramwell and Lane (1993) claim that sustainable tourism has evolved from being a reactive response to (bad) tourist concerns to a solution that brings about positive change. More academics are concluding that sustainable development requires an equally essential human component to the more widely acknowledged environmental focus (Briguglio et al. 1996, Craik 1995).

The World Tourism Organization emphasises that sustainable tourism development should fulfil the needs of current tourists and host regions while also preserving and improving opportunities for the future. Other researchers are increasingly recognising that sustainable development must include a human component that is just as crucial as the more commonly acknowledged environmental focus (Briguglio et al. 1996, Craik 1995).

According to Creaco & Querini (2003), tourism may have a positive economic impact on the balance of payments, employment, revenue generation, and production; however, it can also have a negative impact on the environment due to unplanned and uncontrolled tourism growth. Environmental, socio-cultural, and economic factors are the three interconnected facets of sustainable tourism, according to the authors. Sustainable tourism, thus, entails longevity, which entails making the best use of available resources, including biodiversity, having the fewest negative effects on the environment, society, and culture, and increasing the advantages of conservation and host communities.

Bramwell and Lane (2012) state, "There is considerable evidence that tourism is becoming less sustainable, primarily as a result of the sector's rapid growth and limited progress towards implementing more environmentally friendly operations on a global scale." They also emphasise the need for social systems to change and the role of the state in advancing the necessary policies. Further, it is also a matter for investigating several challenges related to sustainable tourism and stressed the need for the creation of tourist sustainability metrics to track advancements (Bramwell and Lane, 1999).

Over the last two decades, the concept of sustainable tourism development has become universally accepted as a desirable and politically appropriate approach to tourism development (Sharpley, 2003). In terms of achieving sustainability, it is apparent that there is a great need to maximise the economic benefits to the local community while simultaneously minimising the environmental and social costs. However, this is not an easy access solution as it is 'enormously difficult to

achieve' (Tosun, 2001). By the late 1990s, governments and international organisations were clearly interested in regulating the tourist industry and educating both hosts and participants. Community leaders and other local stakeholders also began to exert pressure from below to alter the tourism product in order to preserve the environment, maintain local culture and products, and share tourism revenues with local communities. Green, sustainable, and eco-friendly are now prevalent terms in tourism policy papers, regulations, and promotional materials (Bowman, 2011). Development and implementation of sustainable tourism certification is a process that can result in an important dialogue and policy-making process about the type of tourism development that a country wishes to pursue, greater awareness in the business community of the needs and contributions of the local communities, and a shift in attitudes across sectors and generations (Bowman, 2011).

Reddy (2008) studied some economic impacts of the tourism industry through indicators such as Foreign exchange/leakage, Taxes/leakage, Beneficial sub-industries (the industries indirectly supporting tourism, e.g. fishing, agriculture), Park entry revenue, Job creation and seasonality, Job balance, Wages evolution, Local souvenirs, and Infrastructure development in order to evaluate the sustainability indicators for rapid assessment of tourism development. Coordinated and comprehensive planning is the key to sustainable tourism, which requires a comprehensive approach in both urban and rural settings around the world (Pearce, 1995). In order to succeed, the development needs to be carefully planned to extend and harness its life cycle (Eccles, 1995). It seems that tourism enterprises must focus on short-term rather than long-term planning.

A crucial prerequisite for putting sustainable tourism into practice is tailored and efficient governance, which may strengthen democratic processes, give guidance, and provide the tools to move forward in real terms. This introduction describes how the papers in this collection offer critical evaluations of tourism governance and sustainability theory and practice (Bramwell & Lane, 2011). Gaining a deeper comprehension of the tourism industry's effects and growth constraints is critical to the sector's long-term sustainability (Butler, 1999).

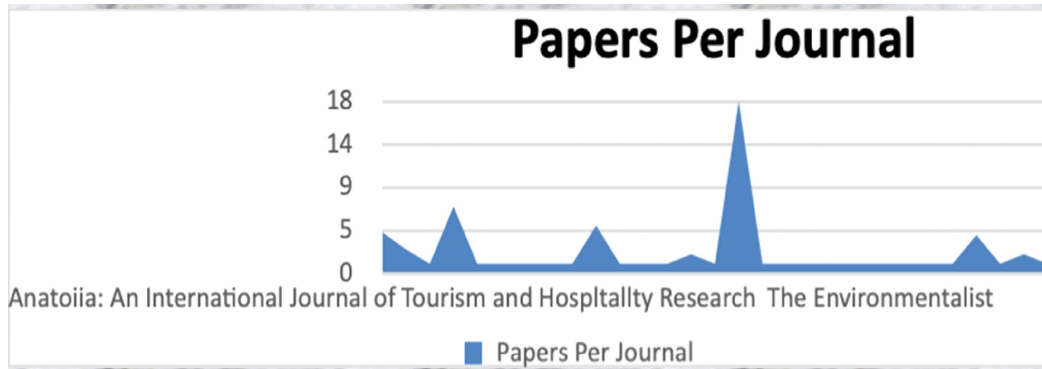
While setting sustainability targets for the tourism industry is still a commendable goal, studies have revealed that human behaviour is frequently at the core of sustainability problems and that altering unsustainable behaviour is essential to putting longer-term solutions into practice (Schultz, 2014). All parties involved in the development of sustainable tourism, including locals, business owners, government officials, and past, present, and future visitors, are required to participate in order to accomplish sustainable tourism (Byrd, 2007). Early on, the emphasis on environmental sustainability tended to predominate (Wearing et al., 2002). It changed to a more comprehensive understanding of sustainable tourism practices that took into account the economic, social, and cultural aspects of sustainability (Passafaro, 2020).

Characteristics of the Studies Included

Journal-wise Publication

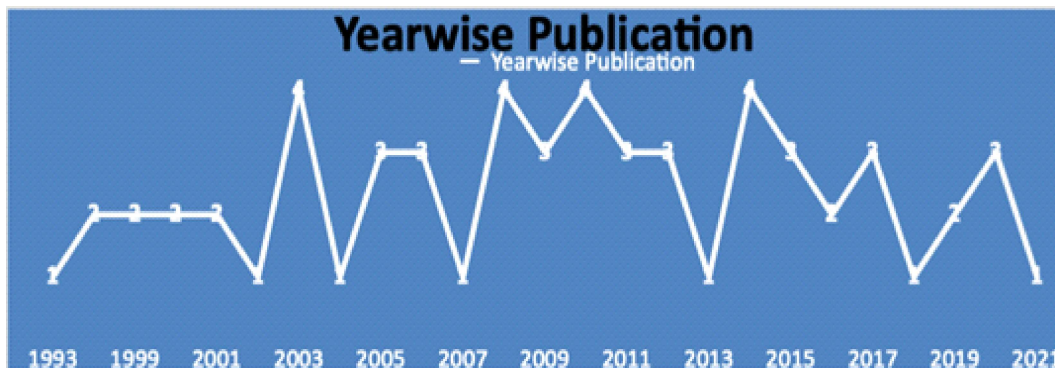
It was found that the journal 'Journal of Sustainable Tourism' had the highest number of studies (18) published, while a total of 58 research papers were published across 27 different journals on the topic being investigated.

Fig-1: Papers per Journal Wise Publication



The graph illustrates the frequency of paper publication by year. It demonstrates that the highest numbers of publications were in 2003, 2008, 2010, and 2014. Additionally, it shows an increasing trend in papers published on the theme of sustainable tourism since 1993, highlighting the relevance of this topic across various fields of study.

Fig-2: Papers per year-wise publication



Source: Self-compiled

Sketch of existing studies on sustainable tourism

Since 1991, there have been ongoing efforts to incorporate new aspects of sustainability into the tourism industry. These efforts aim to address environmental, social, economic, and cultural concerns, and they encourage researchers to investigate these issues. The goal is to increase understanding of the problems and to implement

the necessary practices (Bramwell and Lane). Sustainable tourist development should aim to meet the needs of current tourists and host regions while also safeguarding and enhancing opportunities for the future (World Tourism Organization). Some researchers now recognise that sustainable development must include a human component that is just as essential as the more traditionally emphasised environmental focus (Briguglio et al., 1996; Craik, 1995; Bramwell and Lane, 1993). The existing research indicates that sustainable tourism and development have been explored in various fields. These fields encompass Paradigm, sustainable tourism development, market research and economics, policymaking, infrastructure, model and planning, rural tourism, environment and crisis management, ecosystem and eco-tourism, climate change, ecology, culture and heritage, human resource management, and energy and material saving. Following are some of the existing research studies related to especially sustainable tourism.

Sl. No	Title of the study	Author	Year	Domain of Research
1	Sustainable Tourism: An Evolving Global Approach	Bramwell & Lane	1993	Conceptual
2	Sustainable Tourism: The Role of the Small Firm	Horobin & Long	1996	Infrastructure (Role of small firms)
3	Attitudes Towards 'Sustainable Tourism' in the UK: A View from Local Government	Godfrey	1998	Policy Making (Local Government)
4	Sustainable Tourism: Contributing to the Debates	Bramwell & Lane	1999	Conceptual
5	Sustainable Tourism: Learning from Indian Religious Traditions	Gupta	1999	Conceptual
6	Sustainable Tourism or Sustainable Mobility? The Norwegian Case	Hoyer	2000	Conceptual
7	Challenges of Sustainable Tourism Development in the Developing World: The Case of Turkey	Tosun	2001	Sustainable Tourism development
8	Sustainable Tourism and the question of the commons	Briassoulis	2002	Conceptual

9	Sustainable Tourism Development: A Critique	Liu	2003	Conceptual
10	Sustainable Tourism Development in the Caribbean: Practical Challenges	Harrison, Jayawardena, & Clayton	2003	Sustainable tourism development (Challenges)
11	Sustainable Tourism Development In Canada: Practical Challenges	Jayawardena	2003	Sustainable tourism development (Challenges)
12	Sustainable Tourism Development in the Red Sea of Egypt. Threats and Opportunities	Shalan	2005	Environmental
13	Ecologically Sustainable Tourism Management	L. Lim & M.McAleer	2005	Ecology
14	Sustainable Tourism: Ethical Alternative or Marketing Ploy?	Lansing & De Vries	2006	Conceptual
15	Sustainable Tourism Development on Kenya's Coast: A Hospitality Sector View	Irandu	2006	Sustainable tourism development (Coast areas)
16	Sustainable Transport, Market Segmentation And Tourism: The Looe Valley Branch Line Railway, Cornwall, UK	Dallen	2007	Market research (Transport)
17	Priorities in Sustainable Tourism Research	Bramwell & Lane	2008	Conceptual
18	Sustainable Development in Tourism Municipalities: The Role of Public Goods	Torrent	2008	Tourism development
19	Technical Approach for a Sustainable Tourism Development. Case Study in the Balearic Islands	Fortuny, Soler, Canovas, & Sanches	2008	Sustainable Tourism development (Technical approach)

20	Sustainability in Tourism Destinations: Exploring the Boundaries of Eco-Efficiency and Green Communications	Holleran	2008	Market research
21	Sustainable Tourism Rapid Indicators for Less-developed Islands: An Economic Perspective	Reddy	2008	Economic
22	Environmental, Cultural, Economic and Socio-Community Sustainability: A Framework for Sustainable Tourism in Resort Destinations	Richins	2009	Environmental, cultural, economic and socio-community Sustainability
23	Sustainable Tourism Industry Development in Sub-Saharan Africa: Consequences of Foreign Hotels For Local Employment	Fortanier & VanWijk	2010	Sustainable Tourism development (Employment)
24	Visitor Perspectives on Sustainable Tourism Development in the Pitons Management Area World Heritage Site, St. Lucia	Nicholas & Thapa	2010	Sustainable tourism development (Visitor perspectives)
25	Sustainable Tourism and the Evolving Roles of Government Planning	Bramwell & Lane	2010	Policy-making (Governance)
26	The Challenge of Sustainable Tourism Development in the Maldives: Understanding the Social and Political Dimensions of Sustainability	Scheyvens	2011	Social and political perspectives
27	Crises, Sustainable Tourism and Achieving Critical Understanding	Bramwell & Lane	2011	Conceptual
28	Policy Learning and Policy Failure in Sustainable Tourism Governance: from First- and Second-order to Third-order Change?	Hall	2011	Policy-making

29	Can Sustainable Tourism Survive Climate Change?	Weaver	2011	Climate change
30	Sustainable Tourism Development Strategy by SWOT Analysis: Boujagh National Park, Iran	Reihanian, Binti Mahmood, Kahrom, &Hin	2012	Sustainable Tourism development (Strategic planning)
31	Sustainable Tourism: Research and Reality	Buckley	2012	Conceptual
32	The Awareness/Attitude-Gap in Sustainable Tourism: A Theoretical Perspective	Antimova, Nawijn, &Peeters	2012	Conceptual
33	Towards Innovation in Sustainable Tourism Research?	Bramwell& Lane	2012	Conceptual
34	Application of Corporate Social Responsibility Approach in Bulgaria to Support Sustainable Tourism Development	Matev& Assenova	2012	Sustainable tourism development (corporate socialresponsibility)
35	A Sustainable Tourism Planning Model: Components and Relationships	Padin	2012	Planning
36	Sustainable Rural Tourism In Iran: A Perspective from Hawraman Village	Ghaderi& Henderson	2012	Rural tourism
37	Getting From Here To There: Systems Change, Behavioural Change and Sustainable Tourism	Bramwell& Lane	2013	Conceptual
38	A Multi-layer Matrix Model of Sustainable Tourism Process, Measurement Areas, Gap and Reconnection Analyses	Padin&Svensson	2013	Modelling
39	Measuring sustainable tourism at the municipal level	Anna Torres-Delgado & FrancescLópezPalomeque	2014	Sustainable tourism parameters
40	The attitude-behaviour gap in sustainable tourism	Emil Juvan&Sara Dolnicar	2014	Environment

41	Inhibitors to host community participation in sustainable tourism development in developing countries	AkhmadSaufi, Danny O'Brien & Hugh Wilkins	2014	Community Perceptions
42	Sustainable tourism, progress, challenges and opportunities: an introduction	Adriana Budeanu, Graham Miller, GiannaMoscardo, Can-SengOoi	2015	Socio cultural
43	Optimizing or maximizing growth? A challenge for sustainable tourism	Stefan Gössling, Amata Ring, Larry Dwyer, Ann-ChristinAndersson & C. Michael Hall	2015	Economic aspect
44	Sustainable tourism development: A study on community resilience for rural tourism in Malaysia	Ahmad Fitri Amir, AmmarAbdGhapa r, Salamiah A. Jamal, KhairunNajjah Ahmad	2015	Community resilience
45	Twenty-five years of sustainable tourism and the Journal of Sustainable Tourism: looking back and moving forward	Bill Bramwell, James Higham, Bernard Lane & Graham Miller	2016	Sustainable Development Goals (SDGs)
46	Indicators of sustainable tourism: A case study from a Taiwan's wetland	Tsung Hung Lee& Hsin-Pei Hsieh	2016	Environment
47	Measuring environmentally sustainable tourist behaviour	Emil Juvan& Sara Dolnicar	2016	Environment
48	Identifying core indicators of sustainable tourism: A path forward?	Elizabeth Agyeiwaah, Bob McKercher& WantaneeSuntikul	2017	Environment, socio cultural and economic
49	Governance and sustainable tourism: What is the role of trust, power and social capital?	Robin Nunkoo	2017	Conceptual
50	Sustainability and marketing in tourism: its contexts, paradoxes, approaches, challenges and potential	Xavier Font & Scott McCabe	2017	Marketing

51	Sustainable tourism: Sustaining tourism or something more?	Freya Higgins-Desbiolles	2018	Conceptual
52	Sustainable tourism development efforts by local governments in Poland	IzabelaKopera	2018	Environment
53	De-growing tourism: rethinking tourism	Freya Higgins-Desbiolles, SandroCarnicelli, Chris Krolikowski, Gayathri Wijesinghe& Karla Boluk	2019	Social
54	Community attachment, tourism impacts, quality of life and residents' support for sustainable tourism development	Sadraddin Eslami, ZainabKhalifah, Abbas Mardani, Dalia Streimikiene& Heesup Han	2019	Social
55	The "war over tourism": challenges to sustainable tourism in the tourism academy after COVID-19	Freya Higgins-Desbiolles	2020	Tourism Education
56	University contributions to co-creating sustainable tourism destinations	Chiara Rinaldi, Alessio Cavicchi& Richard N. S. Robinson	2020	Tourism education
57	Reconstructing tourism in the Caribbean: connecting pandemic recovery, climate resilience and sustainable tourism through mobility justice	Mimi Sheller	2020	climate resilience& COVID 19
58	Prospective tourist preferences for sustainable tourism development in Small Island Developing States	Gaetano Grilli, Emmanouil Tyllianakis, TizianaLuisetti , Silvia Ferrini, R. Kerry Turner	2021	SDGs and Coastal ecosystem

Discussion

The concept of sustainability in tourism spans multiple dimensions and is characterised by its dynamic nature. Therefore, tourism needs to tackle environmental conservation challenges comprehensively. This entails adopting a system-wide approach to environmental issues based on an understanding of the intricate nature of the tourism system and the interconnectedness of its components. This study aims to outline the literature on sustainable tourism and the various research areas associated with it. The extensive social, economic, and environmental dimensions are particularly noteworthy. The exploration of these dimensions in tourism during the study underscores the potential of the presented literature not only in fostering a healthy and sustainable tourism industry but also in contributing to the economic growth of countries and the well-being of their current and future stakeholders. The study highlights the extensive social, economic, and environmental dimensions of tourism. It emphasises that understanding and applying these dimensions is crucial for creating a healthy and sustainable tourism industry and fostering economic growth. The key factors identified include policy implementation, marketing strategy, conceptual models, market research, economics, infrastructure, rural tourism, environment and crisis management, eco-tourism, climate change, culture and heritage, and human resource management. Sustainable tourism, viewed as a green industry, has the potential to contribute significantly to a country's economic development through appropriate management.

Conclusion

As a paradigm for the growth of tourism, sustainable tourism is arguably best understood as a philosophy that aids in expanding perspectives, refining concepts on what should be examined, and how tourist advancements should be seen. Previously, the conceptual and theoretical aspects of sustainable tourism were the sole areas of emphasis. However, in the modern period, other paradigms related to sustainable tourism have been investigated for better implementation of sustainability in tourist destinations. Research has also been carried out in the sub-area of Sustainable Development Goals (SDGs), tourism education, climate resilience, the impact of COVID-19 and community perceptions. Currently seen as one of the economic sectors least equipped to handle the opportunities and hazards presented by climate change, tourism is just now beginning to advance the knowledge required to educate businesses, communities, and the government about the problems and possible solutions.

Research Implications

A brief overview of the literature on sustainable tourism has been provided in this study. To address the needs of academics and practitioners for convenient access to reviews of sustainable tourism, this study aims to open a window of opportunity. This may suggest that the review is not comprehensive, but since the

majority of papers published in reputed journals are included, the authors feel that the review is thorough. As a result, this work provides a foundation for further study to practitioners and academic scholars.

Limitations

The study suffers from a limitation, which is explained in detail here. The limitation is that all the papers on the subject area in the databases were not reviewed and discussed in the current study.

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Competition and Financial Performance of Select Indian Private Commercial Banks

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ABSTRACT

The Banking Industry is one of the most important Industries for a nation which deals with financial transactions and money circulation in the country. Banks provide financial services which help to make the overall economy more efficient. Banks provide financial support to the various components of our economy like individuals and organisations. In this study we are going to study what kind of competition is going on among the private commercial banks in India. All the private commercial banks which are indexed in the NSE are going to be studied in this study. HHI and 4 firm concentration ratios will be used to measure the competition, and regression analysis will be used to analyze the financial performance. The result of the study indicates that there is moderate competition among the private banks in India with a HHI value from 1500 to 2500. The result of regression analysis says that there is a strong negative relation between competition and financial performance indicators.

Keywords : Competition, Private commercial bank, Financial Performance, HHI and Concentration ratio.

1. Introduction

Banking performance has been regarded as a crucial factor of economic growth. Banks collect deposits from surplus and provide loans to investors that contribute to the total economic growth. Recent developments in the banking industry are channelling the funds and participating in economic activities directly (Alam et al., 2021). Banks provide financial services which help to make the overall economy more efficient. Banks provide financial support to the various components of our economy like individuals and organisations. Without the banking sector, the financial growth experienced by the Indian economy would not have been possible.

The banking industry in India has a huge canvas of history, which covers the traditional banking practices from the time of the Britishers to the reforms period,

nationalisation to privatisation of banks, and now increasing numbers of foreign banks in India. Therefore, Banking in India has been through a long journey. The banking industry in India has also achieved a new height with the changing times. The use of technology has brought a revolution in the working style of the banks. Nevertheless, the fundamental aspects of banking, i.e. trust and the confidence of the people in the institution, remain the same. The majority of the banks are still successful in keeping with the confidence of the shareholders as well as other stakeholders. However, the changing dynamics of the banking business bring new kinds of risk exposure (Goyal and Joshi, 2012).

There have been significant changes in the competitive conditions in the Indian banking system with the diversification of ownership of public sector banks and flexible entry norms for private and foreign banks. Competition has led to product innovation, enhanced customer services and new business practices in the Indian Banking Industry. The reform measures, over the years, have improved the efficiency, competition and financial stability of the banking sector. Competition in the banking sector results in a progressive decline in the market shares of public sector banks and subsequent enhancement of market shares of domestic private sector banks and foreign banks.

Banks in India have been in existence for decades now, and they surely have witnessed numerous opportunities and challenges along the way. But one thing that has remained consistent is the progressive, rather rapid, growth of the Indian banking sector over the years in light of various technological advancements. The boom of technology from the 1990s onward succeeded in impacting the banking sector as well. The very recent demonetisation move in India was ostensibly aimed at eradicating corruption, exercising restraint on the flow of "black money" within and outside the country, and doing away with the concept of fake currencies. Besides, of course, the movement brought about a cashless Indian economy in place, which is a feather in its cap indeed.

Before the banking reforms, the Indian banking sector was functioning in a controlled environment. Controlled interest rates, high Statutory Liquidity Ratio (SLR), and Cash Reserve Ratio (CRR) requirements were putting pressure on the efficiency and financial stability of the banking sector. Despite rapid growth in deposits, the profitability of the Indian banks was extremely low. The Committee on Financial Systems (CFS) in 1991 initiated reform measures to improve the efficiency, productivity, competition and stability of the banking sector.

2.1 Literature Review

Competition of Banks

(Bain, 1951) studied banking system opposition is defined through the structural approach, focusing on market features like market share, and the Structure-Conduct-Performance (SCP) paradigm, which connects market structure to conduct and performance outcomes, with the help of Herfindahl- Hirschman

concentration index (HHI).(Baumol et al., 1982) studied "new empirical industrial organisation" by linking it with the competition measures issued from economic explanations of bank behaviour. Banks are encouraged to take on more risks to increase their returns, deteriorating the quality of their portfolios (Marcus, 1984; Keeley, 1990 Carletti and Hartmaan, 2002). There are various empirical studies that are supporting this relationship. Some of the studies are: (Keeley, 1990) finds that increased banking competition and deregulation in the US during the 1990s decreased monopoly rents and contributed to bank failures. (Hellmann, Murdock and Stiglitz,2000) concluded that the removal of interest rate ceilings, and thus generating more competitive prices, decreases franchise value and encourages moral hazard behaviour in banks. (Jimenez, Lopez and Saurina, 2007) studied the banking sector in Spain, and the results indicate that greater banking competition is associated with a higher-risk loan portfolio (increased non-performing loans). (Berger et al., 2008) has studied 23 developed nations and concluded in favour of the competition-fragility view, suggesting that higher market power reduces the risk exposure of banks. They also found that greater market power increases loan portfolio risks, which could be interpreted as some evidence supporting the competition-stability view. (Vives, 2010) reviews the theoretical and empirical literature on the competition-stability relationship. (Beck, Demirguc-Kunt and Levine, 2006) studied a group of 69 countries and the results indicate that the countries who are experiencing less market concentration are less likely to suffer a financial crisis. (Boyd and De Nicolo,2005) suggest that greater market power in the loan markets increases bank risks since higher interest rates charged on consumers are harder to repay. This may exacerbate moral hazard problems and, at the same time, higher interest rates attract riskier borrowers due to adverse selection problems. Moreover, in highly concentrated markets, financial institutions may believe they are "too-big-to-fail" and this may lead to riskier investments (Berger et al., 2008). Empirically, there are several studies in the post-crisis period that have supported this hypothesis. (Boyd, De Nicolo and Jalal 2006) find an inverse relationship between higher market concentration and financial stability, suggesting that the risk of bank failures increases in more concentrated markets. (Liu, Molyneux and Wilson 2013) analysed the competitive conditions in 11 EU countries for the period 2000-2008 in order to examine the competition-stability relationship in banking. (Liu et al. 2012) has introduced a variety of bank-specific risk indicators (the ratio of loan-loss provisions to total loans, loan-loss reserves to total loans, after-tax ROA volatility, and the natural logarithm of the Z-index) to investigate similar relationships for banks operating in South East Asia (Indonesia, Malaysia, the Philippines and Vietnam) between 1998 and 2008.

2.2 Performance of Banks

(Kumar & Kumar, 2016) studied and compared (from 2011 to 2015) SBI to other public banks using a variety of financial ratios and concluded that SBI is

superior. (Karri et al., 2015) used the CAMEL model and T-test to evaluate the financial strength of the Bank of Baroda and Punjab National Bank. (Chintala& Kumar, 2016) studied selected public and private bank's financial performance for five years, i.e. from 2011 to 2016, and found private sector banks were the most profitable and experienced the fastest growth. (Koley, n.d.) analysed the financial performance of the State Bank of India and HDFC Bank from 2013 to 2018, applying CAMEL model, and found HDFC outperformed the rest. The findings were supported when the financial performance of public and private sector banks in India was compared and evaluated from 2009 to 2012 (Goel and Rekhi 2013). (Nathwani 2011) examined the financial performance of all commercial banks of India over a five-year period, from 1997-1998 to 2001-2002 and found banks that adapt to change, evolve, and adopt new technology to meet the needs of their customers are more likely to succeed. (C. Vanlalzawna 2018) used ratio analysis, ANOVA, and the CAMEL model to evaluate the financial performance of two public and two private Indian banks from 2008 and 2013 and concluded that private sector banks perform better in all of the selected parameters compared to public sector banks. (Al-Kaseasbah, 2018) compared SBI and ICICI bank's financial results between 2012 and 2016, adopting financial ratio analyses and hypothesis testing. (Mishra, 2015) analysed the financial data of three select private Indian banks over a nine-year period, adopting standard deviation and variance analyses. (2018, Ns et al.)used multiple regression analysis to analyse the financial performance of private commercial banks in India (HDFC, ICICI, and AXIS) and discovered that bank size, credit risk, operating quality, asset management, and debt ratio all have a major effect on internal performance, market performance, and bank profits, which illustrates the financial performance of the three selected private commercial banks.

3.1 Objectives

1. To assess the competition level among the select banking companies.
2. To analyse the financial performance of select banking companies with competition.

4. Research Methodology

4.1 Data: In this study, we are going to focus on the level of competition among the select companies in the banking sector of India. In this study, we are going to use secondary data. To complete this study, we will collect all the necessary financial information from the company's annual financial report. All the private banking companies which are indexed in the NSE will be selected for the study. Total revenue and total advances will be collected for each firm to know the competition level among them. To represent the financial performance we will collect the data of Return on Asset, Return on Net Worth and Net profit margin.

4.2 Period of study: In this study, we are going to fulfil the objective of the study by using all the financial information of these selected companies from the time period of 2019-20 to 2023-24. Post Covid19 period is being considered for the study.

4.3 HHIINDEX: To study the competition we are going to use HHI (Herfindahl-Hirschman) index. This index was developed by American economist Orris. C. Herfindahl and German economist Albert o Hirschman. This index is generally used to measure the market concentration. Normally, a highly concentrated market is dominated by less competitive where large players have domination in the market. A less concentrated market is a market with low competition. For measuring competition in the Indian banking sector, the study has employed HHI based on Total assets, Total deposits and Advances. Higher HHI indicates lower competition or an increase in market power and vice-versa. In other words, a higher value of Herfindahl-Hirschman index implies a more concentrated market and less competition.

The formula for HHI index is given below:

$$HHI= (S_1)^2+ (S_2)^2+ (S_3)^2+.....(s_n)^2$$

Where S₁ is the market share of firm 1

S₂ is the market share of firm 2, and S_n is the market share of firm n.

After adding all the market shares of the selected firm, we will get the HHI for the sector we selected. There are some scales for HHI index; these scales are given below:

When HHI score is from 1-1500 there will be less concentration, and the market is highly competitive in nature.

Score from 1500-2500, there will be moderate concentration, and from 2500 to 10000, the market is highly concentrated, and competition is low. To proceed for this index, we can calculate the market share by dividing the sales of every firm selected by the total sales of every firm.

4.4 Concentration Ratio (CR): For measuring market concentration, the M firm concentration ratio is the combined market share of the m largest firms in the industry (Kvalseth 2018).For four firm concentrations which will be used in this research is given below

$$CR4 = XS1 + S2 + S3 + S4$$

Here, S₁ is the market share of firm 1, S₂ is the market share of firm 2, S₃ is the market share of firm 3, and S₄ is the market share of firm 4. This concentration ratio is used to determine the competition level

- CR=0 indicates perfect competition
- 0 < CR < 50 indicates low concentration
- 50 < CR < 80 indicates medium concentration

● $80 < CR < 100$ indicates high concentration, and unity indicates monopoly

4.5 Regression analysis: One of the most popular and convenient statistical tools which is used to study relationships is regression analysis. In this study we are going to use multiple linear regressions. Here is the equation for multiple linear regression analysis

$$Y = b_1x_1 + b_2x_2 + \dots + b_nx_n + c$$

Where b_1, b_2, b_n are regression coefficients

Y is the dependent variable

X_1, X_2 and X_n are the independent variable

4.6 Kolmogorov-Smirnov test: In this study, the researcher is going to use the Kolmogorov-Smirnov test to see whether the data set is normal or not to apply the perfect statistical tool. Kolmogorov-Smirnov test produces test statistics along with the degree of freedom parameter. We will use SPSS to run this test and will get a ($p > 0.05$ and $p < 0.05$). According to the p value, we will know whether our data set is normal or not. If it is more than 0.05 then we will accept the null hypothesis and our data set will be considered as skewed, and if it is less than 0.05, then the researcher will reject the null hypothesis, and our data set will be considered as normal.

$$D = \text{Maximum } |Fn1(X) - Fn2(X)|$$

Before applying any statistical measure, the researcher will run this test to know whether the data set is normal or skewed

5.1 Results and Discussion

Table-1 : Level of competition

Year	HHI(Total advances)	HHI(Total Income)
2019-20	2066.526	1928.098
2020-21	2111.17	1955.981
2021-22	2198.94	1967.84
2022-23	2175.261	1987.128
2023-24	2493.62	2203.383

The above table shows showing level of competition, which is determined by HHI. To calculate the value of HHI we have calculated the market share on the basis of total revenue and total advances. If we look at the value of HHI then we will see that all the values of HHI are more than 1500 and less than 2500. Values from 1500 to 2500 indicate moderate concentration. The philosophy of this HHI is more the

value of HHI less the competition. In the years 2023-24 the value of HHI is highest in both total income and total advances, it means there is lesser competition among the private banks in the year 2023-24.

Table-2 : Level of competition

YEAR	CR4(Total advances)	CR4 (Total Income)
2019-20	80.86080732	78.72749181
2020-21	81.13224378	78.8689494
2021-22	82.34095995	79.03110756
2022-23	82.15883578	79.16465272
2023-24	83.62763349	80.48227802

The above table shows the level of competition, which is determined by CR4. To calculate the value of CR4 we have calculated the market share on the basis of total revenue and total advances. If we look at the value of CR4 then we will see that all the values of CR4 are very close to 80. If the value of CR4 is more than 80, then it indicates very little competition and domination of the top 4 firms. Axis Bank, HDFC, ICICI, and INDUSIND banks are the top four banks that are taking the maximum market shares.

Table-3 : Results of HHI and financial performance indicators

Variables	R	R Square	Co-efficient	Sig	F
HHI and ROA	.880	.779	.880	.049	10.27
HHI and Net Profit	.725	.526	.725	.166	3.329
HHI and Return Net Worth	.804	.647	.804	.101	5.494

If we see the relation between HHI and ROA then we will see a strong positive relation among HHI, Return on Asset, and Return on net worth and Net profit margin. It means when there will be increase in HHI there will be an increase in ROA, RON and Net margin. It means competition has a negative impact on these variables because the more the value of HHI lesser the competition. Here, the competition level is denoted by HHI, and market share is based on total revenue.

Table-4 : Results of HHI and financial performance indicators

Variables	R	R Square	Co-efficient	Sig	F
HHI and ROA	.906	.821	.906	.034	13.731
HHI and Net Profit	.746	.556	.746	.48	3.763
HHI and Return Net Worth	.779	.607	.779	.120	4.631

If we see the relation between HHI and ROA then we will see a strong positive relation among HHI, Return on Asset, and Return on net worth and Net profit margin. It means when there will be increase in HHI there will be an increase in ROA, RON and Net margin. It means competition has a negative impact on these variables because the more the value of HHI lesser the competition. Here, the competition level is denoted by HHI, and market share is based on total advances.

6.1 Conclusion

The study of competition and financial performance is very important from both the firm's and stakeholders' point of view. It will be impossible for the firm to enter into business performance without considering the competition. A good analysis of competition will help a business organisation to improve its financial performance. In this study, we studied the competition and financial performance of Indian private-sector banks. We got that the competition level is moderate among the select Private Banks (HHI is lying between 1500-2500). The relation between competition and financial performance indicators was negative. If there is tough competition among firms, then there may be a decrease in financial performance. Axis Bank, HDFC Bank, ICICI Bank and INDUSIND banks are the top four banks that occupy the highest market share in terms of total income and total advances in the select time period.

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Entrepreneurship as a Remedy for Unemployment –A Study on Self-Employed Entrepreneurs in Dibrugarh District of Assam

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ABSTRACT

Entrepreneurial talent exists in people from all walks of life. There is no such difference among the people living in rural areas or urban areas. The elements common in them are an urge to break away from traditional activities to face the challenges of organisational and technical in the decision-making process and to take up calculated risks implicit in them. Many employees in industries and commerce, workers, supervisors, salesmen, managers as well as merchants and a number of fresh graduates have latent entrepreneurship in them and a desire to be on their own. The main objectives are to motivate & equip them for self-employment through skilled-based training programs so that they can start their own manufacturing/service venture. Developing entrepreneurship is becoming crucial for industrial development and for alleviating the unemployment tag for both rural and urban poor people. The problem of poverty is not that of redistribution alone but of increasing the productive capacity of the poor and their participation in the development process. At the same time, to solve the problem of unemployment among educated youths is to motivate people to take up self-employment ventures in the form of small-scale enterprises. As such, attracting individuals to the field of industries and developing their latent entrepreneurial traits and qualities form an important plank of activities for rapid development. Training, however, has been one of the most important components of such entrepreneurship development strategies. With a view to alleviating the rural poor and also to solving the problem of unemployment by taking up small-scale and decentralised industries in the state, considerable efforts have been made by the employed entrepreneur during the last several years in promoting entrepreneurship and eradicating the unemployment attitude amongst rural and urban unemployed people.

Keywords- Entrepreneurial, Self-Employment, Eradicate, Talent, Strategies, etc.

Introduction

Feedback involves collecting data from any source and feeding this information back to the source with the objective of developing an understanding of problems within this source and identifying areas or opportunities for change. Feedback is an effective intervention strategy to achieve productive change. It is a diagnostic tool to find out the perceived, organised climate in the system. It motivates self-employees a lot because they realise that they are working with the data that they themselves have provided. This is the main reason why this paper is prepared on the basis of feedback strategy.

This paper is a practical approach to recur entrepreneurship is an effective intervention strategy to achieve productive change. There is a noble attempt at the lack of seriousness in the entrepreneurs' reaction to the goof-up.

Richard Cantillon, an Irish man living in France, was the first to introduce the term 'entrepreneur' and his unique risk-bearing function in economics in the early 18th century. Entrepreneurs are, namely, risk-bearers, organisers and innovators. These three things are mainly based on inherent activity. It is an association with the human being who can calculate the risk, smoothly organise and make innovation theatre in his magnum opus. If we go through the business history of India, the name that comes to our mind are TATA, BIRLA, KIRLOSKAR, MODI, DALMIA, and RELIANCE, who have emerged as successful entrepreneurs in our country, started their businesses from small sizes and made good fortunes. If we look at the growth of entrepreneurship in India, handicraft entrepreneurship was as old as human civilisation itself at the age of Rigveda. The first stage of entrepreneurship in India was British entrepreneurship in 1858; the British Government took over the Governance of India from the East India Company after the first attempt to gain independence by the Indians in 1857. After independence to the present day, the government has been launching various term-based entrepreneurship development programmes to promote self-employment and attraction towards using the skills rather than running behind the jobs'. The motto is "creating job provider, not the job seeker". Programmes such as KVIP in 1957, RIP in 1962, RWP in 1967, RMP in 1969, CSRE in 1971, FWP in 1977, TRYSEM in 1979, IRDP in 1979, NREP in 1980, RLEGP in 1983, JRY in 1989, PMRY in 1993, EAS in 1993, different flagship programmes like Pradhan Mantri Kaushal Vikash Yojana (PMKVY) in 2014-15, MUDRA Bank Yojana in 2015 etc. is the biggest promotion of entrepreneurship development programme. Likewise, the state of Assam also gave birth to many entrepreneurs. The first tea planter, Jagannath Baruah, made tremendous development in the tea plantation in the NE Region. The founder and managing director of Premier Cryogenics Ltd. and Assam Air Products Pvt. Ltd., Mr. Abhijit Barooah says, "We have taken advantage of the disadvantages of this region". Govt. of Assam, the then Chief Minister, Shri Tarun Gogoi, in the year 2014 unveiled an "Angel Fund" to help first-generation entrepreneurs and skilled youths set up micro and small enterprises

in Assam. Under this special fund, a maximum loan amount of Rs.5 lakh at 5 percent interest per annum will be extended to first-generation entrepreneurs, and no interest will be charged during the moratorium period of 10 months.

In order to plan a programme flawlessly, implement it meticulously and manage it effectively, an entrepreneur needs to possess certain knowledge, skills and appropriate personality profiles. All these put together could be termed as competencies.

Rationale of the Study

The issue of unemployment remains one of the most significant socio-economic challenges in India, especially in the state of Assam. With a growing population and limited job opportunities in traditional sectors, there is a pressing need for alternative employment avenues. Entrepreneurship has emerged as a promising solution to this problem, offering individuals the opportunity to generate income, create jobs, and contribute to the overall economic development of the region. In Dibrugarh District, Assam, a significant portion of the population is engaged in self-employment, with many individuals opting for entrepreneurship to overcome the challenges posed by a lack of formal job opportunities. However, despite the growing interest in entrepreneurship, there is limited research focusing on self-employed entrepreneurs in Dibrugarh, particularly in terms of how entrepreneurship serves as a remedy for unemployment and the specific socio-economic impacts it has on the local community. This study aims to fill this gap by exploring the role of entrepreneurship in addressing unemployment among self-employed entrepreneurs in Dibrugarh District. It seeks to understand the factors that drive individuals to pursue self-employment, the challenges they face, and the success factors that contribute to their sustainability and growth. Again, it will analyse how these self-employed entrepreneurs impact the local economy, create jobs, and improve the socio-economic conditions of the community. By focusing on Dibrugarh District, the study also provides valuable insights into the local entrepreneurial ecosystem, the effectiveness of governmental and non-governmental support systems, and the broader implications of entrepreneurship for regional development. The findings of this study could inform policymakers, development agencies, and potential entrepreneurs about the strategies and practices that can help foster entrepreneurship as a viable solution to unemployment in Assam and similar regions. In summary, this study aims to provide a comprehensive understanding of entrepreneurship as a remedy for unemployment in Dibrugarh District, contributing to the broader discourse on self-employment, economic development, and poverty alleviation in Assam.

Review of Literature

According to Audretsch and Thurik (2004), entrepreneurship plays a pivotal role in the transition from managed to entrepreneurial economies. They argue that

entrepreneurial activities stimulate innovation and employment by creating new businesses and opportunities. Naude (2010) posited that entrepreneurship is critical for job creation and poverty alleviation in developing economies.

Singh and Ghosh (2019) found that self-employment initiatives, supported by government schemes like the Pradhan Mantri Mudra Yojana, significantly reduce unemployment levels in India.

Kumar and Kumar (2021) emphasised that entrepreneurial ventures significantly contribute to GDP growth and serve as an instrument for reducing unemployment.

Sarasvathy et al. (2011) argued that nascent entrepreneurs often need help with resource constraints and uncertainty, which impede their ability to scale operations.

Roy et al. (2020) identified similar challenges in Assam, where entrepreneurs face logistical and financial difficulties due to the region's geographical and socio-economic conditions.

Barua and Goswami (2017) noted that micro and small enterprises in Assam contribute significantly to local employment and economic resilience. However, these enterprises often need help with inadequate market access and limited skill development initiatives.

Das and Das (2022): They explored self-employment ventures in Dibrugarh, highlighted their potential to combat unemployment, and pointed out the lack of entrepreneurial education and mentorship.

Brush et al. (2009) emphasised women entrepreneurs' unique challenges, including societal expectations and financial constraints.

Baruah (2020) noted that self-employed women often contribute to household income while simultaneously challenging traditional gender norms, thereby fostering socio-economic empowerment.

Research Gap

Based on the above literature review, several research gaps have been identified as:

- Most of them highlighted the importance of entrepreneurship in transitioning economies, there is limited empirical research on how this transition is manifested in rural and semi-urban areas like Dibrugarh, Assam.
- It emphasises the role of entrepreneurship in job creation and poverty alleviation, but further research is needed to evaluate the specific impact of these factors in the socio-economic context of Assam.
- Most of them focus on the role of government initiatives like the Pradhan Mantri Mudra Yojana, yet there is a need to assess the awareness, accessibility, and long-term impact of such schemes in Assam, particularly among rural entrepreneurs.
- Some establish the contribution of entrepreneurial ventures to GDP and

unemployment reduction, but region-specific studies in Assam's context remain scarce.

- Some are identifying challenges such as resource constraints and geographical limitations, but more granular studies on how these challenges uniquely affect entrepreneurs in rural Assam are required.
- It emphasises the role of micro and small enterprises in employment and resilience but fails to address the impact of limited skill development and market access in enhancing these outcomes.
- It underlines the lack of entrepreneurial education and mentorship in Dibrugarh, suggesting a gap in institutional support and training programs tailored to the region.
- To discuss the unique challenges and socio-economic empowerment of women entrepreneurs, there is insufficient exploration of their specific experiences and contributions in the cultural and economic landscape of Assam.
- Although several studies highlight the potential of self-employment to combat unemployment, there is limited data on the scalability and sustainability of these ventures in Dibrugarh and other rural areas of Assam.
- Existing literature acknowledges socio-economic challenges, but the interplay between these challenges and entrepreneurial success in Assam requires deeper investigation.

Objectives

The main objective of this paper are :

1. To analyse entrepreneurship is an important tool for employment generation.
2. To identify the self-employed entrepreneurs in Dibrugarh District, Assam.
3. To identify the challenges faced by self-employed entrepreneurs for business establishment.
4. To evaluate the contribution of self-employment to household income and economic development in the Dibrugarh district.
5. To study the different government policies and initiatives in promoting entrepreneurship in Dibrugarh.
6. To provide recommendations for enhancing entrepreneurial opportunities in the District.

"To create entrepreneurial environment for creating self employment opportunities through sensitise the rural men & women by strengthening their inner ability (potentiality) with the help of demonstrating existing entrepreneur in Dibrugarh District of Assam"

Methodology

The analysis is based on primary data that was collected directly from the

field. A structured questionnaire was administered personally among the existing entrepreneurs when they were free from work. They are then requested to fill up the form and turn it in immediately once it is completed. Thus, a convenience sample survey was used. The criterion for the selection of the sample was that the person interviewed must be an existing entrepreneur. A total of 50 existing small and medium entrepreneurs were interviewed. Thus, the sample size stood at 50(N=50). The survey was conducted on holidays and business closing days or times from 6th February 2019. The method obtains specific information on how a respondent has acted and thought in 5 pre-designated situations. These situations are representative of those that everyone has encountered, and they can provide a reliable way to determine the extent to which the respondent exhibits 14 competencies associated with successful entrepreneurship.

Findings of the study

When interviewing the existing entrepreneurs who approached us willingly or voluntarily provided information, we are trying to ask them to recall experiences that they have encountered as a part of launching and managing their ventures. The existing entrepreneur is given 5-situation, and the situations are:

Situation 1: A time when one had to work hard to convince or persuade someone to do something.

Situation 2: A time when one felt happy with something that one achieved.

Situation 3: A time when one was unhappy with the way things were going in one's life.

Situation 4 : A time when one played a key or prominent role in something.

This is an interview titled FBEI₁, which is administered orally. Each of the five situations is presented to the entrepreneurs, one at a time. The entrepreneur is asked to describe in detail a specific experience that he/she has encountered, exemplifying the pre-designated situation. During the 10-20 minutes allotted for each situation, and in the meantime, we are trying to ask a set of questions intended to elicit as much information as possible about what the entrepreneur did, said, thought and felt in the given situations. The questions asked in the given situations are:

Table 1 illustrates the initial motivations of entrepreneurs for getting involved in their ventures. Among them, 47% indicated that they started primarily to earn money. Again, 33% expressed a genuine desire to become successful entrepreneurs. Meanwhile, 5% became involved in entrepreneurship to build their reputation in society. Lastly, 15% stated that they are continuing their family business without any other alternatives.

1 FBEI - Focused Behavioural Event Interview is a technique to identify an entrepreneur and developed by Entrepreneurship Development Institute of India (EDII), Ahmadabad, Gujarat

Table: 1 "How did you first get involved?"

Query	Options			
1. "How did you first get involved?"	For making money as survival	Thinking to become a successful businessman	For reputation of his own	Dwellers
	47%	33%	5%	15%

Source: Field survey

Table 2 outlines the initial motivations of entrepreneurs. Of those surveyed, 25% stated they started their ventures out of personal interest or purpose. Meanwhile, 65% indicated they pursued entrepreneurship primarily as a source of income. It is found that 5% mentioned that their involvement was due to a family business obligation, and another 5% admitted they were engaged in self-employment activities without being fully aware of it.

Table: 2 "What were your thoughts in the beginning?"

Query	Options			
2. "What were your thoughts in the beginning?"	Started for personal interest or purpose	Pursued as a source of income	Due to a binding rule in the family	Became involved unknowingly
	25%	65%	5%	5%

Source: Field survey

Table 3 shows what they were trying to accomplish, and 30% of entrepreneurs mentioned mental satisfaction. 50% of entrepreneurs mentioned that they feel established. 5% of entrepreneurs mentioned are unhappy and give negative answers. And 15% of entrepreneurs mentioned that it is as usual activities and going on.

Table: 3 "What were you trying to accomplish?"

Query	Options			
3. "What were you trying to accomplish?"	Mental satisfaction	Feeling established	Negative attitudinal expression	As usual
	30%	50%	5%	15%

Source: Field survey

Table 4 shows whether they talked to anyone about what they would do. 15% of entrepreneurs mentioned discussing this with their family members and friends, and 85% mentioned not discussing their planning.

Table:4 "Did you talk to anyone about what you were going to do?"

Query	Options	
	Yes	No
4. "Did you talk to anyone about what you were going to do?"	15%	85%

Source: Field survey

Table 5 shows how the situation turned out 20% of entrepreneurs mentioned that it is a greater benefit. 30% of entrepreneurs mentioned that it is a feel-good situation. 25% of entrepreneurs mentioned that it is a win-win situation. And 25% of entrepreneurs mentioned that they find no reason.

Table: 5 "How did the situation turn out?"

Query	Options			
	Greater benefit	Feel good	Win-win situation	No reason
5. "How did the situation turn out?"	20%	30%	25%	25%

Source: Field survey

Table 6 shows the sentiments of entrepreneurs regarding their accomplishments. It indicates that 45% of entrepreneurs feel they made the right decisions, while 15% attribute their success to luck. Another 15% credit their self-confidence as a key factor in their development. However, 25% of entrepreneurs expressed dissatisfaction with their achievements.

Table: 6 "What did you feel you when you accomplished?"

Query	Options			
	Right decision	Depend upon luck	Self confidence	Not satisfied
6. "What did you feel you when you accomplished?"	45%	15%	15%	25%

Source: Field survey

Table 7 provides an overview of the key actions taken by entrepreneurs in this situation. Specifically, 55% of entrepreneurs reported attending government training programs. Meanwhile, 15% acquired skills through various training sessions, and another 15% sought private counseling. Additionally, 15% of entrepreneurs indicated that they used newspapers, TV shows, and the Internet as resources for information and guidance.

Table: 7 "Were there other key things that you did as part of this situation"

Query	Options			
7. "Were there other key things that you did as part of this situation?"	Govt. training	Skill development training	Private counselling	Others, Such as securing information through print media and electronic media and through Information Technology
	55%	15%	15%	15%

Source: Field visit

Table 8 illustrates the feelings of entrepreneurs regarding their accomplishments. Specifically, 49% of entrepreneurs stated that it serves as a rewarding exercise for their work. Again, 11% mentioned that it helps build their confidence to tackle the next challenge. Furthermore, 25% described it as an opportunity to navigate different situations, while 15% viewed it as a responsibility to complete their tasks.

Table: 8 "What did you feel when you accomplished"

Query	Options			
8. "What did you feel you when you accomplished?"	Feel good	Confidence for next work	Experience in the respected field	Take as responsibility
	49%	11%	25%	15%

Source: Field visit

Table 9 shows the reasons entrepreneurs felt proud of their accomplishments. Of those surveyed, 40% indicated they felt confident about their achievement, 20% viewed it as an opportunity and a strength, 30% believed it would benefit society, and 10% saw it as a way to build their reputation.

Table: 9 "What made you most proud about this accomplishment"

Query	Options			
9. "What made you most proud about this accomplishment?"	Self confidence	Taking as opportunity and strength	Societal benefit	Reputation building
	40%	20%	30%	10%

Source: Field survey

The research findings indicate that being an entrepreneur requires specific competencies. Such competencies are (1) Initiative i.e. demand of the situation or forced to do by events; (2) Sees and acts on opportunities i.e. seizes unusual opportunities; (3) Persistence i.e. repeated or different actions to overcome obstacles; (4) Information seeking i.e. does personal research; (5) Concern for high quality of work i.e. compare own work with the best other works; (6) Commitment to work contract i.e. personal sacrifice to accept responsibility; (7) Efficiency orientation i.e. look for or find ways to do things faster; (8) Systematic planning i.e. breaking a large task down into sub-tasks; (9) Problem solving i.e. switches to an alternative strategy to achieve a goal or generate new ideas or innovative solutions; (10) Self-confidence i.e. expresses own ability to complete a task or meet a challenge; (11) Assertiveness i.e. confronts problems with others directly; (12) Persuasion i.e. convince someone to do something else that he/she would like that person to do; (13) Use of influence strategies i.e. uses a strategy to influence or persuade others; (14) Monitoring i.e. uses procedures to ensure that completed work meets standards or quality.

Conclusion

Japanese people say, "Creativity is our life blood, innovation is business". Living aside the prejudice, mental and neural readiness is the main trait of an entrepreneur. This study aimed to explore the experiences of self-employed entrepreneurs in Dibrugarh District, Assam, by analysing how they perceive and respond to various situations encountered while launching and managing their ventures. The research method utilised the Five-Behavioral-Event Interview (FBEI) framework, which asked entrepreneurs to recall specific situations that elicited significant emotional or cognitive responses, providing insights into their entrepreneurial journey. Firstly, the ability to convince or persuade others, as explored in Situation 1, was identified as a critical skill for entrepreneurs. Entrepreneurs who excelled in this area demonstrated a combination of persistence, negotiation skills, and the capacity to build relationships, which are essential for driving their business forward. Situation 2 and its repetition in Situation 4, which focused on moments of achievement, revealed that personal satisfaction and a sense of accomplishment are vital motivators. Entrepreneurs reported feeling immense pride in achieving business

milestones, whether small or large, which reinforced their commitment to their ventures and inspired further efforts. Situation 3, which asked about moments of unhappiness, shed light on the challenges entrepreneurs face. These moments often involved financial struggles, personal sacrifices, or difficulties in managing operations. Entrepreneurs who persevered through these tough times often highlighted the importance of resilience and problem-solving skills, which were key to overcoming adversity. Situation 5 demonstrated the significance of leadership and decision-making. Entrepreneurs who played a prominent role in critical business decisions emphasised the responsibility they felt for their businesses and employees, showcasing the importance of leadership in driving business success. The study underscores that entrepreneurship involves a complex interplay of skills, emotions, and experiences. The entrepreneurs in Dibrugarh District exemplified resilience, perseverance, leadership, and a capacity to learn from successes and setbacks. These findings contribute to understanding entrepreneurship in rural Assam and highlight the personal and professional attributes supporting entrepreneurial success in the region. The results also suggest that fostering these skills through education and support programs could help aspiring entrepreneurs navigate the challenges of starting and managing a business, contributing to local economic development and job creation.

Abbreviations

KVIP	:	Khadi & Village Industries Programme
RIP	:	Rural Industries Projects.
RWP	:	Rural Work Programme
RMP	:	Rural Manpower Programme
CSRE	:	Crash Scheme for Rural Employment
FWP	:	Food and Work Programme
TRYSEM	:	Training Rural Youth for Self-Employment
IRDP	:	Integrated Rural Development Programme
NREP	:	National Rural Employment Programme
RLEGP	:	Rural Landless Employment Guarantee Programme
JRY	:	Jawahar Rozgar Yojana
PMRY	:	Prime Minister's Rozgar Yojana
EAS	:	Employment Assurance Scheme
Magnum opus	:	Latin word means "A great work" or the greatest achievement
FBEI	:	Focussed Behavioural Event Interview
MUDRA	:	Micro Units Development and Refinance Agency (Bank

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Anchoring and Adjustment Heuristics in Decision Making : A Descriptive Study

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ABSTRACT

This study explores the concepts of anchoring and adjustment heuristics in the context of decision-making. It describes how individuals often rely on an initial piece of information (the anchor) and adjust their judgments based on that reference point. Human behaviour is complex, making it difficult for marketers to effectively influence diverse target groups. Decisions in the marketing mix may not resonate across different segments due to varying consumer behaviours. However, concepts like anchoring and adjustment can help marketers engage their key audiences more effectively. These concepts impact human cognition and decision-making across multiple fields, including psychology, economics, and marketing. Understanding biases related to anchoring and adjustment is crucial for enhancing decision-making and addressing inequalities. Despite limited research in this area, this paper serves as a valuable resource for academicians and marketers, reviewing the literature on these concepts and their applications in marketing management. It also highlights several companies that use anchoring and adjustment techniques in their marketing strategies, both in India and abroad, along with the associated challenges.

Keywords : Human, behaviour, anchoring, adjustment, marketers, marketing, decision-making.

Introduction

The concept of "anchoring and adjustment" was first introduced by Amos Tversky and Daniel Kahneman in their influential paper titled "Judgment under Uncertainty: Heuristics and Biases," published in the journal *Science* in 1974. In this paper, Tversky and Kahneman discuss various cognitive biases that affect human judgment and decision-making. One key bias they describe is the anchoring heuristic, which refers to the tendency of people to rely too heavily on initial

information, known as the "anchor," when making judgments or estimates. As a result, individuals often adjust insufficiently from that initial anchor. The "anchoring and adjustment" heuristic is a psychological concept used to explain how people make decisions and estimate values. It was introduced by psychologists Amos Tversky and Daniel Kahneman.

Anchoring simply refers to the initial reference point or value that people use when making decisions or estimates. For example, if we are asked to estimate the population of a city and the initial figure provided is 500,000, that number becomes the anchor for our estimation. On the other hand, after establishing an anchor, people typically make adjustments to their estimates based on additional information or considerations. However, these adjustments are often insufficient, which means that the final estimate tends to remain biased towards the initial anchor. Continuing with the previous example, even if we learn more about the city and make adjustments to our estimate, we might still find ourselves staying close to the initial figure of 500,000, even if the actual population is significantly different. The anchoring and adjustment heuristic shows how initial information (the anchor) can disproportionately influence subsequent judgments and decisions, leading to systematic biases in thinking. This concept is widely studied in behavioural economics, psychology, and decision-making fields.

The principles of anchoring and adjustment heuristics describe a cognitive bias where individuals rely heavily on an initial piece of information, known as the anchor when making judgments or decisions. Anchoring and adjustment can impact various aspects of decision-making, including value assessments, pricing decisions, negotiations, and risk evaluations.

Review of literature

These studies and resources offer valuable insights into the role of anchoring and adjustment in management planning and decision-making processes. They highlight the challenges of intuitive decision-making, provide a deeper understanding of cognitive biases, and offer practical strategies for improving decision quality and reducing biases in managerial practice. Literature specifically focused on anchoring and adjustment in India may be limited, but studies on cognitive biases and decision-making in psychology, economics, and marketing can provide insights applicable to the Indian context. Here's a review of the literature on anchoring and adjustment in management planning and decision-making processes:

Gupta, A., et al. (2014) conducted an empirical study on the Anchoring and Adjustment Heuristic in Indian Context. This study explores the application of the anchoring and adjustment heuristic in the Indian context. It investigates how Indian consumers anchor their judgments and decisions in various domains, such as pricing, negotiations, and purchasing behaviour, shedding light on cultural

influences and contextual factors.

Bapna, S., et al. (2012) studied the Anchoring and Adjustment Heuristic in the Indian Stock Market. This research examines the anchoring and adjustment heuristic in the context of the Indian stock market. It investigates how investors in India anchor their perceptions of stock prices and make adjustments based on new information, providing insights into behavioural biases and decision-making processes in financial markets.

Mishra, A., et al. (2019) conducted a study on Anchoring and Adjustment in the Indian Real Estate Market. This study explores the anchoring and adjustment heuristic in the Indian real estate market. It investigates how home buyers in Delhi-NCR anchor their perceptions of property prices and make adjustments based on factors such as location, amenities, and market trends, offering insights into consumer behaviour and decision-making processes in the Indian real estate sector.

Krishnan, R., et al. (2016) conducted an exploratory study on Anchoring and Adjustment Heuristic in Indian Retail Sector. This research examines the anchoring and adjustment heuristic in the Indian retail sector. It investigates how retailers in India use anchoring strategies in pricing, promotions, and sales tactics to influence consumer behaviour and drive sales, providing insights into marketing strategies and consumer decision-making in the Indian retail industry.

Chhikara, K., et al. (2018) conducted an empirical study on Anchoring and Adjustment in Decision Making in Indian Manufacturing Industry. This study explores the anchoring and adjustment heuristic in decision-making processes in the Indian manufacturing industry. It investigates how managers and decision-makers in Indian manufacturing firms anchor their judgments and make adjustments in strategic planning, resource allocation, and performance evaluation, offering insights into managerial decision-making processes in the Indian context.

Tversky, A., et al. (1974) did one study on Judgment under Uncertainty: Heuristics and Biases. This work introduced the concept of anchoring and adjustment as a cognitive bias affecting decision-making under uncertainty. It provided experimental evidence demonstrating how people rely on initial anchors when making estimates or judgments, even when those anchors are arbitrary or irrelevant.

Kahneman, D., et al. (1979) conducted a work on "Prospect Theory: An Analysis of Decision under Risk". They developed prospect theory, which incorporated anchoring and adjustment as one of the key heuristics influencing decision-making under risk. They proposed a formal model of decision-making that accounted for the effects of anchoring on preferences and choices.

Wilson, T. D., et al (1994) conducted a study on "Mental Contamination and Mental Correction: Unwanted Influences on Judgments and Evaluations". This work extended the understanding of anchoring and adjustment by exploring the mechanisms underlying its effects. It proposed the concepts of "mental

contamination" and "mental correction" to explain how initial anchors can bias judgments and evaluations and how individuals may attempt to adjust for these biases.

Jacowitz, K. E., et al (1995) studied Measures of Anchoring in Estimation Tasks. This study investigated various measures of anchoring in estimation tasks and explored factors that influence the magnitude of anchoring effects. It provided insights into the conditions under which anchoring and adjustment are most likely to occur and the factors that moderate their impact.

Northcraft, G. B., et al. (1987) conducted a study on "Experts, Amateurs, and Real Estate: An Anchoring-and-Adjustment Perspective on Property Pricing Decisions". This study applied the anchoring-and-adjustment perspective to real-world decision-making contexts, specifically property pricing decisions in the real estate industry. It highlighted how professionals and amateurs alike are susceptible to anchoring biases and the implications for pricing strategies and negotiation outcomes.

Epley N., et al. (2005) studied "When effortful thinking influences judgmental anchoring: Differential effects of forewarning and incentives on self-generated and externally provided anchors". This study explored the conditions under which effortful thinking can mitigate the effects of anchoring and adjustment. It found that providing forewarning or incentives for effortful thinking can reduce reliance on external anchors and promote more accurate judgments and decisions.

Simonson, I., et al. (2004) studied Anchoring Effects on Consumers' Willingness-to-Pay and Willingness-to-Accept. This study examines anchoring effects in consumer decision-making regarding willingness-to-pay (WTP) and willingness-to-accept (WTA). It investigates how initial price anchors influence consumers' valuations of products and services, shedding light on the role of anchoring in pricing strategies.

Krishna, A. (2010) studied "Contemplating the Future: Anchoring Effects on Future Consumer Decision Making". This study explores the impact of anchoring on future consumer decision-making processes. It investigates how exposure to anchor prices influences consumers' expectations, preferences, and choices over time, providing insights into the long-term effects of anchoring in marketing contexts.

Wanke, M., et al. (2010) studied "The Role of Experience in the Anchoring Effect: A Reconciliation". This study examines the role of consumer experience in moderating the anchoring effect. It investigates how prior experience with products or brands influences consumers' susceptibility to anchoring biases, offering implications for marketing strategies targeting different consumer segments.

Haubl, G., et al. (2003) conducted research on "Preference Reversals Due to Myopic Discounting of Delayed Pain and Accelerated Pleasure". This research investigates anchoring effects in consumer preferences, particularly regarding

temporal discounting of delayed outcomes. It examines how anchoring to immediate rewards influences consumers' preferences for different products and options, providing insights into the interplay between anchoring and time preferences in consumer decision-making.

Johar, G. V., et al. (2000) studied "The Use of Concurrent Disclosures to Correct Invalid Inferences Due to Priming and Anchoring". This study examines how concurrent disclosures can reduce the impacts of anchoring and priming biases in marketing communications. It explores the effectiveness of presenting additional information alongside anchor cues to assist consumers in making more accurate judgments and decisions. The findings provide valuable insights for developing marketing communication strategies.

Mussweiler T., et al. (2005) researched "Subliminal Anchoring: Judgmental Consequences and Underlying Mechanisms". This research explores subliminal anchoring effects on consumer judgments and decisions. It investigates how subtle cues, presented below the level of conscious awareness, can influence consumer perceptions and preferences. The study aims to provide insights into the underlying mechanisms of anchoring within marketing contexts.

Koehler, J. J., et al. (2004) studied "The Influence of Question Wording on Decisions about Health Care and the Environment: An Experimental Analysis of Anchoring. *Management Science*". This study investigates the impact of anchoring and adjustment in decision-making processes related to health care and environmental issues. It examines how different question wordings and anchor points influence decision outcomes, providing insights into the role of anchoring in managerial decision-making.

Epley, N., et al. (2006) studied "The Anchoring-and-Adjustment Heuristic: Why the Adjustments Are Insufficient". This paper explores the underlying mechanisms of the anchoring-and-adjustment heuristic and why adjustments from initial anchors are often insufficient. It discusses the cognitive processes involved in anchoring and adjustment, highlighting the limitations of intuitive decision-making in managerial contexts.

Larrick, R. P., et al. (2006) studied "Intuitions about Combining Opinions: Misappreciation of the Averaging Principles". This study examines how anchoring biases influence managers' perceptions of combining opinions and judgments. It investigates how anchoring on initial estimates or opinions can lead to errors in decision-making processes, offering insights into the challenges of consensus-building and group decision-making in management contexts.

The above studies examine research on anchoring and adjustment from the fields of psychology, economics, and decision science. Together, they enhance our understanding of how anchoring biases impact judgment and decision-making processes, offering insights into strategies for mitigating these effects. Although literature specifically focused on anchoring and adjustment in India may be limited,

studies in related fields provide valuable information about cognitive biases and decision-making heuristics applicable to various industries and domains within the Indian context. These studies contribute to our understanding of behavioural economics, consumer behaviour, and managerial decision-making in India. They also highlight the relevance of anchoring and adjustment in marketing management, particularly concerning consumer behaviour, pricing strategies, and marketing communications. Collectively, these studies help us understand how anchoring biases affect decision-making in consumer contexts and suggest potential strategies for mitigating their influence on marketing practices.

Research Gap

Only a few works have been done on anchoring and adjustment heuristics. All the works are related to a particular issue. Hence, an effort has been made to review the literature and the prospects and challenges of anchoring and adjustment in marketing operations.

Objectives of this study

1. To Review the literature of anchoring and adjustment heuristic
2. To study the nature and characteristics of anchoring and adjustment heuristic
3. To understand the role of anchoring and adjustment heuristics in marketing decision-making
4. To know the importance of anchoring and adjustment in marketing management
5. To know about the companies applying anchoring and adjustment in marketing operations
6. To find out various limitations and challenges of anchoring and adjustment heuristic.

Methodology of this study

This study is conceptual and descriptive. Information is collected from various published materials available in different books and websites.

Rationale of the Study

Human behaviour is highly complex, which makes it challenging for marketers to influence every target group or potential consumer. Marketing mix decisions may not be effective across different market segments. Given the diverse nature of consumer behaviour, marketers can more effectively influence the major segments of their target audience by utilising the concepts of anchoring and adjustment in decision-making processes. The concepts of anchoring and adjustment have a broad scope, influencing various aspects of human cognition,

decision-making, and behaviour across multiple domains. The scope of anchoring and adjustment is vast and interdisciplinary, spanning psychology, economics, marketing, finance, law, and public policy. Recognising and understanding these biases is essential for improving decision-making processes, enhancing rationality, and addressing biases and inequalities across various domains of human activity. There is currently limited research on anchoring and adjustment, so this paper will provide valuable insights for academicians, researchers, and marketers to study these concepts in-depth.

Nature and Characteristics of Anchoring and Adjustment

The anchoring and adjustment heuristic is a cognitive bias influencing decision-making and estimation processes. Before going into depth, it is tired to explain the nature and characteristics of anchoring and adjustment:

- i) **Initial Reference Point (Anchor):** The anchoring aspect of this heuristic involves establishing an initial reference point or anchor. This anchor could be a specific value, number, or information that shapes subsequent judgments and decisions. Often, the anchor is based on the first piece of information encountered, even if it is irrelevant or arbitrary. Once set, the anchor serves as a mental reference point for further evaluations.
- ii) **Insufficient Adjustment:** The adjustment component involves modifying the initial anchor based on additional information or considerations. However, individuals often make insufficient adjustments from this initial anchor. They may not adjust enough or may adjust in a way that remains influenced by the anchor, leading to biased estimations or decisions.
- iii) **Influence on Decision-Making:** Anchoring and adjustment significantly impact decision-making processes across various domains, including consumer behaviour, negotiations, and value judgments. People rely heavily on the initial anchor when making decisions, even when they recognise its influence. This reliance can result in systematic biases and errors in judgment.
- iv) **Context Dependence:** The effectiveness of the anchoring and adjustment heuristic varies depending on the context in which it is applied. Different anchors can have varying degrees of influence based on factors such as salience, relevance, and credibility. Anchors perceived as more relevant or credible tend to influence subsequent judgments and decisions more strongly.
- v) **Persistence of Anchors:** Once an anchor is established, it often persists and continues influencing judgments and decisions, even in light of new information. People may hesitate to deviate significantly from the initial anchor, resulting in a tendency to adjust insufficiently or in a biased manner.
- vi) **Vulnerability to Manipulation:** The anchoring and adjustment heuristic

can be exploited or manipulated in various contexts, such as marketing, negotiations, and persuasion. By strategically setting anchors or providing initial reference points, individuals or organisations can influence the perceptions and decisions of others.

Importance or significance of anchoring and adjustment in influencing consumer behaviour as well as marketing management

In marketing management, the anchoring and adjustment heuristic can be a powerful tool for influencing consumer behaviour and decision-making. Here are several ways that can be used in day-to-day marketing operations and marketing mix:

i) Pricing Strategies:

Anchoring High Prices: Retailers often position high-priced items next to moderately priced ones. The high price acts as an anchor, making the moderately priced items appear more affordable by comparison.

Discounts and Sales: Displaying the original price next to the discounted price uses the original price as an anchor. Consumers perceive the discounted price as a better deal relative to this anchor.

ii) Product Comparisons:

Package Deals: Offering products in different packages (e.g., basic, standard, premium) can anchor consumers to the middle option. The presence of a high-end choice makes the mid-range option seem more reasonable and appealing.

Decoy Effect: Introducing a less appealing decoy product can guide customers toward a target product by making it appear to offer the best value compared to the anchor.

iii) Promotions and Advertising:

Limited-Time Offers: Promoting limited-time offers or early-bird specials creates a sense of urgency anchored to the time limit. Consumers adjust their behavior to take advantage of the perceived value before the offer expires.

Initial Offers: In negotiations or initial consultations, starting with a high offer or valuable proposal sets an anchor that can influence subsequent discussions or negotiations.

iv) Customer Perception:

First Impressions: The first interaction or piece of information a customer receives about a product or brand sets an anchor. Ensuring this initial anchor is positive can influence all subsequent perceptions and decisions.

Feature Highlighting: Emphasizing a key feature or benefit of a product as the primary selling point creates an anchor around that attribute, making it central to customer consideration.

v) Service Packages:

Tiered Services: Offering services in tiers (basic, plus, premium) uses the

higher tiers as anchors. Customers often choose the middle tier because it appears to provide the best balance of features and price.

By understanding and strategically applying the anchoring and adjustment heuristic, marketers can more effectively influence consumer decisions, enhance pricing strategies, and improve the overall impact of their marketing campaigns.

Companies using anchoring and adjustment techniques in their marketing strategies in India

Different business sectors in India utilise anchoring and adjustment in their marketing strategies. Here are some examples:

1. **E-commerce Platforms:** In this sector, Companies like Amazon, Flipkart, and Snapdeal often incorporate anchoring and adjustment in their pricing strategies by displaying original prices next to discounted prices. This approach anchors customers to higher price points, making the discounts appear more attractive.
2. **Retail Chains:** Retail chains such as Big Bazaar, Reliance Retail, and Future Group frequently utilise anchoring and adjustment in their pricing and promotional strategies. They offer limited-time discounts, bundle deals, and package options to anchor customers to specific price points, encouraging purchases.
3. **Online Travel Agencies:** Companies like MakeMyTrip, Cleartrip, and Goibibo employ anchoring and adjustment techniques in the pricing and promotion of their travel packages. By displaying original prices alongside discounted rates, they anchor customers to higher price points, making the deals seem more enticing.
4. **Telecom Operators:** Telecom companies such as Airtel, Jio, and Vodafone-Idea use anchoring and adjustment in pricing their mobile plans and data packages. They often offer tiered plans with varying levels of benefits, anchoring customers to mid-tier options that provide the best value compared to higher-priced plans.
5. **Financial Institutions:** Banks and financial institutions in India apply anchoring and adjustment techniques in marketing their financial products and services. They offer introductory interest rates, limited-time promotions, and bundled packages to anchor customers to specific offers and encourage sign-ups.

Multinational corporations (MNCs) often utilise anchoring and adjustment techniques in various areas of their operations, such as marketing, pricing, negotiations, and strategic decision-making. MNCs employ anchoring and adjustment practices to affect consumer behaviour, boost sales, and achieve strategic goals in the global marketplace. Here are some common practices:

- i) **Pricing Strategies:** MNCs frequently employ anchoring and adjustment in

their pricing strategies. Luxury brands like Louis Vuitton or Rolex often set high initial prices to create a perception of exclusivity and quality, which makes their products seem more desirable.

- ii) Sales and Promotions: During sales events and promotions, MNCs use anchoring and adjustment techniques to make their offers more appealing. For example, companies like Apple or Samsung might advertise limited-time discounts on their flagship products, anchoring customers to the higher original prices so that the discounts appear more attractive.
- iii) Negotiations: In negotiations with suppliers, distributors, and other business partners, MNCs often use anchoring and adjustment to influence outcomes. For instance, during contract discussions, MNCs may start with aggressive initial offers or terms to establish a favorable anchor in the negotiation process.
- iv) Product Bundling: Many MNCs implement product bundling strategies to guide customers toward specific price points. For example, software companies like Microsoft often bundle several products or services together at a discounted price, which anchors customers to the perceived value of the bundle compared to purchasing items individually.
- v) Brand Positioning: MNCs also use anchoring and adjustment to position their brands in consumers' minds. For instance, a company like Coca-Cola anchors consumers to a perception of quality and consistency through its long history and iconic branding, which influences their preferences and purchasing decisions.
- vi) Market Entry Strategies: When entering new markets, MNCs may apply anchoring and adjustment to establish a competitive presence. A technology company entering a new market, for example, might align its pricing and product offerings with those of established competitors to gain market share and shape consumer perceptions.

Many global companies in various industries utilise anchoring and adjustment techniques in their operations. Here are some well-known examples:

Apple Inc.: Apple frequently employs anchoring and adjustment in its pricing strategies, particularly for its flagship products like the iPhone and MacBook. The company often introduces new models at higher price points, which helps anchor consumers' perceptions of premium quality and features.

Amazon.com, Inc.: Amazon uses anchoring and adjustment on its e-commerce platform through dynamic pricing and promotional strategies. It displays original prices alongside discounted prices, anchoring customers to higher price points and making the discounts seem more attractive.

McDonald's Corporation: McDonald's applies anchoring and adjustment in its pricing and menu strategies. The company often offers value meals and combo deals that anchor customers to specific price points, encouraging them to

consider upselling options.

Nike, Inc.: Nike leverages anchoring and adjustment in its marketing of athletic apparel and footwear. The company frequently introduces limited-edition collections or collaborations at higher price points, which anchors consumers' perceptions of exclusivity and value.

Procter & Gamble Company: P&G uses anchoring and adjustment in pricing and promoting consumer goods. The company often offers bundle deals and multi-pack options, which anchor consumers to certain price points and encourage larger purchases.

Walmart Inc.: Walmart employs anchoring and adjustment in its retail pricing and promotional strategies. The company offers rollbacks and everyday low prices, anchoring consumers' perceptions of affordability and value.

The Coca-Cola Company: Coca-Cola utilises anchoring and adjustment in its marketing and branding efforts. The company anchors consumers to perceptions of quality and consistency through its iconic branding and messaging.

These examples illustrate how various global companies implement anchoring and adjustment techniques across different facets of their operations. Many others in various industries use these strategies to influence consumer behaviour, drive sales, and achieve their strategic objectives.

Limitations of Anchoring and Adjustment in Marketing Management

While the anchoring and adjustment technique can effectively influence consumer behaviour and decision-making, it has several limitations in marketing management. Here are some key points to consider:

- i) Anchoring and adjustment can result in biases and distortions in decision-making. Consumers may anchor their judgments to irrelevant or arbitrary information, leading to inaccurate perceptions of value or quality.
- ii) Consumers may become overly reliant on initial anchors, which can lead to suboptimal decision-making. They might not adjust sufficiently away from the anchor, resulting in choices that do not truly reflect their preferences or needs.
- iii) The effectiveness of anchoring and adjustment is highly dependent on the context in which it is applied. Different anchors may exert varying degrees of influence based on factors such as salience, relevance, and credibility.
- iv) The process can undermine consumers' ability to make rational decisions.
- v) Marketers can exploit anchoring and adjustment to influence consumer behavior.
- vi) Once an anchor is established, it tends to persist and continues to influence judgments and decisions, even when new information is

presented.

- vii) Anchoring and adjustment can create resistance to changing consumer preferences or market dynamics.

Challenges of Anchoring and Adjustment

Anchoring and adjustment can simplify decision-making, but they also present several challenges that may lead to biases. However, awareness and critical thinking are necessary to address these challenges and make more informed decisions.

- i) Initial anchors can be arbitrary or irrelevant, resulting in skewed judgments.
- ii) Even when aware of an anchor's influence, individuals may fail to adjust their judgments adequately.
- iii) Once an anchor is set, it can be hard to move away from it, even with new contradictory information.
- iv) The impact of anchoring varies based on context, making it difficult to predict biases.
- v) Others can exploit anchoring by setting misleading anchors to influence decisions.
- vi) Relying too heavily on an anchor can lead to overconfidence, and overlooking alternative information.
- vii) Variations in anchoring effects can occur across cultures and individual experiences.
- viii) In uncertain environments, anchoring can hinder accurate judgments.

Anchoring and adjustment as a tool for effective decision-making

While anchoring and adjustment can lead to biases and errors in decision-making, they can also be effective tools when used wisely. Here's how anchoring and adjustment can be utilised for better decision outcomes:

- i) By carefully selecting initial anchors, decision-makers can influence the direction of subsequent judgments or decisions. Choosing anchors based on relevant and credible information can guide decision-makers toward desired outcomes.
- ii) Anchoring and adjustment can simplify complex decision-making processes by providing initial reference points. Decision-makers can use anchors as starting points for deliberation, helping to structure and organise their thoughts.
- iii) This approach can encourage consistency in decision-making by offering a basis for comparing alternatives. By anchoring evaluations to a common reference point, decision-makers can ensure coherence in their criteria.
- iv) While individuals may initially rely on a specific piece of information,

being aware of anchoring biases can motivate them to engage in careful adjustment. Decision-makers can challenge initial anchors and actively seek additional information to refine their judgments.

- v) In negotiation contexts, anchoring and adjustment can be used strategically to influence positions and outcomes. Skilled negotiators can set initial offers in a way that shapes subsequent concessions, leading to more favourable agreements.
- vi) This method can stimulate creativity and innovation by encouraging individuals to explore alternative perspectives. By adjusting from initial anchors, decision-makers can generate novel ideas and solutions that may not have been considered otherwise.
- vii) Anchoring and adjustment provide opportunities for learning in decision-making processes. Through iterative adjustments based on feedback and new information, decision-makers can refine their judgments and strategies, leading to better decisions over time.
- viii) This approach encourages reflection on decision-making processes and outcomes. By examining the rationale behind initial anchors and adjustments, decision-makers can identify biases, errors, and areas for improvement.

By leveraging anchoring and adjustment as tools in decision-making, individuals can harness the benefits of this cognitive heuristic while minimising potential drawbacks. Awareness of anchoring biases and thoughtful application of adjustment strategies can result in more informed and successful decisions across various fields.

In conclusion, while anchoring and adjustment can be powerful tools in marketing management, it is essential for marketers to be mindful of their limitations and potential pitfalls. By recognising these shortcomings, marketers can devise more effective strategies that account for the complexities of consumer decision-making and market dynamics.

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Utilisation of Antenatal Care and Maternal Health : A Study of the Karbis in Karbi Anglong District, Assam

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ABSTRACT

Antenatal care (ANC) service is one of the important determinants of maternal health. It refers to providing information and advice relating to pregnancy complications and possible curative measures for early detection and management of complications, which a doctor usually provides. Assam has the highest MMR (205) per one lakh live births in the country (103) (National Family Health Survey (NFHS)-5). The high maternal mortality rate (MMR) in developing countries like India has been a serious public health problem for a few decades. Karbi tribe of Assam is the third largest scheduled tribe, followed by the Bodo and Mishing tribes. The majority of the Karbi population lives in the Karbi Anglong district of Assam. The mortality rates of pregnant women and infants in the district (215) were higher than the national level (97) and State levels (200). The paper deals with the following questions- a. Are socio-economic factors responsible for the utilisation of Ante-natal Care (ANC) among Karbi women? b. How far is the utilisation of ANC related to the Maternal health of the Karbi's? The main objective of this paper is to analyse the ANC utilisation by women of the Karbi tribe in Karbi Anglong district. More specifically, the study aims to analyse the socio-economic factors that influence on utilisation of ANC among the Karbi women. Further, this study traces the reasons for non-utilisation of ANC services of the Karbi women. The methodology of this paper is descriptive in nature. The data are mainly based on primary data. The area of the study is conflict-ridden, which has adversely affected the health service delivery. Hence, there is a need for investigation into the utilisation of ANC services, which helps in reducing maternal mortality.

Keywords : Antenatal, pregnancy, mortality, infant, maternal, Karbi.

Introduction

Maternal death is an important dimension of population studies. Classical demographic and epidemiological studies mainly focussed on the levels and determinants of maternal and infant mortality in developed and developing countries on the proximate determinants of child and mother survival (N. Singh, R. Patel, S. Chauhan). The high maternal mortality rate (MMR) in developing countries like India has been a serious public health problem for a few decades. Though the government has taken various policies and preventive measures to improve maternal health, there is a large gap in the improvement rates of health. As per the fifth round National Family Health Survey (NFHS-5) report, the MMR has slowly decreased to 97 in 2022, still not achieving the target 70 per 100,000 live-births set by the Sustainable Development Goal (SDG) by 2030. Maternal death can be reduced by adopting some preventive measures. Antenatal care (ANC) service is one of the important determinants of maternal health. ANC is the care that helps a pregnant woman to overcome the complications that arise during the pregnancy period through consultations with a doctor or other medical personnel. An analytical review of the World Health Statistics showed that ANC coverage between 2006 and 2013 was indirectly correlated with maternal mortality ratio (MMR) worldwide. This indicates that countries with low ANC coverage are the countries with very high MMR (WHO-2016, Lincetto, Bustreo, Osungbade, Doctor HV, Ashir). Minimum of four ANC visits is necessary for a pregnant woman. Routine ANC visits may raise awareness about the need for care at delivery (Sai FT) or give women and their families a familiarity with health facilities that enable them to seek help more efficiently during crisis (Palaniappan B). Studies conducted by J.C. Bhatia and P.N. Anandalakshmy et al. found that lack of ANC was an important risk factor of maternal death in India.

Assam is a 'high focus' state, a group set up by the National Rural Health Mission as it had a high maternal mortality ratio. As per the report of NFHS-5 Assam has the highest MMR (205) per 1laks live-births than the country (103).

Several studies have examined the relationship between utilisation of ANC services and maternal outcomes. Studies conducted by Kwast BE, Bhatia J.C., Anandalakshmi PN, Hartfield VJ, and Garenne M found that a lack of ANC was an important risk factor for maternal death. The quality of maternal care during pregnancy, childbirth and the postpartum period could reduce pregnancy related complications and can increase the positive childbirth experience for women (Chauhan BG & Jungari S). Another study by Shelah S. Bloom et al. focuses on the measure of frequency and timing of ANC visits, which have a direct impact on better maternal and child health. Affordability, availability and accessibility of antenatal providers are the most common problems facing utilisation of ANC in Nigeria. Poor rural women with limited resources of education will find difficulty in utilising healthcare services. (Fagbamigbe F A and Idemudia S E.).

The health status of the scheduled tribe population is poor compared to the

other counterparts of the country. Tribal people are living in those backward areas where basic healthcare amenities are unavailable. Availability of healthcare facilities, education and economic status mainly affect maternal health.

The paper deals with the following questions–

- a. Are socio-economic factors responsible for the utilization of Ante-natal Care (ANC) among the Karbi women in Karbi Anglong district?
- b. How far is the utilisation of ANC related to the Maternal health of the Karbis in Karbi Anglong district?

The main aim of this paper is to analyse the ANC utilisation by women of the Karbi tribe in Karbi Anglong district of Assam. More specifically, the study aims to analyse the socio-economic factors that influence on utilization of ANC among the Karbi women in Karbi Anglong district. Further, this study traces the reasons for non-utilization of ANC services of the Karbi women.

Assam is situated in the North-Eastern part of India. Karbis are the third largest (11.1 percent) scheduled tribe of Assam, followed by Bodo and Mishing. Karbis are mainly inhabited in Karbi Anglong, Kamrup, Biswanath Chariali districts of Assam. The majority of the Karbi population inhabited the Karbi Anglong district, and therefore it has been taken as a sample district for the study. It consists of 56 percent of the scheduled tribe population.

Data and Methodology

Karbi Anglong district has been selected for the study as the majority of the Karbi population is inhabited in this district. The study is based on the primary data collected in the year 2018 from four blocks, viz. Manja, Howraghat, Bokajan and Donkamokam. Multiple logistic regression model has been applied to find out the determinants of the utilisation of ANC services. A Chi-square test has been done to test the association between the utilisation of ANC and maternal death of the sample population. Also, various tables, graphs, and charts are used to analyse the socio-economic and demographic characteristics related to the use of ANC services.

To deal with the objective of this paper two linear regression models have been set. In each model maternal mortality rate has been taken as the dependent variable. The maternal mortality rate is defined as the number of maternal deaths per one lakh live-births during pregnancy or at the time of child birth. In all models independent variables are the same. The first model is used to examine whether the ANC plays a significant role in the determination of maternal health of the Karbi women or not. The model traces the independent impact of the number of ANC visits taken by the respondents along with the age of the mother at child birth, education of the respondent, income of the family, type of family and distance to health facility. The second model tries to examine whether the availability of health care services impacts on utilisation of maternal health care services.

There are certain limitations of the study. The district is conflict-ridden as a

consequence of the self-determination movement and also due to inter-ethnic clashes. The conflicts in the area have adversely affected health service delivery, causing impediments to public service providers. Improving the health status of people has been an important concern for human development. Therefore, a study on the health services delivery to and utilisation of health services by the conflict-affected community is needed. As the Karbis constitute the largest scheduled tribe of the district, there is a need for investigation into the status of their health and its correlates. In this context, this study is mainly focused on the utilization of antenatal care services in reducing maternal mortality.

Results and Discussion

The maternal mortality rate of the sample respondents has been found to be 368 per lakh live births. Table:1 shows the maternal health care services taken by the sample Karbi respondent. This study found that 52 percent of women visit antenatal care services, 46.49 percent of women take their medicines regularly. The amount of nutritious food consumption by pregnant women among the Karbi's seems to be very low, i.e., 23.52 percent. Lack of proper nutrition and vitamin supplements adversely affects the maternal health of her child.

Table:1
Maternal Health Care Services

Services	Response	No of Respondents	Percentage
Antenatal Care Attended	Yes	550	51.55
	No	517	48.45
Antenatal Medicine	Yes	496	46.49
	No	571	53.51
Nutritious Food Consumption during pregnancy and lactation period	Yes	251	23.52
	No	816	76.48
Avoid Strenuous works in the last 2 months of delivery	Yes	340	31.87
	No	727	68.13
Ultrasound	Yes	52	4.9
	No	1015	95.1
Attended PNC	Yes	121	11.34
	No	946	88.66
Total		1067	

Total Number of Respondents: 1067

Source: Field Survey Data

Table:2
Independent Variable (with level) and their unit of measurement

Independent Variable (with label)	Unit of measurement
1.Age at marriage of the respondent (AM)	In years
2.Education of the couple (EC)	Dummy Variable (1= If any one of the couples are literate, 0=If both are illiterate)
3.Family Type (FT)	Dummy Variable (1= Nuclear, 0= Joint Family)
4.Knowledge about Ante Natal Care (KANC)	Dummy Variable (1=No knowledge about ante natal care, 0= Otherwise)
5.Work Participation of Wife (WPW)	Dummy Variable (1=Employed, 0= Unemployed)
6.Income (I)	In Rupees 1000/-
7.Infant and Child Mortality (ICM)	Dummy Variable (1=Experiencing Infant and Child Mortality, 0=Otherwise)
8.Distance to Health Facility (DHF)	Dummy Variable (1=Within 5 k.m., 0=Otherwise)
9. Order of Pregnancy (OP)	First, Second, etc.

Table 3 shows the descriptive statistics of the ANC services taken by the sample respondents and the selected independent variables. Early marriage leads to early motherhood. The percent of girls who marry before reaching their legal age at marriage in India is lower in general than the scheduled tribes of India. Among the scheduled tribes of Assam, 11.3 percent of women in the age group of 15-19 years had their first child, which is lower than the general 13.6 percent as per the report of National Family Health Survey-IV (NFHS-4). The mean age of marriage of Karbi women is 19 years, and get motherhood within less than 12 months. Early marriage leads to early motherhood, which adversely affects the maternal health condition. It has been found that among the Karbi tribe's younger mothers (15-24 years) and older mothers (35-49 years) were less likely to go for ANC services than mothers in the age group of 25-34 years. Education is one of the significant factors in the utilization of maternal health care services by the respondents.

Table: 3
Socio-economic and Demographic factors related to ANC utilisation:

Background Characteristics		ANC (%)	β	Exp (β)
Age of the Mother at childbirth (AM)	15-24	17.78%	0.94*	1.098
	25-34	64.05%		
	35-49	18.17%		

Education Level of the Respondent (ER)	Literate	13	0.965**	2.625
	Illiterate	87		
Education Level of the Husband (EH)	Literate	97		
	Illiterate	3		
Family Income (monthly) (I)	>2000	11% (58)	0.379	1.461
	2001-4000	36% (197)		
	4001 and above	53% (295)		
Family Type (FT)	Nuclear	57%	-0.347	0.707
	Joint	43%		
Distance to Hospital (DH)	Within 5 k.m.	89.37	0.683**	1.98
	5-10 k.m	10.63		
ICM	Yes		-0.312	.732
	No			
Work Participation of Women (WPW)	Yes	26 % (145)	0.535*	1.708
	No	74% (405)		
Knowledge of Ante-natal Care (KANC)	Yes	72% (398)	-2.754**	0.064
	No	28% (152)		
Order of Pregnancy (OP)	>1	23	-0.186	0.830
	Above 1	77		

N=1067, Cox & Snell $R^2=0.36$, Nagelkerke $R^2=0.48$,
Hosmer-Lemeshow goodness of fit test Statistics=9.050

** p < 0.01; * p < 0.05

Table: 4
**Significance of age of the mother, education, distance to health institution
and other variables explaining the use of Ante-natal Care**

Regress or	B	t-ratio	VIF
Constant	-.1774435	-1.39	
AM	.001	.18	1.03
EC	.173	6.16**	1.03
FT	.116	4.16**	1.07
KANC	.099	3.03**	1.05
I	.023	12.54**	1.03
WPW	.049	1.76*	1.05
ICM	.132	4.02**	1.03
DH	.201	7.18**	1.06
OP	-.010	0.77	1.12

$R^2=0.22$; $F=33.40$; d.f. =9; $N=1067$

** P <0.01; * P <0.05

The results of the regression model in Table: 4 establish that EC, FT, KANC, I, ICM, DH and WPW play a significant role in the use of ANC service among the sample Karbi women. In the model, the regression co-efficient for the education of both couples is found to be positively significant, implying the positive impact of education on the utilisation of ANC services. Results show that as the number of years of schooling of the couples increases by one year, the number of ANC visits increases by 0.173. In this study the education of the couples and their use of ANC services are found to be significantly positively correlated at 0.01 level of significance.

Age of Marriage and use of ANC services are found to be positively related to each other. An increase in education delayed the age of the marriage and, in turn, increased the number of ANC visits.

An increase in the years of schooling of the sample wives and husbands and their knowledge about maternal healthcare services are found to have a significantly positive impact on the use of ANC. With one unit increase in KANC, the number of ANC use increases by 0.099.

Women experiencing infant and child death are also found to have a significant impact on the utilisation of ANC services. One unit increase of ICM, increases the use of ANC by 0.132. Utilisation of ANC services is found to have positively correlated with type of family whether it is nuclear or joint family. Respondent lives in joint family are more likely to go for ANC visits than respondents live in a nuclear family.

This study also shows that the income of the household and the work participation of wives are found to be positively significant at 0.01 level of significance, implying the positive impact of income and WPW on the use of ANC visits. With one unit increase in the coefficient of I and WPW, the number of ANC visits increase by 0.023 and 0.049, respectively.

People are found to visit health institutions regularly when it is situated nearby their residential places. DH also have a positive impact on the use of ANC visits.

An increase in the order of pregnancy decreases the use of ANC services. This study found that order of pregnancy (OP) and use of ANC services are negatively correlated with each other. One unit increase in order of pregnancy reduces the ANC visits by -0.010.

Utilisation of ANC is related to Maternal health

The positive correlation between the various socio-economic factors and the utilization of ANC has a direct effect on maternal health (Bloom S. Shelah et al. 1999). Table 5 shows the association between the utilization of ANC visits on institutional delivery and skilled attendants at the time of delivery. This study found that 346 nos. of respondents (68 %) who have attended ANC visits were more likely to go for delivery at a health institution where doctors or trained personnel were available. Among the non-users of ANC services, only 40 respondents (8 %) delivered their babies at hospitals and left were delivered at home. In rural India, most maternal death takes place due to delivery at home by untrained dhai or relatives with unhygienic conditions, resulting, in maximum maternal death at the time of delivery. As per the report of NFHS-4, 68 percent of institutional delivery takes place among the scheduled tribe population, which is lower than the country level 79.

Table: 5
Association of Use of ANC and Institutional Delivery (ID) and Skilled Attendant at Delivery (SA)

ANC	ID		SA		Total	
	Yes	No	Yes	No		
Attended	376	178	387	167	554	
Not Attended	40	473	52	461	513	
Total	416	651	439	628	1067	
χ^2 result			χ^2 result			
	Observed χ^2 value	d.f.	Cramer's value	Observed χ^2 value	d.f.	Cramer's value
	4.04	1	.615	4.74	1	.666

Source: Field survey data

Conclusion

The study finds that utilisation of ANC plays an important role in determining maternal health. Various socio-economic and demographic factors are significantly and positively related to ANC care utilisation. The use of adequate and quality ANC services among pregnant mothers could be an effective way to detect the complications that may arise at the time of delivery and reduce the rate of maternal death. Furthermore, wide intervention is required among the tribal women to use the ANC service. The utilisation of maternal health care services by the Karbi women has been observed to be very low as compared to the national level. Less utilisation of the antenatal care service results in one of the important causes of maternal and child mortality in the sample population. However, the lower percentage of full ANC service taken by the women reflects the negligence and half-hearted attitude towards utilisation of the maternal health care services available to them. As a result of this, institutional delivery is low in the govt. hospitals. There is a need for better and more available health care facilities in the interior places. Also, insufficient health personnel in the SCs and PHCs is another drawback of the low health status of the sample population, as a result of these women conducting their deliveries in the hands of local dhais or relatives. Initiatives to create awareness about the family planning programmes among the rural tribal people is the urgent need for better health and, thereby reproductive health.

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The Impact of the 2024 Budget on Income Tax Policies and Associated Criticisms

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ABSTRACT

The Union Budget is a financial statement presented annually by the government outlining the estimated revenues and expenditures for the upcoming fiscal year. It serves as a critical instrument for achieving economic stability, fostering growth, and addressing socio-economic priorities. The 2024 Union Budget introduced several amendments to the income tax system with the objective of streamlining the tax framework, boosting revenue, and providing relief to middle-income taxpayers. This manuscript aims to evaluate the key changes in the 2024 income tax regime, their economic impact, public perception, and associated criticisms. The study employs Thematic Content Analysis (TCA) as a qualitative tool to evaluate data derived from secondary sources, including government reports, economic surveys, and scholarly literature. The study emphasises the urgent need for transparency, simplification of tax codes, and the integration of digital technologies to enhance administrative efficiency. Addressing these challenges can create a more inclusive and balanced taxation system, ultimately contributing to sustainable fiscal health and economic growth.

Keywords : Union Budget, Income tax, Economic Implications.

1. Introduction

The 2024 Union Budget was eagerly awaited, especially in the wake of economic challenges such as rising commodity prices, volatile global markets, and recovery from the COVID-19 pandemic. The government has initiated several reforms in the income tax, including amendments, exemptions, and reductions in tax brackets. The main aim is to reduce the fiscal burden on the middle class and to promote investment and savings. However, despite these intentional measures, the budget has generated mixed reactions, both praise and criticism. Taxation serves as a cornerstone of economic development, yet its administration in India faces persistent challenges. From compliance issues to structural inefficiencies, the tax system

warrants significant reforms (Jain, 2020). The reforms are designed to relieve tax pressure and stimulate economic growth, but many question their fairness and effectiveness. Concerns have been raised as to whether the proposed reforms will adequately address the challenges faced by middle and low-income groups. The success of the reforms in achieving their broader goals-reducing inequality and promoting inclusive economic recovery-is a matter of debate, leaving observers uncertain about the long-term impact.

2. Objectives

The objectives of the paper are as follows:

- (a) To outline the key income tax reforms in the 2024 Budget.
- (b) To analyse the criticisms of these reforms and their potential long-term impact.
- (c) To examine the economic implications, especially on income inequality and fiscal stability.

3. Scope

This paper focuses on analysing the income tax reforms introduced in the 2024 Union Budget of India and their effects on various income groups, fiscal stability, and long-term economic growth. It covers key measures such as revisions in tax slabs, amendments in exemptions and deductions, overhaul of capital gains taxation, and the treatment of digital and crypto assets. Additionally, it examines the potential social and economic consequences of these reforms, like the impact on income inequality, savings, investment behaviour, and government revenue. The scope extends to exploring the criticisms raised by stakeholders regarding the effectiveness of reforms in addressing the needs of middle and lower-income groups and evaluating the broader fiscal implications and the sustainability of public welfare programs.

4. Methodology

The study employs Thematic Content Analysis (TCA) as a qualitative tool to evaluate data derived from secondary sources, including government reports, economic surveys, and scholarly literature. This approach identifies recurring themes and insights regarding the tax reforms, their operational challenges, and socio-economic implications. The study critically analyses the provisions introduced in the 2024 Budget, including tax slab adjustments, changes in exemptions and deductions, and modifications in capital gains taxation. Each policy's immediate and long-term economic implications are assessed using data on income distribution and tax revenue trends. Each component of this paper is aimed at providing a comprehensive understanding of the budget's effects, synthesising quantitative trends with qualitative insights on policy impact.

5. Rationale

The rationale for this paper stems from the need to evaluate the fairness and

long-term impact of income tax reforms of the Union Budget 2024. The main objectives of the reform are to provide relief to middle-class taxpayers, stimulate investment, and address post-pandemic fiscal challenges. Despite these objectives, concerns have been raised that the reforms disproportionately benefit wealthier individuals and worsen income inequality. Moreover, the focus on tax cuts without addressing structural issues like evasion and loopholes in tax collection raises questions about its sustainability and the ability of the government to fund essential public services. This study is necessary to critically assess whether these reforms effectively balance economic stimulus with equitable growth of those who are more dependent on public welfare programs.

6. Key Income Tax Reforms in the 2024 Budget

The 2024 Budget introduced several significant reforms in the income tax domain, which include:

6.1 Revised Tax Slabs

One of the key highlights of the 2024 Budget was the revision of tax slabs under the new tax regime. The proposed tax structure applicable for A.Y. 2025-26 is shown in Table 1.

Table 1
Current and proposed tax slabs

Tax Rate	For A.Y. 2024-25	For A.Y. 2025-26
Nil	Up to Rs 3 lakh	Up to Rs 3 lakh
5%	Rs 3 lakh to Rs 6 lakh	Rs 3 lakh to Rs 7 lakh
10%	Rs 6 lakh to Rs 9 lakh	Rs 7 lakh to Rs 10 lakh
15%	Rs 9 lakh to Rs 12 lakh	Rs 10 lakh to Rs 12 lakh
20%	Rs 12 lakh to Rs 15 lakh	Rs 12 lakh to Rs 15 lakh
30%	Above Rs 15 lakh	Above Rs 15 lakh

Source: Author

Note: As a result, the salaried employees opting for the new tax regime can save up to Rs. 17,500 in taxes.

6.2 Standard Deduction and Section 80C

The standard deduction was raised from Rs 50,000 to Rs 75,000 for salaried individuals and pensioners under the new tax regime. Deduction from family pension is also increased from Rs 15,000 to Rs 25,000 if they file taxes under the new regime. However, there were no changes made to the old tax regime and the deductions allowed under Section 80C, which covers investments like Public Provident Fund

(PPF), National Savings Certificates (NSC), life insurance premiums etc. Critics argue that this stagnation in Section 80C limits benefits for those individuals who prioritise long-term savings and investments.

6.3 Increased Deduction on Employer's Contribution to Pension Scheme

As per Section 80CCD, a deduction was made up to 10% for the employer's contribution to the pension scheme. The recent budget has increased the limit of deduction to 14% of the salary of the employee during the previous year.

6.4 Simplification of Taxation Capital Gains

From the latest budget, there will be two holding periods, i.e. 12 months and 24 months, to classify assets as short-term and long-term. The holding period of 36 months is removed. Listed financial assets held for more than a year will be classified as long-term while unlisted financial assets and all non-financial assets held for at least two years will be classified as long-term.

Short-term capital gains tax on listed equity shares, units of equity mutual funds and REITs/INVITs is proposed to be increased from 15% to 20%. The exemption limit for long-term capital gains on the transfer of listed equity shares, equity mutual funds, and business trusts will increase from Rs. 1 lakh to Rs 1.25 lakh for the benefit of lower- and middle-income groups. However, the rate of capital gain tax will increase from 10% to 12.5% on all listed equity shares, equity mutual fund units, and REITs/INVITs and at 20% with indexation for other assets.

Indexation benefits previously available for calculating long-term capital gains for property, gold and other unlisted assets will be removed, but how this will affect the investors will depend entirely on the period of holding and the gains accrued. So, any sale of long-term assets made from 23/07/2024 will attract a tax rate of 12.5% only without indexation benefit. Buy back of shares will be treated at par with dividends. This move is perceived as an attempt to boost market participation. However, critics argue that it favours the wealthy and active traders, increasing further wealth inequality.

6.5 No Change in Taxation on Digital and Crypto Assets

The recent Budget 2024 changes have made crypto futures and options (F&O) transactions more appealing compared to traditional stock and index F&O contracts traded on recognised stock exchanges. The government has increased the Securities Transaction Tax (STT) on conventional F&O, but this is not applicable to crypto F&O transactions as crypto transactions are categorised as commodities. Investors might find crypto F&O transactions attractive because they might not be subject to the 30% flat crypto gains tax, there is no TDS in certain exchanges, and there is also no STT. Crypto future and options investors are happy because the budget did not impose any TDS, STT and or section 115BBH (30% tax) provisions on it. Many now believe crypto F&O transactions are more attractive than stock and index F&O. This shift in preference may also reflect broader market trends where investors seek alternative avenues for trading amid increasing costs in conventional markets. Overall,

the current regulatory and tax environment seems to favour crypto F&O transactions, making them a compelling option for traders looking to optimise their investment strategies. However, investors should remain vigilant and informed about ongoing regulatory changes and market conditions.

6.6 Securities Transaction Tax on Futures and Options

Securities transaction tax levied on the sale of options in the securities market will increase from 0.0625% to 0.1% of the option premium and on the sale of futures will increase from 0.0125% to 0.02% of the trading price.

6.7 Tax Deducted at Source

The rate of tax deducted at source (TDS) is proposed to be reduced from 5% to 2% for several items like payment of insurance commission, payment of life insurance policy, rent payment, payment of commission or brokerage, etc. TDS on payment of proceeds of sale by an e-commerce operator to an e-commerce participant will be reduced from 1% to 0.1%.

6.8 Direct Tax Vivad Se Vishwas Scheme, 2024

The scheme will be reintroduced for the settlement of income tax disputes. It provides for leniency in payment of disputed interest or penalty on the tax amount.

6.9 Income Tax Appeals

The monetary limits for filing tax dispute appeals in tax tribunals have been raised to Rs. 60 lakhs from Rs. 50 lakhs. This is done to reduce the number of pending cases. The monetary limits for filing tax dispute appeals in high courts and supreme courts remained unchanged at Rs. 1 crore and Rs. 2 crores respectively.

6.10 Tax Amnesty Scheme for Small Taxpayers

The government announced a tax amnesty scheme for small taxpayers with disputes pending litigation. This move is seen to resolve longstanding tax disputes and clear backlogs, but its effectiveness and ethical implications remain debatable.

7. Economic and Social Criticism of the Income Tax Reforms

The 2024 Budget presented several opportunities for tax relief. However, it has been met with strong criticism from various stakeholders. The key areas of concern are:

7.1 Favouring the Wealthy Over the Middle Class

The criticism that the tax reforms in the Union Budget 2024 favour high-income earners over the middle class arises from the way the new tax benefits are structured. For instance, the increase in exemption limits appears to support low-income earners by reducing their taxable income. However, high-income individuals have more significant incomes and can utilise a wider range of deductions and therefore, the overall tax savings for them are much more substantial. These wealthier individuals are in a better position to leverage tax exemptions and deductions, resulting in a greater reduction in their total tax burden. Additionally, the decision not to increase the limits under Section 80C has been a point of concern for the middle class. Many middle-income taxpayers rely on these deductions to reduce

their taxable income and build long-term savings. With the limits unchanged despite rising inflation and living costs, their ability to save and reduce their taxes has been restricted.

Moreover, the new tax regime offers lower tax rates but does not allow for deductions under Section 80C. This means that middle-class taxpayers, who typically benefit from such deductions, are left with fewer incentives to save and invest in long-term financial instruments. The wealthier class, on the other hand, tends to benefit more from the simplified structure and lower tax rates of the new regime, as they often have complex financial strategies that allow them to minimise their taxable income.

As a result, the overall impact of these tax reforms is seen as favouring higher earners, leaving the middle class with limited opportunities for tax savings. This has led to the perception that the reforms do not sufficiently address the needs of middle-income taxpayers, who face growing financial pressures amid rising costs of living.

7.2 Widening Income Inequality

Critics say the revised capital gain tax disproportionately benefits wealthy investors and entrepreneurs, further widening the income gap. Tax incentives aimed at encouraging market participation primarily serve affluent individuals who have substantial income and financial assets. They can accumulate wealth through investment. This emphasis on capital income over labour income deepens the division between property owners and working people. High-income individuals, who can derive a large portion of their income from investments, benefit from lower capital gains tax in comparison to ordinary wage earners who are taxed at their salaries. This system enhances income inequality and reduces the opportunities for individual wage-earners to move up.

7.3 Limited Impact on Savings and Investment

Although the budget aimed to encourage savings and investment, critics say the measures implemented are insufficient to have a meaningful impact. The unchanged Section 80C ceiling and increasing inflationary pressures reduce the purchasing and saving power of middle-class people. This position creates a difficult situation when individuals find it difficult to set aside funds for future needs. As a result, these households are more likely to allocate their limited resources towards daily expenses rather than investing in assets or savings plans that can protect their financial future.

7.4 Lack of Structural Reforms in Tax Collection

Another important criticism asserts that the government failed to implement meaningful structural reforms aimed at improving tax collection. The budget focused on tax relief measures but largely ignored important issues like tax evasion, which is very common among high-net-worth individuals and large corporations. This oversight creates an unequal tax system where the burden falls on honest salaried individuals who contribute their fair share. By ignoring tax strategies used by wealthy

taxpayers, the government misses the opportunity to spread the tax burden and ensure a more efficient distribution of tax liabilities. As a result, the additional pressure lies on those who are unable to exploit loopholes or avoid taxes. This situation not only weakens the integrity of the tax system but also prevents the government from raising sufficient revenue to finance essential public services. Hence, the challenges faced by low and middle-income families become more tense.

8. Fiscal and Long-Term Implications

8.1 Fiscal Deficit Concerns

With the increase in tax exemptions and deductions, there is growing concern about how the government plans to balance its fiscal deficit. The tax reforms are aimed at boosting consumption and investments. The critics question whether the government can simultaneously manage public spending, especially on infrastructure projects and welfare programmes. The government has already committed to capital-intensive infrastructure projects and welfare programmes. If tax revenues decline because of higher exemptions, the government may face challenges in maintaining or expanding these vital services. This situation could force the government to increase borrowing to finance the deficit, potentially increasing the national debt. In the long run, increased debt can undermine inflation, as the government competes for available capital and can raise interest rates. Thus, the reforms are designed to provide immediate economic stability, pose a threat to economic growth, and raises questions about the government's ability to maintain a balanced budget without sacrificing essential public services.

8.2 Potential Impact on Government Revenues

The higher exemption limits and tax cuts could result in a short-term reduction in government revenues from income tax collections. The government expects increased market participation and consumer spending to offset this revenue gap. However, it is unclear whether these measures will be sufficient to maintain fiscal stability. The recent increase in tax exemptions and tax cuts has raised serious concerns about the government's ability to balance its budget deficit. Though the main intention behind this tax reform is to encourage consumption and investment, critics are doubtful about how well public spending can be managed as a result of this reform.

8.3 Impact on Public Welfare Schemes

Reduced revenue from income taxes raises serious concerns about the future of public welfare programs. Critics point out that as the government collects less income tax due to higher exemptions and deductions, it may struggle to fund vital services like health, education, and rural development. This situation may lead to cutbacks in these critical areas, affecting low-income groups that rely heavily on government subsidies. As low-income groups face growing challenges in meeting their basic needs, the wealth gap can widen, creating a cycle of poverty which is very difficult to break.

The tax reforms aim to provide immediate financial relief. The long-term

consequences of reduced revenue could weaken the social safety nets that are crucial for fostering equitable growth and addressing systemic disparities. Thus, the balance between tax relief and sustaining vital public services is essential to ensure that the economic benefits are shared broadly across all segments of society.

9. Conclusion and Recommendations

The tax reforms in the Union Budget 2024 reflect the government's intention to reduce the tax burden on the middle class, stimulate investment and address post-pandemic fiscal challenges. But these reforms have generated considerable controversy, particularly in terms of long-term economic impact. Though the revised tax structure and increased tax exemptions provide immediate relief for many, they appear to favour higher-income individuals, leading to inequalities. Additionally, the decision to keep section 80C unchanged and its exclusion from the new tax regime, along with a focus on capital gain taxation, means that the middle class may not experience substantial long-term gains or financial security.

1. To encourage savings and long-term investment, the government should increase the limit under section 80C and make this section applicable to the new tax regime as well. This will create more opportunities for middle-income taxpayers to maximise tax benefits through savings and investments which will ultimately help them to build financial security in the face of rising inflation and rising cost of living. Extending section 80C ensures that more taxpayers can plan more effectively for their financial future.
2. To address the growing income inequality, the government can implement more progressive tax policies to ensure that the wealthy contribute a fair share of their income through capital gains taxation. By increasing taxes on high-income individuals and implementing a higher capital gains tax mechanism, the government can ensure that wealth accumulation is taxed fairly. This will help to reduce income inequality and promote a more balanced and inclusive economic system where the burden of taxation is more efficiently distributed among different economic groups.
3. The government should prioritise structural reforms in tax collection to reduce tax evasion among high earners and corporations. Strengthening enforcement mechanisms, improving transparency, and addressing loopholes will help to broaden the tax base. It must ensure that all segments of society pay their fair share. If tax evasion can be addressed properly, the government can be able to increase revenue without relying too heavily on higher taxes, which will ultimately help in economic stability.
4. The tax cuts can stimulate economic growth as they increase disposable income as well as consumption. But the government needs to monitor its

impact on inflation as well. Tax cuts reduce the immediate revenue of the government and widen the fiscal deficit if not offset by increased economic activity or alternative revenue schemes. A balance between stimulating the economy and maintaining fiscal stability is crucial for long-term economic health.

5. To ensure that vital welfare services are not affected by tax cuts, the government should protect funding for health, education, and rural development. These sectors are critical for reducing inequality and improving livelihoods, especially for low-income and vulnerable populations. By prioritising investment in these areas, the government will be able to promote long-term economic growth, social equity, and opportunity. It should also ensure that the benefits of tax reforms do not come at the expense of essential public services.

By addressing all these concerns mentioned above, the government can create a more equitable tax system that promotes both economic growth and social justice, ensuring all sections of society benefit from future reforms. The success of the 2024 Budget will largely depend on how effectively the government can balance tax reforms with fiscal responsibility and inclusiveness.

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India's Evolving Trade Dynamics with Asean : A Comparative Analysis of Bilateral Trade Relations with Singapore and Indonesia

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ABSTRACT

This study focused on India's bilateral trade relations with Singapore and Indonesia, analysing trends in merchandise trade, intra-industry trade (IIT), and the trade intensity index (TII). Singapore emerges as a strategic partner with a diversified trade portfolio supported by the India-Singapore CECA, characterised by higher IIT values and balanced trade. In contrast, trade with Indonesia remains resource-driven and inter-industry in nature, reflecting opportunities for diversification and enhanced integration. The findings highlight the importance of leveraging ASEAN partnerships, addressing trade imbalances, and fostering sectoral diversification. Strengthening trade ties with these nations is pivotal for advancing India's "Act East" policy and promoting sustainable economic growth in the region.

Keywords: Bilateral Trade; FTA; Merchandise Trade; Intra-Industry Trade; Trade Intensity.

Introduction

India's bilateral trade with Singapore and Indonesia plays a crucial role in strengthening its economic ties with the ASEAN region. ASEAN, as a whole, holds strategic importance to India, especially in terms of trade, investment, and economic cooperation. The region's growing markets, strategic location, and trade agreements, such as the ASEAN-India Free Trade Area (AIFTA), make it a key player in India's economic strategy. Among the ASEAN countries, Singapore and Indonesia stand out as particularly significant. They are not only major trade partners but also positioned among India's top trading partners. Singapore is a key financial hub,

providing a gateway for trade and investment, while Indonesia, with its rich natural resources and large population, offers immense trade opportunities for India. These two countries are, therefore central to India's economic relations with ASEAN and have a large share in the region's trade with India.

India's relationship with ASEAN has grown rapidly over the years, driven by a combination of geographical proximity, strong economic ties, and shared goals of enhancing economic integration. ASEAN collectively ranks as one of India's largest trading partners, accounting for a substantial portion of India's trade flows. Singapore, in particular, is one of India's top trading partners, serving not only as a key trade partner but also as a leading source of foreign direct investment (FDI) into India. Indonesia, with its growing economy and abundant natural resources, plays a vital role in India's energy security, providing essential commodities like coal and palm oil. Together, these two countries form an essential part of India's broader trade engagement with ASEAN, a region that continues to be central to India's economic growth and its 'Act East' policy.

To better understand the trade flows between India, Singapore, and Indonesia, this analysis employs two key economic indices: the Trade Intensity Index (TII) and the Intra-Industry Trade (IIT) Index. The Trade Intensity Index measures the strength of trade between two countries by comparing their trade flows with the global average. A higher TII indicates that the trade between the two countries is stronger and more concentrated than the world average. This index helps identify the importance of specific bilateral trade relationships, highlighting whether trade flows are above or below global trends. If India's TII with Singapore or Indonesia is high, it would indicate that these countries are particularly important trade partners relative to other global trading relationships.

The Intra-Industry Trade (IIT) Index, on the other hand, measures the extent to which countries trade similar products within the same industry. A higher IIT indicates a higher degree of economic integration and the exchange of more sophisticated, high-value products. This index is particularly useful for understanding the quality of trade between India and ASEAN countries, showing whether trade is based on complementary goods or similar products. For example, trade between India and Singapore may involve not just raw materials but also advanced manufactured goods and services, suggesting a higher level of economic cooperation (Balassa, 1966).

The application of these indices will provide a clearer picture of the trade dynamics between India, Singapore, and Indonesia. The TII offers insights into the concentration and strength of these bilateral trade relationships, while the IIT helps us understand the nature of the trade exchanges, whether they are based on similar or complementary goods. By analyzing these indices, this study aims to reveal the significance of Singapore and Indonesia in India's broader economic engagement with ASEAN.

Literature Review

Overview of India-ASEAN Strategic Relations

India's engagement with ASEAN has grown significantly over the past few decades, driven by strategic and economic considerations. Sen et al. (2004) highlight the early phases of ASEAN-India economic relations, noting how liberalization and regional integration spurred trade and investment flows. Yong and Mun (2009) document the evolution of India's policies, transitioning from the Look East Policy to the Act East Policy, underscoring a more proactive approach to engaging with ASEAN countries in economic, security, and cultural domains.

Sundararaman (2017) situates India-ASEAN ties within the Indo-Pacific framework, illustrating how these relations are pivotal for maintaining regional stability amidst shifting geopolitics. The growing influence of China has added urgency to India's collaborations with ASEAN, as explored by Mayilvaganan (2021), who emphasizes India's strategic role in counterbalancing China's dominance.

Economic Relations between India and ASEAN

India's trade relations with ASEAN, particularly with Singapore and Indonesia, represent a critical pillar of its regional strategy. Asher et al. (2003) discuss emerging economic opportunities, highlighting how trade agreements such as the ASEAN-India Free Trade Agreement (AIFTA) have facilitated the exchange of goods and services. Kipgen (2020) outlines India's success in strengthening trade ties through initiatives such as the Comprehensive Economic Cooperation Agreement (CECA) with Singapore and bilateral agreements with Indonesia.

Singapore is a prominent economic partner for India, serving as a gateway for Indian businesses into Southeast Asia, as noted by Sengupta (2021). Indonesia's resource-rich economy complements India's demand for commodities, further enhancing bilateral trade. Banik and Kim (2024) emphasize the strategic importance of these two nations, identifying trends and sectors with high growth potential, such as information technology, renewable energy, and manufacturing.

Importance of Intra-Industry Trade (IIT)

Intra-industry trade (IIT), where countries exchange similar goods within the same industry, is critical for fostering economic integration and enhancing trade sophistication. Balassa (1966, 1986) first identified IIT as a significant factor in explaining trade patterns between developed economies, noting its role in promoting specialization, scale economies, and product differentiation. These insights remain relevant for understanding trade relations between India and ASEAN nations today.

Masali (2016) examines IIT patterns between India and ASEAN, identifying significant growth in manufacturing supply chains, particularly in electronics and textiles. Khalid (2023) highlights Singapore and Indonesia as key hubs for IIT due to their developed industrial ecosystems and established trade routes. Nag (2016) explores the role of value-added trade, showing how ASEAN-India production networks are increasingly interconnected, particularly in sectors such as automobiles

and consumer electronics.

The contribution of IIT to trade growth is also supported by Menon and Dixon (1996), who argue that IIT fosters diversification and competitiveness. India's engagement in ASEAN's production networks demonstrates these principles, with Singapore excelling in high-tech manufacturing and Indonesia contributing through resource-based products. IIT strengthens economic resilience by reducing dependency on specific sectors or commodities and diversifying trade portfolios.

Trade Intensity and Complementarity

Trade intensity and complementarity indices provide critical insights into the extent and potential of bilateral trade relationships. Trade intensity measures the relative importance of trade between two countries compared to global trade, while trade complementarity identifies sectors with mutual economic advantages.

Banik and Kim (2024) use these indices to analyze India-ASEAN trade dynamics, finding that Singapore and Indonesia score highly in trade intensity due to their strong economic ties with India. Similarly, Nag (2016) emphasizes the need for targeted policy interventions to enhance trade complementarity in emerging industries such as green energy and digital services.

Tabassum (2021)'s analysis of South Asia's regional trade reveals the utility of such indices in assessing integration potential, offering a framework that can be applied to ASEAN-India trade relations. Sengupta (2021) highlights the importance of identifying complementary sectors to maximise economic gains, emphasising Singapore's strengths in financial services and information technology, while recognising Indonesia's vast potential in resource-based industries.

Challenges and Opportunities

Despite significant progress, challenges persist in India-ASEAN economic relations. Kipgen (2020) identifies tariff and non-tariff barriers, lack of infrastructure, and uneven benefits from trade agreements as key obstacles. Sundararaman (2017) adds that geopolitical tensions, such as disputes in the South China Sea, could disrupt trade and economic cooperation.

However, the prospects for growth remain promising. Asher et al. (2003) and Yong and Mun (2009) suggest that further liberalization of trade policies and strengthening regional production networks could unlock substantial economic potential. Banik and Kim (2024) emphasize the role of digitization and technology in enhancing trade efficiency and reducing costs, while Nag (2016) calls for greater focus on value-added trade to deepen economic integration.

Research Objective and Identified Gap

While existing studies explore India-ASEAN trade dynamics, there is limited focus on bilateral trade with Singapore and Indonesia, particularly through the lens of intra-industry trade (IIT) and trade intensity. Empirical analysis using these indices to assess the depth and significance of these trade relationships is scarce. This research aims to bridge this gap by examining IIT patterns and trade intensity between India

and these key ASEAN partners, offering insights into the nature and potential of their economic integration.

Data and Methodologies

This study is based exclusively on secondary data to calculate the Intra-Industry Trade (IIT) and Trade Intensity Index (TII) using import and export statistics from India's bilateral trade with Singapore and Indonesia during the period 2004 to 2022. The data, expressed in US dollars, has been obtained from the United Nations Comtrade database (UN Comtrade).

IIT Measurement

The Grubel and Lloyd (1971) index was among the first widely used methods to measure intra-industry trade (IIT). It determines the share of IIT in a country's overall trade with a specific partner in a given industry. The index assigns values between 0 and 100, where 0 indicates no IIT and 100 implies equal levels of exports and imports in that industry. However, the original index has limitations, especially when trade imbalances (persistent surpluses or deficits) are present, as it can underestimate the degree of IIT.

To address this issue, Grubel and Lloyd (1975) proposed an adjusted version of the index, which accounts for total trade imbalances. The adjusted Grubel-Lloyd index modifies the denominator to exclude the overall trade imbalance between countries, making it more suitable for cases where significant trade deficits or surpluses exist. The adjusted formula is as follows:

$$AGL = \frac{\sum_{q=1}^n (X_{qk} + M_{qk}) - \sum_{q=1}^n |X_{qk} - M_{qk}|}{\sum_{q=1}^n (X_{qk} + M_{qk}) - |\sum_{q=1}^n X_{qk} - \sum_{q=1}^n M_{qk}|} \cdot 100 \quad (1)$$

In this formula:

X_{qk} represents exports of industry q from the home country to partner k .

M_{qk} represents imports of industry q from partner k to the home country.

The numerator reflects the total IIT adjusted for net trade differences across all industries.

The denominator incorporates total balanced trade, excluding aggregate trade imbalances.

By focusing on balanced trade rather than gross trade flows, the adjusted Grubel-Lloyd index provides a more accurate measure of IIT. Using the adjusted index allows for a clearer assessment of the extent to which India engages in IIT with these countries, minimizing the distortions caused by aggregate trade imbalances.

Trade Intensity Measurement

The trade intensity index (TII) is a useful tool for evaluating whether a country, given the relative size of its own export market and the relative size of its partner's import market, exports to that partner as much as could be expected. The TII is

defined as:

$$I_{ij} = (X_{ij} / X_i) / [M_j / (M_w - M_i)] \quad (2)$$

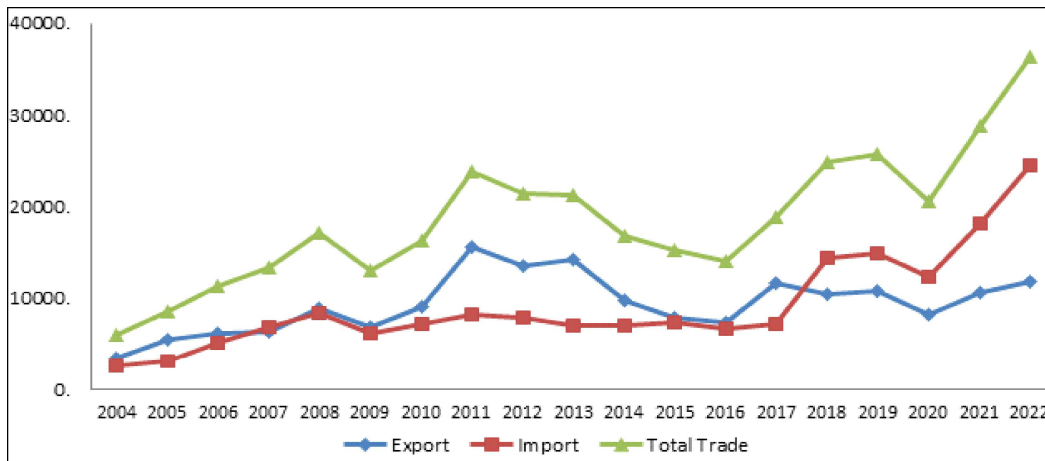
where I_{ij} , country i 's exports to country j , is defined as the share of country j in country i 's total exports (X_{ij} / X_i), relative to the share of j 's imports, M_j , in total world imports, net of i 's imports for the rest of the world ($M_w - M_i$). For those trading partners that have TIIs greater than unity, their trade relationship can be defined as "intensive" (i.e. the countries trade more than would be expected given the relative size of the market for imports).

Results and Discussions

Merchandise Trade Flows

Figures 1 and 2 illustrate India's bilateral trade with Singapore and Indonesia from 2004 to 2022, presenting export and import volumes in millions of USD. Both figures highlight significant growth in trade, with imports consistently surpassing exports, leading to widening trade deficits, particularly in recent years.

Figure 1
India's Bilateral Merchandise Trade with Singapore (In USD Million)



Source: UN-Comtrade

Figure 1 represents India's bilateral trade with Singapore from 2004 to 2022, showing export and import volumes in million USD. The data reveals a consistent increase in both exports and imports over the period. India's exports to Singapore grew from \$3,420 million in 2004 to \$11,830 million in 2022, while imports rose from \$2,490 million in 2004 to \$24,420 million in 2022. The graph highlights significant growth, particularly during 2011, 2017, and 2021, with a consistent increase in both exports and imports. However, imports have consistently outpaced exports, leading to a widening trade deficit, especially after 2018. This figure underscores Singapore's role as a critical source of advanced goods like electronics and machinery, and the growing trade imbalance indicates India's reliance on imports from Singapore in these sectors.

Figure 2
India's Bilateral Merchandise Trade with Indonesia (In USD Million)



Source: UN-Comtrade

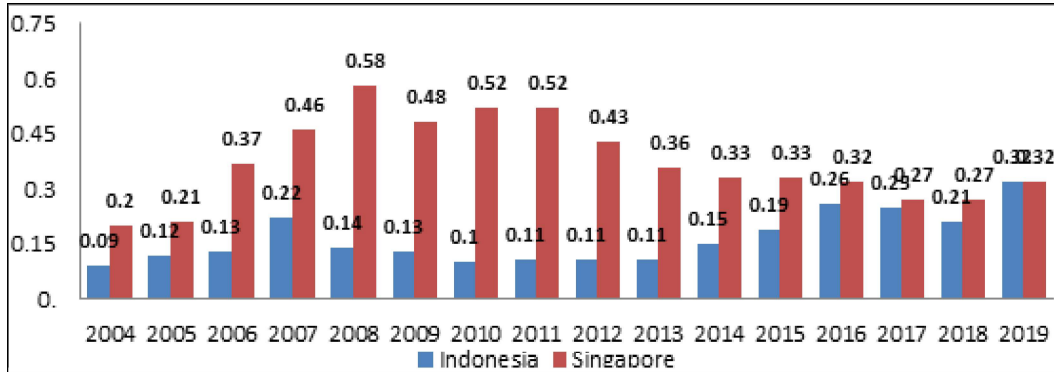
Figure 2 illustrates India's bilateral trade with Indonesia, displaying export and import volumes in million USD. India's exports to Indonesia grew from \$1,210 million in 2004 to \$9,870 million in 2022. Imports, however, saw a more significant increase, rising from \$2,430 million in 2004 to \$28,660 million in 2022. This rapid growth in imports reflects Indonesia's role as a primary supplier of raw materials, including coal, palm oil, and minerals. As with Singapore, India's imports from Indonesia consistently exceeded exports, leading to a growing trade deficit, which peaked in 2022. This figure highlights the resource-driven trade dynamics between India and Indonesia, with India increasingly dependent on Indonesian raw materials.

While both figures show significant growth in trade, India's trade with Singapore has seen a more balanced increase, with a widening deficit post-2018. In contrast, India's trade with Indonesia is heavily resource-driven, with imports far outpacing exports, leading to a larger and more persistent trade deficit throughout the period.

Intra-Industry Trade

Figure 3 presents the calculated values of the AGL (Adjusted Grubel-Lloyd) Index for India's bilateral intra-industry trade (IIT) with Indonesia and Singapore over the period 2004-2019. The AGL Index, derived using Equation 1, ranges from 0 to 100, where values closer to 100 indicate a higher degree of IIT, signifying balanced trade in similar goods, while values closer to 0 suggest inter-industry trade dominated by exports or imports.

Figure 3
India's Bilateral Intra-Industry Trade with Indonesia and Singapore



Source: Authors' Computation from UN-Com trade

The graph highlights that Singapore consistently outperforms Indonesia in intra-industry trade (IIT) levels with India, reflecting a more balanced and diversified trade structure. Singapore's Adjusted Grubel-Lloyd (AGL) index peaked at 0.58 in 2008, showcasing robust trade integration across sectors such as electronics, machinery, and pharmaceuticals. The India-Singapore Comprehensive Economic Cooperation Agreement (CECA), implemented in 2005, played a pivotal role in enhancing bilateral trade by reducing tariffs and fostering deeper economic collaboration. Although the AGL index for Singapore declined slightly post-2008, it stabilized within a range of 0.32 to 0.52 in subsequent years, underscoring a mature and resilient trade partnership driven by high-value sectors.

In contrast, India's IIT with Indonesia has remained significantly lower throughout the period, with AGL index values peaking at only 0.21 in 2005 and stabilizing between 0.10 and 0.20 in most years. This indicates a predominantly inter-industry trade relationship, driven by India's imports of resource-based commodities like coal, palm oil, and minerals, while exports remain limited to a narrow range of finished goods.

The figure underscores the contrasting dynamics of India's trade relationships with these two ASEAN partners. Trade with Singapore reflects a well-established and diverse partnership, boosted by the CECA, which has enabled stronger IIT and deeper sectoral linkages. In comparison, India's trade with Indonesia highlights reliance on raw materials and resource-based goods. This divergence signals opportunities for India to strengthen IIT with Indonesia by diversifying its export portfolio and promoting value-added production, while continuing to leverage Singapore's strategic importance in high-value sectors under the CECA framework.

Trade Intensity Index

Table 1 displays the Trade Intensity Index (TII) values for India's bilateral trade with Indonesia and Singapore over the period 2004-2022. These values were

derived using Equation 2, providing insights into the trade dynamics between India and its trading partners during the specified period.

Table 1
India's Trade Intensity with Singapore and Indonesia

Year	Singapore	Indonesia
2004	2.41	3.18
2005	2.83	2.52
2006	2.55	3.06
2007	2.3	2.41
2008	2.43	1.82
2009	1.94	2.18
2010	1.97	2.28
2011	2.49	2.14
2012	2.22	1.96
2013	2.08	1.63
2014	1.54	1.45
2015	1.61	1.23
2016	1.57	1.39
2017	2.08	1.41
2018	1.67	1.51
2019	1.72	1.52
2020	1.59	1.94
2021	1.45	2.29
2022	1.36	2.26

Source: Authors' Computation from UN-Comtrade

The table represents India's trade intensity index (TII) with Singapore and Indonesia from 2004 to 2022, highlighting the relative importance of bilateral trade between India and these countries compared to their overall trade with the world. A TII value greater than 1 indicates stronger-than-expected bilateral trade. India's TII with Singapore consistently remains above 1 but shows a declining trend, dropping from 2.41 in 2004 to 1.36 in 2022, reflecting a gradual reduction in trade intensity despite strong economic ties. Conversely, India's TII with Indonesia starts at 3.18 in 2004, indicating very strong trade relations, but experiences fluctuations, declining significantly to 1.23 in 2015 before rebounding to 2.26 in 2022. These trends suggest that while trade with Singapore is more stable and focused on high-value sectors, trade with Indonesia is heavily influenced by resource-based commodities, leading to more variability in trade intensity. The recent increase in Indonesia's TII highlights the growing importance of resource-driven trade between the two countries, whereas the declining TII with Singapore suggests a relative diversification in India's trade relationships globally.

Conclusion

India's bilateral trade relations with Singapore and Indonesia highlight their pivotal roles in the country's engagement with Southeast Asia. Singapore has consistently emerged as a strategic trade partner, facilitated by the India-Singapore Comprehensive Economic Cooperation Agreement (CECA). This agreement has fostered stronger economic ties, especially in high-value sectors like IT services, electronics, and machinery. Higher intra-industry trade (IIT) values with Singapore underscore a mature and balanced trade relationship, reflecting India's integration into Singapore's diversified trade network. However, the declining trade intensity index (TII) suggests that Singapore's trade relationships are increasingly globalized. To sustain its relevance, India must focus on innovation, fostering collaborations in digital services, green technology, and financial services, areas where Singapore has strong global competitiveness. Expanding trade in these emerging sectors could deepen economic ties and further balance the bilateral trade dynamics.

On the other hand, India's trade relationship with Indonesia remains resource-driven, with a heavy reliance on raw material imports such as coal and palm oil. Low IIT values indicate a lack of diversification in this trade partnership, which is primarily inter-industry in nature. This reliance exposes India to trade vulnerabilities, such as price fluctuations in global commodity markets. To address these challenges, India must diversify its export basket to include value-added goods, manufactured products, and technology-driven offerings. Encouraging industrial linkages and investments in renewable energy, advanced manufacturing, and sustainable supply chains can promote greater trade integration with Indonesia. Additionally, focusing on infrastructure development to facilitate smoother trade flows can strengthen bilateral economic ties.

Broader regional engagement through ASEAN remains a cornerstone of India's "Act East" policy. ASEAN's economic significance as a trading bloc offers India vast opportunities for expanding its influence and ensuring sustainable trade growth. Strengthening partnerships with Singapore and Indonesia can pave the way for deeper integration into ASEAN's supply chain network. By implementing targeted policies to enhance market access, promote IIT, and address trade imbalances, India can position itself as a key economic partner in Southeast Asia, ensuring long-term economic growth and mutual prosperity for all stakeholders involved.

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A Study on Attitude of Students towards Bachelor of Business Administration under Dibrugarh University

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ABSTRACT

An analysis was conducted to find out whether there is any significant difference between male and female students as well as between urban and rural students regarding attitude towards various factors of professional programmes like Bachelor of Business Administration at the undergraduate stage in Dibrugarh University. The sample of the study consists of 100 under-graduate students pursuing BBA programmes in five affiliated institutions of Dibrugarh University. The sample was selected by incidental sampling technique and institutions were selected by purposive sampling technique. One self-prepared attitude scale was administered for the collection of data. The t-test was used to estimate the significance of the difference between mean score students regarding gender and location. The results revealed that there is a significant difference in attitude between students of urban and rural areas pursuing the programmes.

Keywords: Urban, rural, professional, bachelor, business, administration, undergraduate.

1. Introduction

Every job needs knowledge and abilities to perform effectively. Business activities have a long history, and they pave the path of cooperation among the countries world over. The recorded notes and books written by ancient merchants are sources of revealing history. With the passing of time, business activities get a wide and organised structure. Globalisation has brought many changes in the field of business market. The information, ideas, technologies, goods, services, capital and people have flowed for business purposes. Modern business demands some fundamental managerial skills on the part of a business person that signify communication, decision making, leadership, problem-solving, time management, conflict resolution, planning, organisation, motivational skills, emotional intelligence

etc. Hence, a structured curriculum on business studies is developed. Now a day, higher education disseminates knowledge on business through degree, diploma and certificate courses. The colleges and universities of India also offer Bachelor of Business Administration (BBA) and Master of Business Administration (MBA) to provide a broad knowledge of commerce, retail, accounting, corporate finance, macroeconomics and other aspects related to business management. The attitude of BBA students of colleges under Dibrugarh University, the easternmost university of India, towards the course is analysed and discussed in the paper.

2. Review of Related Literature

A few research studies related to the present study done previously are stated to overview the similarities and dissimilarities with the findings of the present study:

Dwivedi found that almost all undergraduate class students had shown a neutral attitude towards the current system of Higher Education. A significant difference was also observed between the attitudes of boys and girls (Dwivedi, 1970).

Sungoh attempted to outline the nature and extent of educated unemployment, the present status of vocational education existing in various institutions, measurement of the current attitude of pre-university students towards vocationalisation of education by constructing an attitude scale, identification of the problems and provide suggestive measures for effective implementation of vocationalisation of education in East-Khasi Hills, Meghalaya. The sample of the study consisted of 4100 pre-university students of 14 colleges of East-Khasi-Hills. The study found no significant difference in the attitudes towards vocationalisation of education between pre-university male and female students and no significant difference in the attitudes of pre-university urban and rural students towards vocationalisation of education at that level of education. (Sungoh, 1991, P.477)

Lyngdoh traced the development of different professional education programmes, including the disciplines of teaching, law and management at the degree level in Meghalaya in his research study. He found that analytical ability, creative skills, communication, personnel and inter-personnel skills were taught in management studies, which proved to be of great help to students in their future careers. (Lyngdoh, 2008)

Rao also did a research study to create a conceptual framework of an effective curriculum model for the subject of communication - business, managerial and organisational. The sample of the study consisted of 25 teachers of communication skills and management subjects, 40 managers across management functions and levels of seniority (30 of them worked with an Indian conglomerate with businesses in oil, steel and telecom, and 10 were from Pharmaceutical and retail sectors), and 30 students of Post Graduate classes from Semester I to IV from the Management institutes in Mumbai and Navi Mumbai. Secondary and primary data, observation, pedagogical experimentation and case studies of innovative methodology for content delivery were used to gather information for the study. The study concluded that an

empirical model curriculum was recommended to enable management institutions in Mumbai to bridge the gaps in the area of communication skills. Basic communication skills, managerial skills, business skills, cross-cultural skills, leadership skills, corporate skills, and communication skills were given importance in the proposed model curriculum in communication for business schools. The researcher proposed to implement the lecture method, case study method, fieldwork, live projects and purposive storytelling as teaching methods. The findings also revealed that the subject communication should be evaluated on the basis of continuous practical assignments and should not be something that was evaluated at the end of the semester. (Rao, 2012)

Palikhe and Adhikari studied on attitude of students towards BBA programme at Janapriya Multiple campus, including 153 samples and stated that the programme is student-centred. This study shows the political situation and environmental factors as important factors for the effectiveness of BBA programme. (Palikhe and Adhikari, 2017)

3. Objectives of the study

The objective of the present study is to assess the attitude of first-degree students of Dibrugarh University pursuing a Bachelor of Business Administration towards the course offered in the general degree colleges under this University.

4. Hypotheses

The hypotheses are stated below:

- i. There is no significant difference in the attitudes of the male students of first degree-level in Dibrugarh University towards skill development programmes offered in the liberal colleges under this University, in comparison to the female students.
- ii. There is no significant difference in the attitudes of the rural students of first degree-level in Dibrugarh University towards skill development programmes offered in the liberal colleges under this University, in comparison to the urban students.

5. Scope of the Study

The scope covered by the present study is stated below:

- Area: The present study covers under its scope general degree colleges, departments, institutions and centres affiliated with Dibrugarh University within its campus as well as outside its campus. Dibrugarh University, the easternmost University in India, has a distinct place in higher education in Assam. It is situated at Rajabheta at a distance of about five kilometres to the south of the town of Dibrugarh on the southern bank of the river Brahmaputra of Assam.

- **Programme:** The present study covers the under-graduate programme Bachelor of Business Administration. The Centre for Management Studies in Dibrugarh University Campus has been running the course from 25th November 2002. From the academic session 2008-09, it was running with six semesters of three-year duration. The programme has six specialisation streams, namely, Marketing management, Human resource management, management of insurance business, Financial Management, Hospital and health care management and Tourism and travel management.
- **Sample:** The sample covers students of Bachelor of Business Administration of the under-graduate degree under Dibrugarh University.
- **Attitude:** The term attitude 'attitude' refers to positive to negative feelings of students towards something. The present study it refers to the scores achieved by the sampled students of Bachelor of Business Administration under Dibrugarh University in the attitude scale constructed and standardised by the researcher as a part of this research study, which reflects the different levels of their attitude.
- **Gender:** In the present study, gender refers to boys and girls students studying in selected skill development undergraduate programmes under Dibrugarh University.
- **Location:** In the present study, location referred to the various places from which the students of the programme Bachelor of Business Administration had come from. An urban student refers to a student who lives with his/her family in a town or city under a municipality. On the other hand, a rural student refers to a student of the programme Bachelor of Business Administration whose family lives in an area of low population density, and whose family members base their livelihood on agriculture or are under the panchayat system.

6. Methodology

In the study, descriptive Method and survey method of research is used.

6.1 Population

The population of the study includes all male and female students in the first-degree stage for Bachelor of Business Administration in general degree colleges affiliated with Dibrugarh University and Centre for Management Studies within the campus of the University.

6.2 Sample

In order to draw a representative sample for the study from the above-mentioned population, the list of colleges and centres pursuing Bachelor of Business Administration is collected from the office of the academic registrar, Dibrugarh University. For convenience of the study, colleges are selected by purposive sampling

so as to make the study representative. The selected sample for the study is 100 from five educational institutions of four districts respectively, namely Centre for Management Studies, Dibrugarh University, Tinsukia College, Tinsukia, Tinsukia Women's College, Tinsukia, Chandra Kamal Bezbaruah Commerce College, Jorhat and North-East Regional Institute of Management, Guwahati. 20 students are selected from each institution.

6.3 Tool

An attitude scale of Likert's summated rating method (1932) towards skill development programme is constructed, standardised and then used by the investigator to assess the levels of attitudes of students read in general degree colleges and centres under Dibrugarh University.

At first, the investigator went through literature related to attitude, Business Administration, skill and construction of Likert scale. Seven dimensions were determined for convenience of making statements as Objectives, Curriculum, Methods of teaching, Evaluation, General perception about the programme, Facilities of the course and Classroom climate. The scale involves both positive and negative feelings of students towards the course. More than 100 statements, including both favourable and unfavourable feelings towards BBA course, were written on the basis of the above dimensions. Then, seventy statements were selected and given to experts for their suggestions regarding the structure, format, content and language of each statement. Both favourable and unfavourable feelings towards the statements were cautiously determined, and finally, it was found that 35 statements were favourable and 35 statements were unfavourable towards the course. Ten statements are written in each dimension, of which five are favourable, and five are unfavourable statements. The statements are judged by experts and edited after checking and consulting. Some statements were dropped, and some were modified. Finally, Seventy (70) statements were selected for the draft attitude scale. Necessary instructions for the students are included, and the draft attitude scale is printed for administration. 30 minutes was determined as the required time limit. The draft attitude scale has been administered to a sample of 50 students at the centre of Dibrugarh University. Then, the results are analysed to select adequate items having 't' value for final attitude scale. Items having 't' value >1.75 and <1.75 were identified. Out of 70 statements of the draft try-out, only 50 statements were found to have significant 't' values (1.75). The investigator finally decided to include 13 favourable and 12 unfavourable items in the final scale, covering all 7 dimensions. They are arranged in such a way that statements of each dimension are written one by one in the final scale. It is given importance to adequate 'coverage' and 'balance' of dimensions in the final attitude scale. The remaining 25 items having a significant 't' value 1.75 were dropped from the final attitude scale. The final attitude scale for the skill development programme consists of 25 statements. The final form of the attitude scale was then administered to a sample of 30 students of the course under Dibrugarh University to find out its reliability by split-half method.

It is found high reliability, and the scale is ready for administration.

6.4 Statistical Techniques

In this study, simple statistical techniques such as mean, median, Standard Deviation, t-test and frequency were used to analyse and tabulate data for interpretation.

7. Rationale of the study

Bachelor of Business Administration programme develops the technical and managerial skills of students. The study is helpful to know about the perception of students about different skills provided through their curriculum. The programme places importance on the development of skills like technical skills, human skills and conceptual skills; communication skill, creative skills, analytical abilities, intra and inter-personnel skills (Lyngdoh, 2008), basic communication skills, managerial skills, business skills, cross-cultural skill, leadership skill, corporate skills (Rao, 2012); reading skill (for self-expression, understanding and comprehension of the subject, improvement of general awareness, for good writings), writing skill (for memorandums, business letters, essays, emails, reports, notices, agenda, minutes, manuals), quantitative reasoning, presentation skill (design, delivering the presentation, quantitative data), and teamwork skill (making decision, social skill, time management). BBA graduate can begin their careers in the sales and marketing departments of companies and in Government services as project planners, production supervisors, business administrators, in retail and finance, manufacturing, and construction, besides as management trainees.

Assam is one of the naturally resourceful states of India. There are vast opportunities for business in tea, petroleum, spices, sericulture, bamboo, etc. The majority of students and potential human resources of the state preferred to go outside for studies in new courses like BBA. However, the state government takes the initiative to introduce such courses in universities of the state. This course helps to realise the dignity of all work and can reduce unemployment problems of the state, considerably. The geo-cultural entity of Assam is identified as one of the important biodiversities of the world, having vast natural resources. There is a considerable scope for people to be self-employed in traditional culture. In spite of competition from large sector industries, small-scale industries are growing in numbers either due to proprietary or partnership concerns. Modern industries based on technology can produce sophisticated products also. Knowledge of a vocation and its execution with skill, perfection and finesse is of prime necessity for self-establishment through the development of cottage industries, which was the dream of the father of the nation over seven decades back. Thus, the necessity and relevancy of such a subject emphasise to introduction BBA course under the present-day circumstances. So, studying business administration course may help in the development of the state.

The attitude scale helps to know about the conception of students towards the course. The present relevancy, demands of students and neglected domains of students

can be known from the scale. The attitude scale can bring about attitudinal changes in the interest of students towards the course. It helps in developing awareness and motivation among students. The scale can also help the teacher to overcome their weakness in teaching-learning situations. The attitude of students towards BBA course refers to the scores achieved by the sampled students of BBA programmes under Dibrugarh University in the constructed and standardised attitude scale, which reflects the different levels of their attitude. Here, 'attitude' refers to the positive to negative feelings of students towards BBA programme at Dibrugarh University.

8. Findings of the study

In order to assess the levels of attitude of students of BBA towards the programmes being pursued by them, an attitude scale consisting of 25 items was administered. Then, the obtained scores on all items of each individual were summated. The neutral score found on the scale was 75. In case of positive statements, the maximum score for 'strongly Agree' is 125, for 'Agree' is 100, for neutral or 'Uncertain' is 75, for 'Disagree' is 50 and for 'Strongly Disagree' is 25, respectively. In case of negative statements, the maximum score for SA is 25, and like for A, U, D and SD the scores are 50, 75, 100 and 125, respectively. So, the maximum score for positive attitude is 75.

The study revealed that out of 100 samples, 97 students scored above the neutral or uncertain score 75 and 3 (three) students scored below the neutral score. It reveals that 97% of students showed a favourable attitude and only 3% of students showed an unfavourable attitude towards Bachelor of Business Administration. The following distribution table showed the distribution of 100 sample students in class intervals :

Table 1
Frequency distribution of Attitude score of BBA students

Scores	Frequencies (f)
70 - 74	3
75 - 79	6
80 - 84	6
85 - 89	19
90 - 94	22
95 - 99	19
100 - 104	14
105 -109	7
110 - 114	1
115 - 119	3

The level of attitude of students pursuing BBA Programme was estimated by computing Measures of Central tendency, Standard Deviation and deviation measures of Normal Distribution. Thus, the Mean, Median and Mode of attitude scores of sampled BBA students were found to be 93.8, 93.14 and 91.82, respectively. The Standard Deviation was found as 9.58. The distribution was positively skewed (0.21) and therefore, it was leptokurtic. The distribution of attitude scores of students is represented graphically also vide Figure 1:

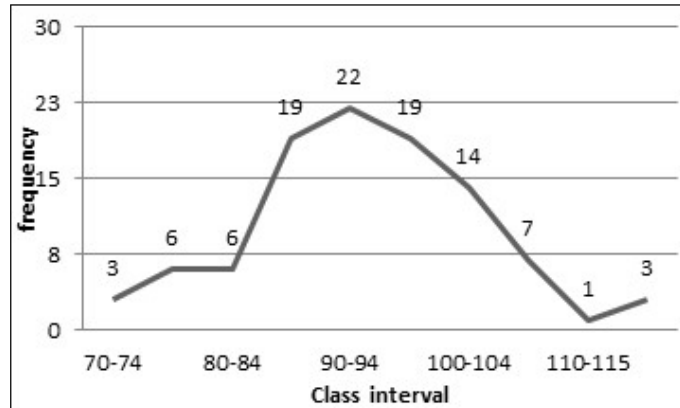


Figure 1: Distribution of students regarding attitude towards BBA programme

Figure 1 reflects the distribution of attitude scores of students pursuing BBA programme, which were accumulated at the right end of the scale and at the same place. So, the shape of the curve was more peaked than a normal distribution curve. The following null hypothesis was formulated to determine the significant difference between male and female students pursuing BBA programmes at Dibrugarh University:

Table 2

Significance of the difference between the Mean scores of the male and female students with respect of their attitude towards Bachelor of Business Administration:

Gender	N	Mean	S.D.	σ_D	df	't' value	Table value	Significance
Male	55	90.90	10.11	1.89	98	3.05	2.63 (0.01)	Significant at 0.01 level
Female	45	96.67	8.74					

**Note: S.D. - Standard Deviation, σ – Standard Error of Mean, df- Degrees of Freedom, Digit stated within parenthesis- level of significance at which the null hypothesis is calculated, Table value- Table of t.*

The above Table 2 shows that there is a significant difference between the attitudes of male and female students towards BBA programme. The obtained t value 3.05 was greater than the table value of t at 0.01 level (2.63) of significance. Therefore, the null hypothesis may be rejected. The Mean value of female (96.67) students is higher than the Mean value of male students (90.9). Therefore, the null hypothesis is rejected. It is accepted that there is a significant difference in the attitudes of male students of first degree of general colleges under Dibrugarh University towards skill development programme in comparison to female students. Both male and female students are not equally interested towards the course.

The following null hypothesis was formulated to determine the significant difference between urban and rural students pursuing BBA programmes at Dibrugarh University:

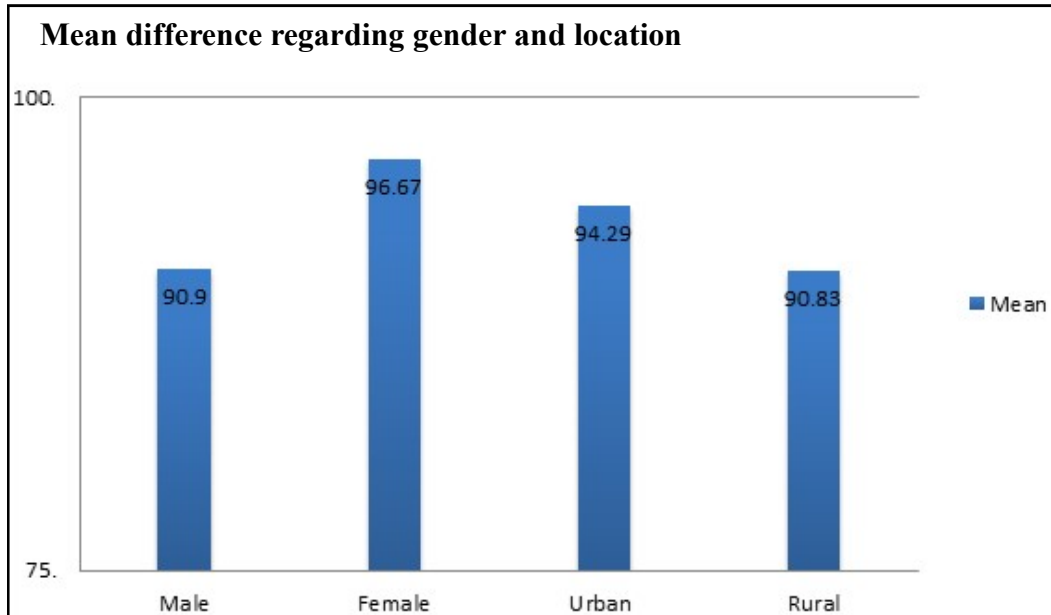
Table 3
Significance of the difference between the Mean scores of the urban and rural students with respect of their attitude towards Bachelor of Business Administration:

Location	N	Mean	S.D.	σ	df	't' value	Table value	Significance
Urban	77	94.29	9.33	2.19	98	1.58	1.98 (0.05)	Not significant
Rural	23	90.83	9.21					

Table 3 shows that there is no significant difference in the attitudes of urban and rural students towards BBA programme. The obtained t value 1.58 was smaller than the table value of 't' at 0.05 level (1.98) of significance. Therefore, the null hypothesis may be accepted at 0.05 level. The Mean value of urban (94.29) students is higher than the Mean value of rural students (90.83). The critical ratio value is found as 1.58. The obtained Z score value is smaller than the critical table value 1.98 at 0.05 level of significance. Therefore, the null hypothesis is accepted. It is accepted that there is no significant difference in the attitudes of urban students of first degree of general colleges under Dibrugarh University towards skill development programme in comparison to rural students.

The significant differences between male and female students and urban and rural students pursuing BBA programmes in Dibrugarh University are graphically represented in figure 2.

Figure 2: The significant difference of students regarding gender and location pursuing BBA programmes at Dibrugarh University.



9. Discussion

The major findings derived from the study reveal that students of Business Administration of first-degree stage as skill development programmes of Dibrugarh University have positive attitudes towards the course. The major findings of the study are briefly summarised as follows:

- The overall attitude of students towards BBA programme was found to be pleasant in the present time. Attitude towards the skill development programme at the first-degree stage pursuing under Dibrugarh University has shown high positive attitude. 97% of students have shown a favourable attitude towards the skill development programme which they have pursuing in centres and colleges affiliated to Dibrugarh University. 3% of students showed an unfavourable attitude towards BBA programme.
- There is a significant difference between male students and female students of Business Administration of first-degree stage of general colleges under Dibrugarh University.
- There is no significant difference in the attitudes of urban students of first degree of general colleges under Dibrugarh University towards skill development programme in comparison to rural students.
- It is found in this study that the number of urban students is more than rural students in the course.

The present study reveals that students pursuing BBA course at colleges and centres under Dibrugarh University has a positive attitude towards their course, which refers to confirming dimensions like curriculum, methods of teaching, teaching aids, evaluation and others determined for the study. There is a significant difference in

the attitudes of the male students of first degree-level in Dibrugarh University towards BBA Course in general colleges under Dibrugarh University, in comparison to female students. Hence, the hypothesis is rejected. On the other hand, there is no significant difference in attitudes of rural students in comparison to urban students. So, the null hypothesis is accepted. Urban students and rural students are not equally disposed towards BBA course. The given difference in sample means being insignificant can only be attributed to some chance factors.

10. Suggestions for further study

The study has been done in a limited period of time with a specific representative sample. BBA course is smoothly functioning in a few colleges of Dibrugarh University. This study at the degree stage directs the following suggestions for further studies in the area.

- A study can be conducted to find out the attitude of teachers of BBA course towards the subject.
- A study can be undertaken to identify learning prospects and limitations of BBA course at Dibrugarh University.

11. Conclusion

Business plays a prominent role in the economic and social progress of a country. Small enterprises and entrepreneurs can help marginalised sections, especially women, low-skilled workers and youth. The growing concern of trade and business emerge to introduce the programmes in higher education institutions. As the courses is introduced in a few colleges as self-financing course, the majority of the students of BBA programme come from urban areas. Therefore, professional programmes like BBA and MBA should be chosen in universities after systematic planning and market surveys of the local requirements and these should then be integrated with local needs. Thus, the study provides a way to assess the self-image of students through a comparison of his/her relationship with the programme.

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Assessing Planetary Pressure : A Human Development Approach

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ABSTRACT

The present paper seeks to analyse the impact of human action on the environment using carbon dioxide emission, fresh water withdrawal, and forest cover. The environmental threat is identified in terms of mortality rate attributed to air and water pollution, percentage of dead and missing persons due to disaster and land degradation as a result of soil pollution. The study finds that countries with high human development are major contributors to carbon dioxide emission to the atmosphere and thus exert planetary pressure, whereas the countries with low and medium human development are facing environmental hazards in terms of death victims of air and water-borne diseases. Local and indigenous environmental models may help in combating climate change and environmental shocks.

Keywords: Planetary Pressure, Human Development, Environment, Carbon emission, Climate Change.

1.1 Introduction

In recent years, we have seen a completely reverse relationship between human beings and their habitation. Our planet has no longer exerted an impact on our lives; rather, we put our homes on a dangerous threshold through our activities, which are detrimental to the all-live forms on the planet. Yes, we are talking about climate change as a causality towards planetary pressure. It shows that we are at an unprecedented moment in history in which human activity has become a dominant force shaping the planet. These impacts interact with existing inequalities, threatening significant development reversals. The climate crisis, biodiversity collapse, ocean acidification, wild fire, pandemic, the list is long and growing longer. So much so that many scientists believe that, for the first time, instead of the planet shaping humans, humans are knowingly shaping the planet, this is the Anthropocene - the Age of Humans - a new geologic epoch. Though humanity has achieved incredible

progress, we have taken the Earth for granted, destabilising the very systems upon which we rely for survival. Recent global phenomena like wild fire, harsh climate, natural calamities, and pandemics have changed the lives of almost all the human beings that live on Earth. The challenges of planetary and societal imbalance are intertwined: they interact in a vicious circle, each making the other worse. [HDR,2020]

1.2 Human Development and Climate Change

Climate change is a human development issue which undermines expanding human potential, developing capabilities and enlarging freedom. climate change poses major obstacles to progress in meeting the Millennium Development Goals (MDGs) and maintaining progress in raising the Human Development Index (HDI). [Chandran 2013] Climate change is linked with a greater incidence of poverty, child mortality and morbidity and social insecurity. Adverse climate leads to lower performance of human development indicators. Environmental threats like bad-quality air create health hazards for the people. Many people are homeless and live in extreme poverty due to natural and manmade disasters. In the absence of safe drinking water, sanitation and hygiene conditions further increase the transmission of infectious diseases. Adverse climate actually reduces the chance of leading a fulfilling life, thus compromising human development conditions. The Human Development Index (HDI) provides a summary measure of human development, able to describe both social and economic development. Even though it is one of the most widely used measures of well-being, its weak point is that it does not take into account the concept of sustainability, and, more precisely, it is lacking in the environmental component specification. (Maccari,2014).

1.3 Rationale of the study

Three decades ago, UNDP constructed Human Development Index to assess the level of development using indicators like health, education and standard of living. They defined human development as the process of expanding human choice, which includes social, political, and economic choices and freedom. In due course, they have added different dimensions to it, and climate change is one such dimension that was addressed in the human development report back in 2007. Since then, different measures have been taken to assess the environmental damage that is associated with various developmental activities. After 30 years of the emergence of the first HDR, it was greatly realised that human civilisation is putting unprecedented pressure on the earth. The HDI encompasses the dimensions of health, education, and income without incorporating planet pressures exerted by the human race thereby limiting the influence of HDI in the present context. Ignoring the devastating effect of environmental change, a significant improvement in human development does

not necessarily imply equitable human development among global regions and nations. Over the long term, such imbalances in human development will likely decelerate the overall progress of international human development, resulting in stagnation or regression in certain countries and regions (United Nations Development Programme, 2014). HDI is at a cross-roads. In order to retain its flagship role in the development arena, many scholars have called for the HDI to reinvent itself by adding sustainability dimensions. (Biggeri and Mauro, 2022) Thus, in 2020, a new measure of human development was introduced that is called the planetary pressure adjusted human development index. In this measure, damage caused by climate change as a result of human activity is taken into consideration. Data revealed that many countries having high human development are showing lower performance when planetary pressure caused by these countries is addressed in the planetary pressure adjusted human development index. This means that countries with high human development have exerted more pressure on Earth. Different case studies in Jamaica, Mexico, Peru, etc, show the way of climate resilience. They stressed local and indigenous models of growth which can restore ecosystems and resilience shock.

1.4 Review of Literature

Jha and Murthy (2004), in their paper A Consumption-Based Human Development Index and the Global Environmental Kuznets Curve, attempted to relate consumption to environmental degradation (conceived of as a composite) within a cross-country framework. They found that Global Environmental Degradation does not have a geo-physical basis but an anthropogenic basis. The paper attempts to establish that a certain 'type of development' that characterizes high income countries is responsible for Global Environmental Degradation.

Norma Maccari, in 2014 in her paper Environmental Sustainability and Human Development: A Greening of Human Development Index, talked about incorporating HDI with sustainability. This paper has three main results: i) it provides a global picture of the relationship between human development and the environment, through a U-shaped relationship between Human Development Index HDI and Environmental Performance Indicator EPI. ii) It introduces a new quantitative measure: the Environmental Human Development Index, which rebalances the concept of human development in a sustainability framework and raises a different scenario between human development and sustainability; iii) it provides a discussion of EHDI in light of the Kyoto protocol agreement.

Mrabet et al. (2021), in their paper, studied 16 Middle Eastern and North African countries for a period of 1990-2016 to examine the relationship between Environment and HDI. They have found that environment and human development is negatively related in the early phases of human development, however, in the later stages of higher human development, it is positively related.

A more recent study by Lian et al. in 2023 discussed in their paper Analysis of spatial differences in global, regional human development index under planetary pressure and decomposition study of driving factors about the impact of planetary pressure on human development by taking into account 154 countries across the globe. By leveraging the Planetary Pressure Adjusted Human Development Index (PHDI) proposed by the United Nations Development Programme on December 15, 2020, as a metric for human development levels, this paper aims to standardise and internationally compare human development data from 1990 to 2021. A good number of studies have been done so far to assess the relationship between human development and environmental degradation using different methodologies but most of the studies concluded that the high human development stage poses a greater threat to the planet. In the light of available data and literature, the present study is a humble attempt in this regard.

1.5 Objective

The objective of the present paper is to analyse the impact of climate change across the globe using a human development approach.

1.6 Data and Methodology

Mainly secondary data is used for the study. Human development reports, different journals and websites were consulted for data requirements. To analyse the impact of climate change on human development and environmental sustainability we have classified the countries on the basis of region and level of human development. To measure carbon dioxide emission indicators like fossil fuel emission, production emission per capita is taken and to measure environmental threats, we have taken indicators like mortality rate attributed to air pollution, water pollution, disaster and also degraded land. Withdrawal of water as a percentage of total renewable water resources and available area under forest as a percentage of total land area is also shown region-wise and according to the level of human development. After the collection of data, they are analysed using simple statistical tools.

1.7 Discussion

We have divided the whole world into six groups and presented data on carbon dioxide emissions. Two indicators are mainly taken viz fossil fuel emission and production emission per capita. Both fossil fuel emission and production emissions are high in developed regions like Europe and Central Asia, Arab States, etc low in relatively poor regions like South Asia and lowest in the poorest region of the world Sub Saharan Africa. This clearly draws attention to the fact that developed countries are exerting more pressure on the planet and also enjoy more benefits and comfort from the planet as compared to developing and less developed countries.

Table 1: Carbon die oxide emissions according to regions

Regions	Fossil Fuel Emission	Production Emission per capita
Arab States	95.5	4.8
East Asia and Pacific	Na	5.5
Europe and Central Asia	87	5.5
Latin America and Caribbean	74.5	2.8
South Asia	76.9	2.0
Sub Saharan Africa	39.2	0.8
World	80.6	4.6
Source : HDR 2020		

Table 2 presents data on carbon dioxide emission of the group of countries placed according to the level of human development. Fossil fuel emission and production emission per capita are the highest for very high and high human development countries, whereas both indicators of carbon emission are the lowest for medium and low human development countries. Emissions from very high and high human development countries are even higher than the world average. This also supports our previous assertion that countries with high levels of human development are the one that exerts more pressure on the planet and are thus more or less responsible for climate change.

Table 2: Carbon die oxide emission according to the level of human development

Level of Human Development	Fossil Fuel Emission	Production Emission per capita
Very High Human Development Countries	82.3	10.4
High Human Development Countries	84.8	5.1
Medium Human Development Countries	68.9	1.6
Low Human Development Countries	Na	0.3
World	80.6	4.6
Source : HDR 2020		

Table 3 gives an idea about water and forest resources across the globe. Forest cover is the highest in Latin America and Caribbean (mainly because of Amazon) followed by East Asia and Pacific and Sub-Saharan Africa. The lowest forest cover is in Arab states. Again, if we see the use of water as a percentage of renewable water resources, we have found that it is the highest for Arab states and lowest in Latin America and Caribbean.

Table 3: Fresh Water Withdrawal and Forest Cover according to Region

Regions	Fresh Water Withdrawal (% of total renewable water resources)	Forest Cover (% of total land area)
Arab States	77.3	1.8
East Asia and Pacific	Na	29.8
Europe and Central Asia	20.4	9.2
Latin America and Caribbean	1.5	46.2
South Asia	25.4	14.7
Sub Saharan Africa	Na	28.1
World	7.7	31.2

Source : HDR 2020

Table 4 presents the fresh water withdrawal and forest cover according to the level of human development. Very high and high human development countries have fresh water withdrawal 6.1 per cent of total renewable water resources, whereas it is 7.7 per cent for the world as a whole. Forest cover is almost the same for all other three categories of human development except low human development countries. In less developed countries people use forest as a source of livelihood, and it leads to rapid depletion of forest covers.

Table 4: Fresh Water Withdrawal and Forest Cover according to level of human development.

Level of Human Development	Fresh Water Withdrawal (% of total renewable water resources)	Forest Cover (% of total land area)
Very High Human Development Countries	6.1	33
High Human Development Countries	6.1	31.6
Medium Human Development Countries	Na	31.6
Low Human Development Countries	Na	23.7
World	7.7	31.2

Source : HDR 2020

Carbon emission, forest cover depletion, excessive use of fresh water, excessive use of fertiliser, etc., lead to a number of health hazards we call environmental threats. Table 5 shows the data related to human death due to bad quality of air, water death and missing persons due to disasters along with bad quality of land as a percentage of total land area.

Table 5: Environmental Threat according to the region

Regions	Mortality rate due to Air Pollution (Per 1 lakh population)	Mortality rate due to unsafe drinking water, sanitation and hygiene services (per 1 lakh population)	Number of death and missing person attributed to Disaster	Degraded Land (% of total land area)
Arab States	101	7	3.5	7
East Asia and Pacific	114	2.2	0.1	Na
Europe and Central Asia	67	0.5	0.3	28
Latin America and Caribbean	40	1.7	0.4	28
South Asia	174	17.1	Na	23
Sub Saharan Africa	187	47.8	1.2	22
World	114	11.7	0.7	20
Source: HDR 2020				

Region-wise, it is found that death due to air and water pollution is the highest for the poorest region of the world, i.e., Sub-Saharan Africa, followed by South Asia. It is low in Latin America and the Caribbean, Europe and Central Asia. The number of deaths and missing persons attributed to disasters is higher in Arab states. East Asia and the Pacific witnessed the lowest of this kind of death. If we see the degraded land due to pollution as a percentage of total land area, it is the highest in Europe and Central Asia, Latin America and the Caribbean, closely followed by South Asia and Sub-Saharan Africa and the lowest in the Arab States.

Table 6: Environmental Threat according to the level of human development

Level of Human Development	Mortality rate due to Air Pollution (Per 1 lakh population)	Mortality rate due to unsafe drinking water, sanitation and hygiene services (per 1 lakh population)	Number of death and missing person attributed to Disaster	Degraded Land (% of total land area)
Very High Human Development	25	0.3	0.7	26
High Human Development	94	1.9	0.3	23
Medium Human Development	168	18.6	Na	16
Low Human Development	205	47.6	0.6	23
World	114	11.7	0.7	20
Source: HDR 2020				

In Table 6 environmental threat is presented according to the level of human development. It is seen from the table that Death caused by air and water pollution is the highest for low and medium human development countries, whereas it is the lowest for very high and high human development countries. Death due to disaster is 0.7 percent for very high human development countries and 0.6 percent for low human development countries. In respect to degraded land, it is more or less the same for all other categories except medium human development, which is 16 per cent of the total land area of these countries

1.8 Findings

Thus, the major findings from the study are that countries with a very high level of human development create more environmental pollution and thus exert more planetary pressure in terms of carbon emission, but the consequences of that pressure is felt in low and medium human development countries in terms of more death in air and water pollution. The same story can be woven for rich and developed countries as fossil fuel emissions and production emissions are higher in that region, and the environmental threat is greater in the poor regions of the world. Environmental threats like death due to pollution are inversely associated with human development,

and carbon emission is directly related to the level of human development.

1.9 Conclusion

The human development approach has much to contribute to the phase of alarming climate conditions that we, the human being, are facing right now. Human development is all about enlarging people's choices and expanding their freedom. Too often, development chooses industries and factories over forests and biodiversity as economic development becomes the top agenda and not the environmental concern. Economic growth is important, especially for developing countries; raising income levels is crucial for those living in poverty in every country. The human development approach reminds us that economic growth is more means than end. More material resources matter when fairly distributed and within planetary boundaries because they expand people's opportunities from one generation to the next. Human development report 2020 says that local action can add up to the global impact because socio-economic and planetary systems are deeply connected. So, nature-based solutions can improve household wellbeing and cumulatively ease planetary pressures. Nature-based solutions are one important mechanism through which human development and planetary health can be expanded, starting at the local level, placing human agency at the centre and adding up to global impact both in terms of sustainability and growth. [HDR 2020].

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Digital Banking in India : Opportunities and Challenges

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ABSTRACT

This research explores the evolving landscape of digital banking in India, examining its growth, challenges, and opportunities through an extensive review of secondary data. As digital banking continues to reshape the financial ecosystem, this study provides a comprehensive analysis of key trends such as mobile banking, e-payments, and the role of government initiatives like the Digital India program. The study synthesises findings from a wide range of secondary sources to identify the primary drivers and barriers to the adoption of digital banking. Key themes such as cybersecurity, digital literacy, financial inclusion, and technological advancements are discussed. The analysis reveals that while digital banking has significantly improved access to financial services, challenges like security concerns, infrastructure gaps, and consumer awareness continue to hinder widespread adoption. The research also highlights the role of regulatory frameworks and the growing influence of fintech in enhancing banking services. The study concludes with recommendations to address these challenges and suggests strategies to further accelerate the adoption of digital banking in India, focusing on improving security, fostering digital literacy, and strengthening public-private collaborations.

Keywords: Banking, smart banking, digitalisation

Introduction

The rapid advancement of digital technologies has brought about significant changes across various industries, with banking undergoing a major transformation in recent years. In India, digital banking has become a key driver in reshaping financial services, fuelled by the widespread use of smartphones, internet connectivity, and government initiatives such as Digital India and Jan Dhan Yojana. Digital banking, including mobile banking, internet banking, and digital wallets, offers the potential to enhance financial inclusion, optimise banking operations, and stimulate economic growth. As millions of Indian consumers adopt these services, India is rapidly

emerging as one of the world's fastest-growing digital banking markets.

This research paper employs a secondary data analysis approach to explore the opportunities and challenges associated with digital banking in India. By examining existing literature, the paper aims to provide an evidence-based understanding of the current state of digital banking in India. It will also analyse the potential impact of digital banking on financial inclusion, economic development, and the banking sector's future growth. The paper seeks to contribute valuable insights into how India can navigate the complex landscape of digital banking to harness its full potential while addressing the challenges that accompany this digital transformation.

Objective:

To explore the digital banking scenario in India, examining its adoption, factors influencing its growth and current trends shaping the sector.

Methodology

A descriptive research design will be employed to provide an in-depth analysis of the current state of digital banking in India. The study will primarily rely on secondary data sources. A review of the literature will be conducted on existing academic studies. These studies provide valuable insights into consumer adoption trends, technological advances, and security challenges. Efforts have been made to include the studies published within the last 8-10 years (from 2015-2024) and the research papers focused on digital banking trends, challenges, and technological innovations in India.

Limitations of the Study

- **Secondary Data Reliance:** The study is limited by the availability and accuracy of existing data. There is a risk that some recent studies or emerging trends may not be fully represented if they have not been published or documented yet.
- **Geographical Bias:** While the focus is on India, regional variations in digital banking adoption may not be fully captured in the existing literature, as some studies focus on urban or specific states.
- **Data Gaps:** Some aspects of user experience, perceptions, and challenges may be underrepresented, particularly for older or rural populations, if they are not adequately covered in secondary sources.

Review of Literature

Ms. Radhika Mahesh Dhakane and Dr. Kaveri Lad (2024), in their study titled "An Overview of Digital Banking in India," provide a comprehensive literature review of the digital banking landscape in India. They discuss the evolution and impact of digital banking while offering recommendations to enhance its inclusiveness and effectiveness, ultimately improving financial access and service delivery. Using

a systematic approach and a thorough search strategy across various databases, including PubMed, Scopus, Google Scholar, and other relevant journals, the research examines how collaboration between policymakers and banking institutions is essential for leveraging digital technologies to promote financial inclusion and innovation. The study also highlights how trends in e-commerce, digital payments, and mobile app usage are transforming the landscape and paving the way for a more inclusive and resilient banking ecosystem in India.

Dr. Shishir Srivastava and Tapsi Srivastava (2024) conducted a systematic literature review titled "A Systematic Review of the Digital Banking Challenges in the Indian Banking Sector" using the PRISMA framework. The study examines the challenges traditional banks face in adopting digital banking and explores trends in publications, citation metrics, and key variables. It emphasises the need for more empirical research to gain a deeper understanding of the transformation brought about by digital banking. Additionally, the study highlights the necessity of further investigation into the challenges encountered by both users and bankers in the transition to digital banking. The researchers recommend assessing banking performance through the lens of digital practices.

Dr. Marijke Smit and Mr. H. Tikyan (2024), in their study titled "A Study of Digitalization in the Banking Sector: Opportunities and Challenges," emphasise the need for innovative, secure, and customer-centric solutions to meet the expectations of tech-savvy consumers. The research explores the role of digitisation in Indian banks and contributes to the existing literature by combining both primary and secondary data, including government publications and the Reserve Bank of India (RBI) bulletins. A survey conducted with 150 participants, yielding 105 responses, highlights that 53% of respondents use e-banking daily, with net banking and online shopping being the most common activities. Time-saving (34%) and cashless transactions were identified as key benefits of digital banking, with demonetisation playing a significant role in the shift. Despite frequent usage, the study reveals that awareness and security concerns remain major barriers to the widespread adoption of digital banking.

Dr. Dinesh Pratap Singh (2024) in his study "A Critical Evaluation of Digital Banking in India" explores the rise of digital banking, particularly among younger, urban, and educated individuals, driven by factors like convenience and time-saving benefits. The study highlights key challenges such as security concerns and lack of user awareness. Government initiatives like Digital India are acknowledged for fostering growth in the sector, though variations in user experience and service quality across banks are noted. The research ultimately demonstrates how digital banking has transformed the Indian banking sector, presenting both opportunities and challenges, including cybersecurity risks and the need for enhanced digital literacy.

Sanjeet Kumar Sah (2024), in his study titled "A Study on Opportunities and Challenges in the Indian Banking Sector," investigates the transformations occurring

within the Indian banking sector. This research utilises secondary data sources, including reports, academic journals, and industry publications, to analyse the impact of technological advancements, regulatory reforms, and shifting consumer behaviour. The study highlights the significance of digital banking and fintech collaborations in promoting financial inclusion and increasing efficiency. It also identifies several challenges, such as non-performing assets, technological disruptions, and intensifying competition. Despite these obstacles, the research emphasises the sector's growth potential, advocating for strategic adaptation, effective risk management, and collaboration among key stakeholders to ensure long-term success.

Prof. D. G. Tapas (2023) in his study, "Issues and Challenges of Digital Banking in the Indian Banking Sector in Recent Times," explores the evolving challenges and opportunities of digital banking in India, particularly post-COVID. The research, based on secondary data from reports, articles, and online resources, examines the transformation of digital banking and identifies barriers to its adoption. Despite the significant benefits, the study highlights vulnerabilities such as hacking and identity theft as major challenges.

Pooja Yadav, Dr. Anshika Prakash, and Dr. Shivani Kampani (2023), in their study titled "Digital Banking in India: A Literature Review," explores the challenges and emerging trends in digital banking in India. It highlights the benefits and risks of digital banking and suggests ways to overcome these challenges for smoother adoption. The research uses secondary data from studies published over the past decade, analysing patterns and gaps. The research emphasises that digitalisation, supported by the Digital India Program, has transformed the Indian banking sector, improving competitiveness and customer service.

Dr. Bhavna Sharma and Ms. Anugya Dubey's study, "Digital Banking: A Need of Time" (2022), highlights the critical role of digital banking, especially during the COVID-19 pandemic, which accelerated the adoption of digital platforms in Indian banks. The research traces the evolution of digital banking from the 1980s to mobile-driven solutions today, emphasising improved customer experience and financial inclusion while acknowledging challenges like internet connectivity and cyber security risks. The study recommends that banks focus on personalised experiences, embrace technologies like AI and chatbots, and collaborate with government and stakeholders to ensure robust digital strategies for the future.

A. Sai Koteswara Rao, A. Dhanunjayulu, and Prof. K. Jaya Chandra Reddy (2022) conducted a study titled "Digital Banking in India: A Study on Trends and Opportunities." This research analyses trends, challenges, and opportunities in the digital banking sector, utilising data from various sources, including RBI bulletins and government publications from 2018 to 2022. The study reveals that digital banking has transformed the Indian banking landscape, significantly improving customer convenience and accessibility through innovations like mobile banking, UPI, and QR codes.

Neeraj Kumar and Dr. Rajesh Mehrotra (2022), in their study "A Study of Customer Perception Regarding Issues and Challenges in Digital Banking," explore the impact of digitisation and information communication technology (ICT) on the banking sector. The research identifies barriers that customers face when accessing digital banking and examines how demographic factors influence usage through chi-square tests, along with customer dissatisfaction's impact on adoption via t-tests. The study also assesses customer awareness of digital banking. Researchers collected data from a sample of 100 respondents in the Tri-city area, comprising Chandigarh, Mohali, and Panchkula, using a self-administered questionnaire and secondary sources. The findings reveal that most customers are aware of digital banking, with usage patterns linked to age, occupation, and education but no correlation with gender or income. The study concludes that customer satisfaction is crucial for adoption, emphasising the need to enhance security and reliability in digital banking services to foster wider usage.

Verma, A., and Mittal, S. (2022), in their study titled "Growth in the Use of Banking in India," investigates consumer awareness and the frequency of digital banking usage through an analysis of 126 online survey responses. The study reveals that 89.7% of participants prefer digital banking over cash transactions, citing increased convenience following demonetisation and the COVID-19 pandemic. These findings highlight the growing acceptance and expansion of digital banking in India, reflecting global trends while emphasising the unique impact of recent economic and social changes in the Indian context.

D.S. Jana, A.E. Khedkar, and C.E. Khedkar (2021), in their study titled "Digital Banking: The Future of Banking," discuss how increasing internet access and affordable smartphones are poised to transform the banking landscape. They highlight that digital banking promotes financial inclusion, reduces the circulation of counterfeit currency, and helps curtail the black economy.

Debasish Naskar (2020) in the study titled "Digital Banking in India: The Way Ahead" examines the concept and evolution of digital banking in India. The research analyses the trends and innovations that are shaping digital banking while identifying the opportunities and challenges faced by users of these services. Drawing from a variety of reputable sources-including research papers, journals, magazines, the University of Calcutta library, annual reports from the Government of India and the Reserve Bank of India, as well as relevant online resources-the study emphasises how digitisation and the Digital India Program have enhanced the competitiveness of India's banking sector. This transformation marks a significant shift from cash and paper-based systems to cashless and paperless banking. Despite the advancements made, the study highlights that challenges still exist in fully realising the potential of digital banking. Overcoming these challenges and seizing available opportunities will be crucial for further growth in the sector.

Ranjan Kumar Sahoo (2019), in the publication "Digital Strategy and

"Transformation Opportunities and challenges in the Banking Industry in India" analyses the effects of emerging technologies, such as India Stack, including UPI and OCEN, along with regulatory frameworks like FLDG. The study identifies the challenges that financial institutions encounter in adapting to rapid technological advancements and evolving customer behaviours, noting that traditional advertising methods are becoming increasingly ineffective, thereby necessitating a shift toward digital-first strategies. Sahoo underscores the pivotal role of regulatory frameworks in driving digital transformation and emphasises the necessity for banks to align their strategies with technological advancements and evolving consumer expectations.

Dr S. Chandrasekaran and M. Narayan (2019) in their study titled "Transforming and Empowerment of Digital Banking in India" provides a comprehensive overview of the digital banking landscape in India. The research explores the evolution, impact, challenges, and opportunities presented by digital banking. Utilising both qualitative and quantitative data, the study highlights how digitalisation has reshaped the banking sector through advancements in technology, including mobile applications, artificial intelligence, and blockchain. These innovations have significantly improved financial inclusion and accessibility. Additionally, the research emphasizes the crucial role of Prepaid Payment Instruments (PPIs), which enhance convenience by enabling electronic peer-to-peer and merchant payments.

Dr. P. Revathi (2019), in the study titled "Digital Banking: Challenges and Opportunities in India," emphasizes that the demand for online banking remains strong and is expected to continue growing. However, marketers in this sector face several challenges, including traditional banking habits, security concerns, technical issues, transaction difficulties, and limited marketing budgets. Marketers must understand and address these challenges to succeed in the online banking industry.

J. Sathish (2019) in "Challenges of Digitalization of Banking in India" examines the impact of digitalization on the banking sector in India, focusing on the challenges and opportunities arising from financial technology innovations. He discusses how digital disruption, driven by new technologies, competition, and customer expectations, is making traditional banks more vulnerable. Sathish emphasizes three guiding principles for digital success: centering the customer in initiatives, preparing for future uncertainties in technology and competition, and fostering collaboration between the public and private sectors. He also highlights the risks of over-reliance on digital channels, citing examples like Lloyds. The study stresses the need for banks to adopt a customer-centric approach and undergo technological, strategic, and cultural changes to reinvent their business models.

Prof. Pooja Singh (2018), in her study titled "Digital Revolution in the Indian Banking Sector- Challenges and Opportunities," explores the evolution of digital banking in India, highlighting both its challenges and opportunities. The study aims to assess the role of information technology in the banking sector, identify the digital

banking services offered by banks, and examine the obstacles faced in the adoption of digital banking. Additionally, it delves into the opportunities for expanding digital banking in India. The research is descriptive in nature and relies on secondary data sourced from books, government documents, articles, and websites. The findings indicate that digital banking has gained considerable traction in India, with most banks implementing e-banking facilities that benefit both consumers and institutions.

Dr. Ashok Kumar Mishra (2018), in his study titled "Digital Transformation in Indian Banking: Opportunities and Challenges," examines the evolution, current trends, and future outlook of digital banking in India. The study highlights the growth of digital transactions, mobile banking, and fintech investments while addressing key challenges such as infrastructure limitations, cybersecurity threats, and regulatory complexities. The analysis of leading banks such as SBI, HDFC, and Paytm illustrates the critical role of innovation, customer-centric approaches, and strategic partnerships in driving successful digital transformations. The study also discusses future trends like AI, open banking, and blockchain, which are expected to shape the sector's evolution

Aarti Sharma and Nidhi Piplani (2017), in their study "Digital Banking in India: A Review of Trends, Opportunities, and Challenges," analyze the evolving landscape of digital banking in India, highlighting the latest trends, opportunities, and the challenges faced by banks in implementing digital solutions. The study, based on secondary data, explores key digital banking services such as ATMs, NEFT, IMPS, credit and debit cards, mobile banking, UPI, and newer innovations like AEPS and BBPS. It emphasizes both the potential benefits and risks associated with the shift to digital banking. The paper also provides recommendations for overcoming these challenges and suggests that, in the future, digital banking will emerge as the preferred method of conducting transactions.

Dr. P. Rajmohan and Bilal Ahmad Sheikh's (2017) study, "Adoption of digital banking in India," investigates the rise of digital banking in Jammu & Kashmir. Analyzing data from 270 banking customers collected between June and August 2016 using SPSS, the study found that 41% adopted digital banking, influenced significantly by occupational status. Employees of multinational companies were the highest adopters. The study recommends improvements such as multilingual services, customer demonstrations, event promotions, and security education. It advocates for banks to hire trained relationship officers to assist customers and address complaints. Overall, the research highlights digital banking's importance for the banking sector's future and calls for efforts to increase adoption among hesitant users.

Dr. Mrinali Kankar and Dr. Vishal Gauttam (2015), in their study titled "Digital Banking in India", delve into the impact of digitization on Indian banking, examining factors influencing its growth and the current trends shaping the sector. Utilizing secondary data sourced from research articles, government publications, RBI

bulletins, and authenticated websites, the study investigates the transformative role of digitization in Indian banking. It highlights how digital banking has significantly reduced operational costs for banks, allowing them to charge lower fees, offer higher deposit interest rates, and achieve greater profitability. Furthermore, the study underscores the potential of digital banking in enhancing financial inclusion, driven by the integration of advanced technologies like Artificial Intelligence (AI), Machine Learning (ML), and Big Data. These innovations not only streamline financial services but also create opportunities for integrating the unbanked population into the mainstream economy. Kankar and Gauttam conclude that the future of digital banking in India is promising, with expectations of continued innovations and enhanced services in the banking sector.

Research Findings

The literature on digital banking in India provides a comprehensive overview of its evolution, opportunities, challenges, and future prospects. The research studies analysed span a variety of themes, from technological innovations and regulatory frameworks to consumer perceptions and adoption challenges. Below is a detailed analysis of the key trends, gaps, and insights derived from the studies:

1. Technological Transformation and Adoption

- **Technological Innovations:** The literature consistently highlights the role of digital technologies in reshaping India's banking sector. Key innovations such as UPI, mobile banking, QR codes, and AI have improved accessibility, reduced operational costs, and increased financial inclusion, particularly for underserved populations. The introduction of fintech has brought new opportunities for collaboration, offering scalable solutions that cater to both urban and rural areas. It is found that technological innovations have undoubtedly transformed the banking landscape, driving India toward a more cashless and paperless economy. The growing integration of mobile apps and digital payment systems offers significant potential for increased banking efficiency and inclusion.
- **Challenges in Technology Adoption:** Despite the promising technological advances, challenges like cybersecurity risks, data privacy concerns, and technological disruptions remain prevalent. These risks create a barrier for widespread adoption, particularly among less tech-savvy users. It is primarily found that addressing security concerns through improved infrastructure and customer education is essential for fostering trust in digital banking systems.

2. Impact of Digital Banking on Financial Inclusion

- **The Digital India Program** has played a pivotal role in enhancing financial inclusion by encouraging the use of digital platforms for accessing banking services. Digital banking has empowered marginalized communities, offering them easier access to banking services, which was once limited to urban

centres. Substantial evidence is found that digital banking has made financial services more accessible, especially in rural areas, by eliminating the barriers posed by geographical distance and improving financial literacy.

- Not Uniform : However, the adoption of digital banking has not been uniform across all demographic groups. Studies indicate that younger, urban, and educated individuals are more likely to adopt digital banking, while older generations and those with lower literacy levels remain hesitant. It is found that a digital divide persists, which could hinder the complete realization of financial inclusion. Targeted initiatives to bridge this divide and improve digital literacy are necessary.

3. Government Role and Policy Frameworks

- Regulatory Frameworks: The Reserve Bank of India (RBI) and the government have played a significant role in shaping digital banking policies, particularly in terms of ensuring security, creating frameworks for digital payments, and promoting financial inclusion through Digital India. These efforts have created a conducive environment for innovation. It is found that Government support through policies and regulations is crucial for the sustained growth of digital banking in India. Collaborative efforts between banks, policymakers, and technology providers are necessary to continue expanding access to digital banking.
- Regulatory Challenges: The literature suggests that regulatory challenges remain, particularly with respect to data protection laws, consumer rights, and the operational risks that come with the growing reliance on digital platforms. It is evident that ongoing regulatory reforms, particularly around data privacy and cybersecurity, will be essential to ensuring the security and trustworthiness of digital banking systems.

4. Challenges to Widespread Adoption

- Security and Awareness: Despite growing usage, security concerns remain one of the biggest barriers to the widespread adoption of digital banking in India. Concerns about identity theft, fraud, and data breaches are prevalent, especially among users who are not familiar with the digital environment. Security awareness campaigns and improved user education are necessary to reduce fear and build trust in digital banking services.
- Infrastructure and Accessibility: Studies indicate that while mobile banking and UPI have gained traction, challenges remain in terms of internet connectivity and smartphone access, especially in remote areas. Infrastructure development, including expanding broadband connectivity and smartphone accessibility, is crucial to achieving universal adoption of digital banking.

5. Consumer Behaviour and Usage Patterns

- User Preferences: The studies found that e-banking services, particularly net banking and online shopping, are the most commonly used digital

banking services in India. The shift toward digital banking has been further accelerated by demonetization and the COVID-19 pandemic. It can be said that events like demonetization and COVID-19 have played a significant role in increasing the demand for digital banking services, with many customers preferring contactless transactions and cashless payments.

- **Perceptions of Benefits:** Convenience, time-saving, and the ability to conduct cashless transactions were frequently cited as the top benefits of digital banking. However, challenges such as user awareness and lack of security measures have hindered greater adoption. To maximize the benefits of digital banking, banks should focus on making their services more customer-centric and ensuring that users feel safe while using these services.

6. Opportunities for Future Growth

- **Financial Technology and Innovation:** The literature points to the role of fintech and emerging technologies such as AI, blockchain, and machine learning in driving the next phase of growth for digital banking. These technologies can improve customer personalization, fraud detection, and operational efficiency.
- **Partnerships with Fin-tech:** Collaboration with fin-tech firms is identified as a key driver of financial inclusion and the development of new services tailored to meet the needs of diverse consumer groups. Strategic collaborations between traditional banks and fintech companies will be vital to expanding digital banking services and improving financial accessibility across India.

Opportunities of Digital Banking in India

1. **Enhanced Financial Inclusion:** The advent of digital banking has substantially broadened access to banking services for populations that were previously unbanked or underserved, particularly within the rural regions of India.
2. **Reduction in Operational Costs:** The implementation of advanced automation techniques and a decreased reliance on physical infrastructure have culminated in notable cost efficiencies for banking institutions.
3. **Customer Convenience:** Digital banking facilitates the utilization of banking services at any time and from any location, thus obviating the necessity for in-person visits to physical branches.
4. **Expansion of Banking Reach:** The widespread adoption of smartphones and the proliferation of internet connectivity have effectively extended the availability of banking services to geographically isolated and rural areas.
5. **Support for a Digital Economy:** Digital banking is congruent with governmental initiatives, such as the Digital India program, and actively promotes the advancement of a cashless economy.
6. **Personalized Banking Services:** The deployment of sophisticated technologies, including artificial intelligence (AI) and chatbots, empowers

financial institutions to offer tailored services, thereby significantly enhancing the customer experience.

7. **Facilitation of Real-Time Transactions:** Platforms such as the Unified Payments Interface (UPI) facilitate instantaneous and seamless financial transactions, thus contributing to increased levels of customer satisfaction.
8. **Advancement of Sustainable Practices:** The minimization of paperwork and a reduction in resource consumption associated with digital banking render it a more environmentally sustainable alternative to traditional banking methodologies.
9. **Competitive Differentiation:** Financial institutions that adeptly harness digital technology can attain a competitive advantage through enhanced operational efficiency and the cultivation of customer loyalty.
10. **Informed Decision-Making through Data Analytics:** Digital platforms provide critical insights into consumer behavior, thereby enabling informed decision-making that drives product innovation and elevates service delivery.

Challenges of Digital Banking in India

1. **Cybersecurity Vulnerabilities:** The growing incidence of cyberattacks, including hacking, phishing, and data breaches, poses a significant threat to the integrity of digital banking systems.
2. **Limited Digital Literacy:** The deficiency in digital skills among certain segments of the population hampers the widespread adoption of digital banking services.
3. **Trust and Security Concerns:** Customer confidence in digital banking is often compromised by apprehensions regarding fraud, unauthorized transactions, and potential system failures.
4. **Complex Regulatory Environment:** Financial institutions encounter considerable challenges in adapting to a complex and evolving regulatory framework that encompasses data protection laws and anti-money laundering directives.
5. **Infrastructural Gaps:** Insufficient internet connectivity and unreliable power supply in rural areas can disrupt the functionality and accessibility of digital banking services.
6. **High Setup and Maintenance Costs:** The establishment and ongoing maintenance of secure digital banking infrastructure require significant financial investment.
7. **Technological Limitations:** Integration challenges with legacy systems, software malfunctions, and frequent service interruptions can adversely impact the overall quality of service delivery.
8. **Increasing Fraudulent Activities:** The rise in phishing attacks, counterfeit banking applications, and social engineering scams presents substantial risks to the security of digital banking.

9. Resistance to Technological Change: There is a notable reluctance among both customers and banking staff to transition from traditional banking practices to digital alternatives.
10. Language and Accessibility Barriers: The lack of support for regional languages in digital banking platforms restricts access and inclusivity for users who are not proficient in English.

Future Scope of Study

The studies indicate a lack of empirical research that addresses the real-time challenges faced by consumers and banks in the transition to digital banking. There is a need for more quantitative studies that explore the factors influencing adoption and satisfaction across different demographics. Future research can focus on user behaviour, adoption barriers, and security perceptions to gain deeper insights into the dynamics of digital banking in India.

Conclusion

The literature on digital banking in India presents a well-rounded picture of the current state of the sector, highlighting its transformative impact on financial services, the challenges that still need to be addressed, and the opportunities for growth and innovation. Despite significant progress, issues such as security concerns, digital literacy, and infrastructure challenges persist, which can hinder the full potential of digital banking. Moving forward, addressing these gaps through policy support, technology adoption, and consumer education will be essential for ensuring the continued success and inclusivity of digital banking in India.

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Digital Copyright in India : Addressing Digital Copyright Issues in India's Streaming Media Landscape

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ABSTRACT

This paper explores digital copyright challenges in India's rapidly growing streaming industry, focusing on issues like piracy, complex licensing, and intermediary responsibilities. It assesses the effectiveness of current laws, including the Copyright Act of 1957 and the Information Technology Act of 2000, in addressing these challenges. By analysing case studies and recent policy changes, the paper identifies key gaps in the enforcement and limitations of traditional copyright laws when applied to digital content. To improve copyright protections, it proposes solutions such as stronger enforcement mechanisms, public awareness campaigns, and more adaptable licensing models that balance the needs of both rights holders and platforms. The paper offers insights for policymakers, industry professionals, and legal practitioners on fostering a balanced approach to digital copyright in India while also suggesting future research on enforcement outcomes and the effects of technology on copyright law in India's dynamic digital economy.

Keywords: Digital copyright, Streaming media, Copyright law, Intellectual property rights (IPR), OTT platforms, Digital piracy, Fair use doctrine, Copyright infringement, Content licensing, Digital rights management (DRM), Intermediary liability.

1. Introduction

1.1 Overview of Digital Copyright

Digital copyright provides legal protection for original works in digital formats, including music, films, e-books, and software. It grants rights holders control over content distribution, modification, and monetisation, balancing creator rights with public access. The advent of streaming has intensified this balance, with copyright enforcement becoming complex due to global access and easy file sharing, leading to challenges like piracy. Streaming also shifts content distribution from physical to

internet-based formats, making enforcement across jurisdictions difficult. Licensing agreements ensure fair compensation for creators, yet variations in agreements and revenue-sharing models can affect earnings, especially in music and film industries. Additionally, unauthorised sharing is prevalent, prompting streaming platforms to adopt digital rights management (DRM) to prevent piracy. However, users sometimes bypass these protections, illustrating enforcement limitations. Concepts like fair use also complicate enforcement, as legitimate uses may be flagged incorrectly by automated copyright systems on platforms like YouTube, raising issues of censorship and fair use in creative works.

1.2 The Growth of Streaming in India : A Revolution in Content Consumption

Streaming has transformed content consumption in India, with platforms like Netflix, Amazon Prime Video, and Gaana offering affordable, on-demand access. Rapid growth is driven by affordable data from providers like Reliance Jio, expanding access in urban and rural areas alike. Smartphone proliferation has also made streaming widely accessible, allowing users to enjoy content anytime. Platforms have further boosted viewership by offering localised, original content in various Indian languages and securing rights to popular events like cricket. Personalised algorithms enhance engagement by recommending content based on user preferences. The on-demand format allows flexible viewing, fostering practices like binge-watching and offline downloads, even in regions with inconsistent connectivity. Streaming's expansion has also boosted the media industry, created new jobs and showcased Indian content globally, marking a key shift in the nation's digital transformation.

1.3 Intellectual Property Rights

Intellectual Property Rights (IPR) underpins copyright laws, seeking to balance creators' rights to protect and monetise their work with the public's right to access creative content. Intellectual Property Rights posits that copyright laws incentivise creativity by granting creators exclusive rights, which can drive innovation and enrich cultural output (Lessig, 2004). However, it also recognises the importance of public access for educational, research, and cultural development, advocating for fair use provisions. This balance is crucial in digital environments where content can be copied and shared widely, challenging copyright holders to protect their rights without excessively restricting public access (Fisher, 2001).

1.4 Regulatory and Compliance

Regulatory and Compliance examines how laws and regulations are designed and enforced to ensure adherence within industries. Regulatory and Compliance are central to copyright protection, as they evaluate the effectiveness of policies and enforcement mechanisms (Baldwin, Cave, & Lodge, 2012). In the context of digital copyright, Regulatory and Compliance highlights the role of compliance frameworks like the DMCA in the U.S. and the EU Copyright Directive. It emphasises the

challenges in enforcing these frameworks, particularly on global platforms, due to jurisdictional limitations and differing local enforcement (Marsden, 2017). In India, copyright compliance faces challenges from high piracy rates, indicating the need for stronger regulatory measures and compliance checks in the digital sector.

1.5 Technological Determinism

Technological Determinism suggests that technological advancements shape society's legal, social, and economic frameworks (McLuhan, 1964). With the growth of streaming technology, content distribution has shifted from physical to digital platforms, allowing instant access but also facilitating widespread piracy. This shift necessitates an evolution in copyright laws to protect content in this new environment (Williams, 2018). The theory suggests that as technology develops, legal frameworks must adapt to address new challenges in protecting intellectual property rights in digital spaces, such as through digital rights management (DRM) and other protective technologies (Jones & Liu, 2020).

2. Objectives:

1. To analyse the challenges in protecting digital content in India's streaming industry, including piracy, licensing complexities, enforcement issues, and the adequacy of current legal frameworks like the Copyright Act of 1957 and the Information Technology Act of 2000.
2. To propose legal and policy reforms that enhance copyright protection, streamline licensing, improve enforcement, and balance the rights of creators with consumer needs in India's digital streaming market.

3. Hypothesis

Hypothesis 1: Increased access to streaming services correlates with higher instances of digital piracy in India.

Hypothesis 2: Stronger enforcement mechanisms reduce copyright infringement on digital platforms in India.

4. Literature Review

The evolution of digital copyright across jurisdictions, particularly in the U.S. and the EU, has largely been influenced by rapid technological advancements. The U.S. Digital Millennium Copyright Act (DMCA) provides a framework for online takedowns, although it has been criticised for placing excessive enforcement burdens on content owners without effectively addressing piracy issues at the platform level (Harper & McClintock, 2021). In contrast, the EU's Copyright Directive, especially Article 17, aims to hold platforms accountable for infringing content. However, enforcement remains inconsistent, with variations in member-state implementation affecting its impact (Sganga, 2023)

The World Intellectual Property Organization (WIPO) emphasises international cooperation for copyright enforcement, addressing challenges like cross-border

jurisdiction and rapid technological adaptations by infringers. Research indicates that while international regulations are increasingly harmonised, they often fail to address the unique challenges presented by streaming platforms, which operate globally with varying compliance levels (WIPO, 2023)

India's Copyright Act of 1957, with its 2012 amendments, faces limitations in addressing digital piracy and content protection in the modern streaming age. Scholars have highlighted India's ongoing challenges with high piracy rates, largely due to a lack of adequate enforcement mechanisms and a relatively relaxed approach toward unlicensed streaming sites (Bhattacharya, 2022). In response, India has implemented some site-blocking measures, although their effectiveness is limited by the rapid reappearance of pirated content across new domains (Pandey & Rao, 2023).

Additionally, studies reveal that the Indian government has initiated anti-piracy campaigns and enhanced legal provisions, but these measures struggle to keep up with the sheer volume of pirated content shared across social media and other digital platforms (Singh, 2023). This gap indicates the need for stronger, more adaptive legal frameworks specifically designed for digital content and streaming services in the Indian market (Rana & Sharma, 2022)

Streaming services rely heavily on digital rights management (DRM) and other technological protection measures to safeguard intellectual property rights (IPR). Studies show that while DRM tools like watermarking are essential, they can be circumvented by sophisticated piracy methods, challenging streaming platforms to continually innovate in content protection (Kumar, 2023). DRM has proven to be an effective deterrent in some regions, but its implementation is inconsistent globally due to differing legal and technical standards (Rogers, 2023).

In India, streaming services have reported difficulty enforcing digital rights due to the prevalence of unauthorised content distribution on social media. This challenge underscores the need for more advanced DRM tools and legislative clarity on fair use and content sharing in the digital realm (Shah & Patel, 2023). Additionally, intellectual property experts argue that India's copyright laws need further amendments to address the digital streaming context, suggesting a need for real-time IP monitoring technologies (Kapoor & Jain, 2023)

Although there is extensive literature on global copyright enforcement and the challenges faced by Indian regulators, notable gaps remain. For instance, while general DRM studies exist, there is limited research on the effectiveness of specific DRM technologies in India, where piracy patterns differ from those in Western markets (Choudhary, 2023). Furthermore, few studies explore AI-based monitoring solutions for real-time IP enforcement, an area that could significantly improve copyright protection for streaming platforms in India and globally.

Moreover, legal complexities unique to India's market, such as jurisdictional limitations and diverse consumer demographics, are underexplored in current literature. Addressing these gaps could enhance the efficacy of copyright protection

strategies and inform future legal amendments (Dutta, 2023). Additionally, research on international collaborations for IP enforcement remains limited, particularly concerning emerging markets like India that are rapidly expanding their digital content consumption (Rai, 2023)

5. Methodology

This research is based solely on secondary data sources to analyse digital copyright challenges and enforcement in the Indian streaming industry. The study utilises an extensive literature review of existing laws, policy reports, and legal frameworks governing digital copyright in India and internationally. Sources include academic journals, policy papers, and government publications that detail the provisions of the Indian Copyright Act, international frameworks like the U.S. DMCA and the EU Copyright Directive, and enforcement challenges in these regions. This review establishes a foundation for comparing India's digital copyright laws and their adaptability to streaming industry challenges.

The study also incorporates industry reports from organisations such as the World Intellectual Property Organization (WIPO) and global research institutions that analyse piracy trends, the effectiveness of digital rights management (DRM) technologies, and the economic impact of copyright infringement on digital content industries. These reports provide data-driven insights into piracy rates, economic losses, and legal actions taken against unlicensed streaming platforms.

Case studies documented by industry bodies and legal publications on piracy incidents in India's streaming industry offer further insights into enforcement difficulties and illustrate how copyright laws have been applied in practice. These cases help to contextualize theoretical findings and provide real-world examples of the challenges faced by content creators and platforms.

Finally, market analyses from reputable organisations like the Motion Picture Association (MPA) and industry stakeholders, such as streaming service reports, contribute empirical data on the financial and operational impacts of digital piracy in India. By synthesizing these secondary sources, this study aims to provide a comprehensive understanding of digital copyright enforcement in India and identify areas for policy improvement within the streaming sector.

6. Case Studies

6.1 Landmark Court Cases

Several landmark cases in India illustrate the complexities of enforcing digital copyright protections in the streaming age. One of the most notable is *Super Cassettes Industries Ltd. v. MySpace Inc.* (2011), where the Delhi High Court examined the liability of online platforms for hosting infringing content uploaded by users. Super Cassettes Industries, a major music production company, alleged that MySpace facilitated copyright infringement by not removing pirated content swiftly. The court initially sided with Super Cassettes, arguing that platforms have a responsibility to

prevent infringement, but later ruled that liability would only apply if platforms were notified of infringing content and failed to take it down. This case underscored the need for clearer regulations around platform responsibility and introduced a precedent for notice-and-takedown procedures similar to the U.S. DMCA's approach (Kumar & Verma, 2022).

Another significant case is *Tips Industries Ltd. v. Wynk Music Ltd.* (2019), which involved a dispute between a music production company, Tips Industries, and Wynk Music, a popular streaming service owned by Airtel. Tips argued that Wynk was streaming its content without a valid license, essentially bypassing copyright agreements. The court ruled in favour of Tips Industries, reaffirming the copyright holder's exclusive rights to license their content and emphasising the need for streaming services to acquire proper licenses. This case highlighted the importance of legal clarity on licensing agreements for digital platforms and demonstrated the Indian judiciary's support for content owners' rights in the streaming industry (Singh & Sharma, 2023).

6.2 Examples of Piracy Crackdowns

India has made several attempts to curb digital piracy, focusing on blocking access to infringing websites and apps. For instance, the government has frequently issued orders to block access to popular piracy websites like Tamilrockers and Movierulz, known for leaking movies and series shortly after their release. While these blockades demonstrate a commitment to IP enforcement, they also reveal limitations: many of these websites simply reappear under new domain names, undermining the effectiveness of the crackdown efforts. According to a study by Pandey and Rao (2023), such blockades often provide only temporary relief and fail to address the root issues of piracy distribution channels.

Streaming platforms themselves have also engaged in anti-piracy initiatives. For example, Hotstar and Netflix have worked closely with local enforcement agencies to identify and dismantle pirate streaming services, though these actions are often complicated by the legal and logistical challenges of cross-border piracy. Despite these efforts, the persistent high piracy rates in India indicate a need for more robust enforcement measures and cooperation between digital platforms, law enforcement, and policymakers (Bhattacharya, 2022).

These cases and initiatives highlight both the legal precedents set by Indian courts in favour of copyright holders and the enforcement challenges that persist in India's streaming market.

7. Findings

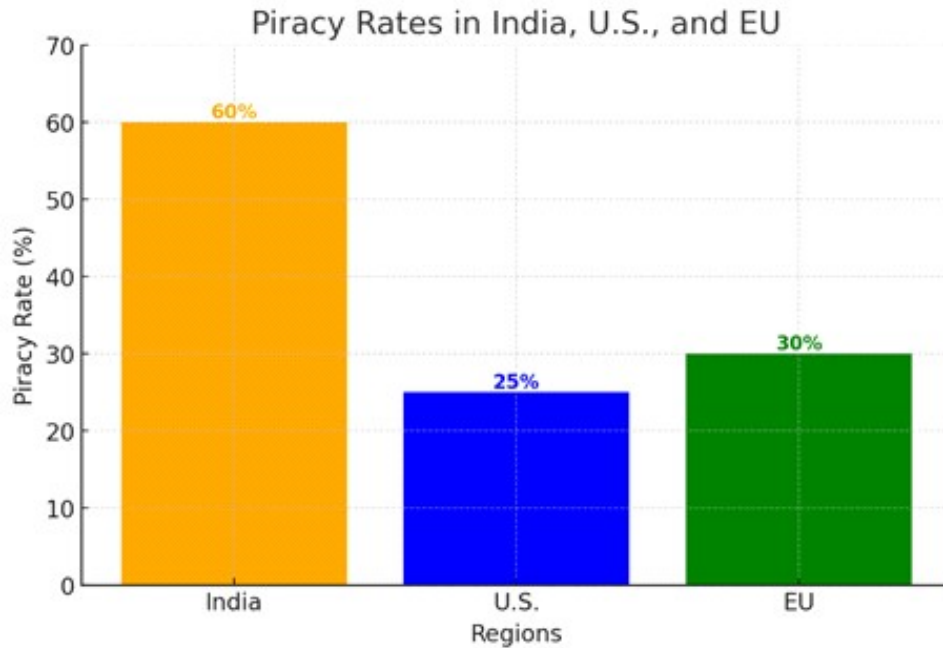
The analysis reveals several distinct themes related to digital copyright enforcement challenges in India's streaming industry:

7.1 High Rates of Digital Piracy

Secondary data from industry reports and policy publications highlight that India experiences some of the highest levels of digital piracy globally. Piracy rates

are driven by the availability of unlicensed streaming platforms, high demand for entertainment content, and limited enforcement capabilities, making copyright breaches pervasive.

Figure: 1
Piracy rate of India, US and EU



Source: World Intellectual Property Organization (WIPO)

Figure 1 clearly shows the piracy rate of India with US and European Union. It is found that India has the highest piracy rate, contributing to 60% of the total digital content produced.

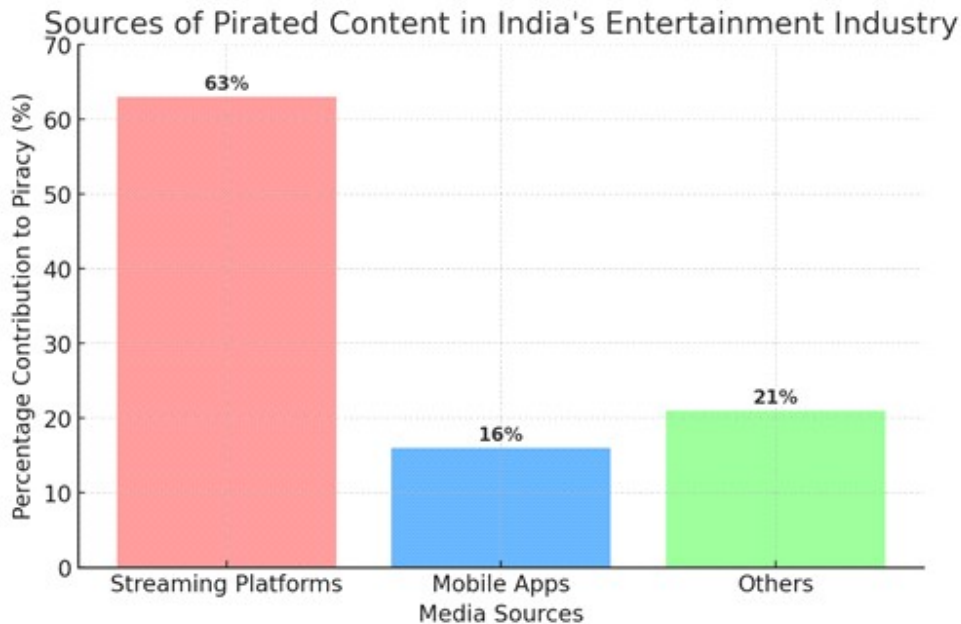
7.2 Gaps in Legal Frameworks and Enforcement

Although the Indian Copyright Act is aligned with international standards, enforcement is hindered by limited resources and lengthy legal procedures. Compared to international laws like the DMCA in the U.S. and the EU Copyright Directive, India's legal frameworks lack stringent provisions for expedited action against copyright violators.

7.3 Challenges in Digital Rights Management (DRM)

Despite the widespread adoption of DRM technologies by Indian streaming platforms, data shows that technological protections are frequently circumvented, demonstrating the limited effectiveness of DRM in controlling piracy. Many platforms face difficulties in balancing robust DRM measures with user experience, as overly restrictive DRM can deter users.

Figure: 2
Digital piracy in India's entertainment industry



Source: EY-IAMAI report

Figure 2 shows the contribution of different sources to digital piracy in India's entertainment industry. Streaming platforms lead with 63%, followed by mobile apps at 16%.

7.4 Economic Impact on the Streaming Industry

Reports from the Motion Picture Association and other organisations emphasise the significant financial losses Indian streaming platforms face due to piracy. Revenue losses not only affect platforms but also extend to content creators, impacting the production and diversity of Indian content. The Streaming Platforms contributed an annual loss of INR 141.12 billion. The Mobile Apps contributed to an annual loss of INR 35.84 billion. The estimated annual losses due to piracy across streaming platforms and mobile apps contribute to a total loss of INR 224 billion annually.

7.5 Interpreting the Results

These findings indicate a complex interplay between copyright law limitations, technological challenges, and the economic pressures of piracy in India. The limited enforcement capabilities and the high consumer demand for affordable content drive a persistent cycle of piracy, indicating that solely relying on legal measures or DRM may not suffice to address this challenge.

7.6 Comparison with Literature

In contrast to more established digital copyright enforcement measures in

the U.S. and the EU, India's enforcement mechanisms appear less streamlined. Studies on the DMCA reveal rapid takedown procedures and proactive measures against infringers, whereas India lacks comparable efficiencies. Unlike some Western markets where piracy has slightly declined due to affordable legal streaming options, the high cost of legitimate services in India continues to propel piracy.

7.7 Implications for Digital Copyright Policy

The findings underscore the need for a multi-pronged approach to digital copyright policy in India. Policymakers might consider enhancing enforcement through specialised digital copyright units and advocating for faster legal proceedings against violators. Additionally, subsidised, tiered streaming models could reduce the economic drive for piracy, while more effective DRM strategies may balance security and accessibility. For streaming platforms, investing in consumer awareness initiatives about copyright and safe streaming options can further mitigate piracy at the user level.

8. Conclusion

This study highlights the critical challenges India faces in enforcing digital copyright within its streaming industry. Key issues include pervasive piracy due to high demand for affordable content, limited resources for enforcement, and technological limitations of DRM measures. Compared to international frameworks like the U.S. DMCA and the EU Copyright Directive, India's current legal frameworks lack expedited enforcement mechanisms and efficient processes to combat digital copyright infringement effectively. However, potential solutions, such as tiered pricing models for streaming platforms, improved DRM strategies, and increased resources for enforcement, offer promising avenues to mitigate these issues.

The findings effectively address the research objectives by identifying the primary challenges in India's digital copyright enforcement and evaluating how existing legal and technological solutions can be adapted to the Indian context. Through a comprehensive review of case studies, industry reports, and academic literature, this study provides a detailed understanding of the gaps in India's current copyright enforcement strategies and the potential policy adjustments that could improve outcomes for content creators, platforms, and users.

In the broader context of India's digital economy, these findings emphasize the need for stronger intellectual property protections to support growth in the streaming and digital content industries. Addressing copyright challenges could enhance the competitiveness of Indian streaming platforms and attract greater investment in content production. Globally, India's unique approach to digital copyright enforcement could contribute valuable insights into balancing affordable content access with copyright protections, offering lessons applicable across diverse,

emerging digital economies.

9. Implications and Scope for Future Research

The findings highlight key areas where Indian copyright policy could evolve to better address the challenges posed by the digital and streaming landscapes. Policymakers may consider amending the Copyright Act to close existing loopholes, streamline enforcement, and introduce stricter penalties for piracy. Additionally, developing clearer guidelines for digital rights management (DRM) and setting standards for copyright compliance could foster a safer online media environment.

9.1 Implications for Streaming Platforms

Streaming platforms should leverage this research to adopt enhanced copyright protection mechanisms, such as automated detection systems for copyrighted content and advanced watermarking techniques. Collaboration between platforms and authorities could also help in combating piracy more effectively by enabling quicker and coordinated responses to violations, potentially reducing the prevalence of copyright infringement.

9.2 Scope for Future Research

Future research could focus on analysing specific licensing models suited for the Indian market, assessing the effectiveness of current enforcement strategies, and studying user behaviour to understand factors influencing copyright compliance. Such research would offer valuable insights into optimising copyright frameworks and adapting enforcement mechanisms to the evolving demands of digital media in India.

10. Limitations

10.1 Data Limitations

This study faces certain data constraints, particularly in accessing comprehensive industry data due to limited transparency among streaming platforms and inconsistent public records on copyright infringement cases. Additionally, potential response bias in interviews may affect the findings, as participants from the industry or enforcement agencies might portray their efforts more positively than observed in practice.

10.2 Geographic Limitations

Given that this research is focused on the Indian context, the findings may not be directly applicable to other regions with differing legal frameworks, technological infrastructures, or cultural attitudes toward copyright. Variations in global copyright standards and enforcement strategies could lead to different challenges and solutions in other countries.

10.3 Methodological Constraints

The research methodology also presents certain limitations. Accurately measuring piracy rates remains a challenge due to the covert nature of piracy and the rapid adaptation of methods used by infringers. Furthermore, analysing the impact

of legislative changes is complex, as laws are continuously evolving to keep pace with technological advances. This makes it difficult to fully capture the long-term effects of any specific legal reform on digital copyright protection in the streaming industry.

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Customer Satisfaction towards online Shopping with Special Reference to Dibrugarh Town of Assam

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ABSTRACT

In the 21st century, people have become extremely busy, often burdened with hectic schedules that leave little time for shopping. In this context, e-commerce plays a crucial role by providing an online shopping platform that allows customers to purchase goods and services directly from sellers. As online shopping continues to gain popularity, it is essential for retailers to stay updated with the latest trends, develop innovative techniques, and identify challenges that may affect their business. Customer satisfaction is a critical factor in determining a business's success. Measuring this satisfaction level helps illustrate how much customers appreciate or are content with the products or services they receive. High levels of satisfaction lead to increased customer loyalty and help enhance a brand's reputation. The objectives of this study are to examine the demographic profiles of customers, identify the most preferred online shopping websites, and analyse the types of products purchased through these platforms. The study also aims to assess customer satisfaction levels and identify the key factors influencing their shopping experience, as well as any issues related to online shopping. To gather data, the study utilised convenience and snowball sampling techniques, collecting 50 responses through an online Google Form circulated on WhatsApp and Facebook. The findings present a clear picture of online shoppers in Dibrugarh town.

Keywords : Online shopping, Customer, Satisfaction level, Problems, Influencing factors.

1. Introduction

In today's digital world, the Internet offers a variety of benefits and opportunities to people. It has become the most important part of the customers'

daily life. Every company and even a small-scale business would not function without the Internet. Online shopping rules the market where everyone wants comfort and easy access from a single roof. So, it becomes essential for the marketer to illustrate the satisfaction level of the customers and to find out the problem related to the product/services. If the expectations of consumers match with product/service performance, it will be a competitive advantage for the retailer against the rival online retail websites. Kotler (2015) states, "Customer satisfaction can be defined by the level a product can be performed to meet a particular customer's implicit and explicit perception and expectations". The rapid development of information technology led to a cultural shift. Customers started shopping via e-commerce rather than in physical stores. Physical businesses have been attempting to gain a competitive advantage by using e-commerce to interact with customers (Lee and Lin, 2005). In online businesses, competition can easily enter the market because of low entry barriers (Wang et al., 2016). From the customer's perspective, they have low switching costs to shop from one online store to another (Mutum et al., 2014). In physical businesses and online businesses, customer shopping experience influences future customer behaviour, including repurchase intention, store revisit intention, and word of mouth (WOM) (Chang and Wang, 2011). (Oliver, 2010) mentioned that satisfaction is the consumer's fulfilment response. It is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfilment, including under or over-fulfilment. Recent interpretations in the consumer domain now couch satisfaction as a fulfilment response. Fulfilment implies that a consumption goal is known, as in basic motives of hunger, thirst, and safety. However, observers of human behaviour understand that these and other goals can be and frequently are modified and updated in various ways. Thus, consumer researchers have moved away from the traditional meaning of satisfaction and now pursue this concept as the consumer experiences and describes it. Customers must be satisfied with their online shopping experience; otherwise, they will not return (Kim and Stoel, 2004). If companies can better understand their customers, they can present products or services more effectively and continuously improve them to strengthen their competitive advantage. Market orientation and customer satisfaction research shows a direct connection between customer satisfaction and organisational performance (Garver and Gagnon, 2002). Consequently, in the turbulent e-commerce environment, Internet companies need to know how to satisfy customers. This will enable them to sustain their growth and market share (McKinney et al., 2002).

1.1 Online Shopping

Online shopping allows customers to buy goods and services directly from vendors or sellers via the Internet, utilising either a web browser or a mobile application. Shoppers can find products by going to the seller's website or a shopping search engine to compare the availability and prices of different sellers. An online

shop is similar to shopping at a physical store, and this process is known as business-to-consumer (B2C) online shopping. If a store is designed for businesses to buy from other businesses, it is called business-to-business (B2B) online shopping. Typically, an online store allows customers to browse various products and services, view images, and access details about product specifications, features, and prices. Since the late 1990s (Zhang and Zhou, 2007), online shopping has taken off as more consumers purchase increasingly diversified products on the Internet. Given that attracting and retaining consumers is critical to the success of online retailers, research on the antecedents of consumer acceptance of online shopping has attracted widespread attention. As the competition in e-commerce intensifies, it becomes more important for online retailers to understand the antecedents of consumer acceptance of online shopping. Such knowledge is essential to customer relationship management and is recognised as an effective business strategy to achieve success in the electronic market. Despite many studies on online shopping, there is a lack of a coherent model for understanding mixed findings on consumer acceptance. In the typical online shopping process (Li and Zhang, 2002), when potential consumers recognise a need for some merchandise or service, they go to the Internet and search for need-related information. However, rather than searching actively, at times, potential consumers are attracted by information about products or services associated with the felt need. They then evaluate alternatives and choose the best fit their criteria for meeting the felt need. Finally, a transaction is conducted, and post-sales services are provided. Online shopping attitude refers to consumers' psychological state in terms of online purchases.

1.2 History of Online Shopping

In 1979, English inventor Michael Aldrich developed e-commerce, enabling online transactions between businesses and consumers as well as between businesses themselves. In 1990, Tim Berners-Lee invented the first web browser, the World Wide Web, which allowed millions of people to access various e-commerce platforms and established the internet as a foundation for online shopping. A significant shift in online shopping occurred in 1995 with the launch of Amazon.com and eBay.com. However, these platforms initially lacked reliable payment processing solutions. The introduction of PayPal in 1998 provided a successful online payment system. In 2000, Google launched AdWords, allowing sellers to place ads in Google search results. By 2004, Shopify emerged, enabling low-capital sellers to create online stores easily. In 2006, PayPal introduced a service that allowed individuals to transfer funds and purchase goods directly using their mobile devices. As of 2020, the internet has transformed into a digital marketplace.

2. Statement of the Problem

In the past, customers dedicated significant time to visiting specific shops; however, times have changed. Today, people prioritize comfort and a wider variety

of options in their shopping experiences. Online shopping has emerged as the preferred choice, allowing individuals to browse and select products from the convenience of their homes. Currently, there is a lack of research addressing customer satisfaction levels regarding online shopping, as well as the factors that influence this experience and the challenges customers face, particularly in Dibrugarh Town. This study aims to assess customer satisfaction with online shopping and will provide valuable insights for marketers looking to enhance customer satisfaction when delivering products and services.

3. Review of Literature

Kumar, A. et al. (2013), in their research on "Consumer behaviour in online shopping: A study of Aizawl," suggested that there should be uniformity in the quality of the online products and services provided to the customers until there is a great risk of fraud and to teach the online customers to classify the defects in service transfer.

Uzun, H. et al. (2014), in their study on "Factors Affecting Online Shopping Behaviour of Consumers," an online survey of 200 customers of online buyers to analyse the data using chi-square tests. ANOVA and coefficients were used. The result reveals that the quality of products and services is most important for customers. If their past shopping experience is good, then they are ready to be loyal customers on the internet.

Sen, R.A. (2014), in his study on "Online shopping: a study of the factors influencing online purchase of products in Kolkata," found that price is the most important factor in choosing online purchases. So proper marketing strategies should be adopted to achieve competitive advantages in the market.

Thangavel, S. (2015), in her research "A study on customer satisfaction towards online shopping" found that understanding customer's need for online selling has become a challenge for marketers, especially customers' attitudes towards online shopping. The possibility of fraud and privacy conflict in online shopping was the major problem faced by respondents.

Jadhav, J., and Khana, M. (2016), in their study on "Factors influencing online buying behaviour of college students: A qualitative analysis," found that most college students preferred Flipkart.com and Myntra.com to shop online, and the most influencing factor was the easy availability of low-priced products and services with easy comparison.

Mahmud, K. et al. (2019), in their research study on "General consumer satisfaction towards online shopping in Bangladesh", conducted an online survey through Google Forms, 394 responded to the study, out of which 301 valid responses were selected for further analysis. Statistical techniques such as T-tests, chi-square tests, independent samples and ANOVA tests were used to analyse the data. The study revealed that there is no significant relationship between customer satisfaction and customer education level.

Merugu, P. et al. (2020), in their study "Customer Satisfaction Towards Online Shopping with Reference to Jalandhar City", used a modified SERVQUAL model to study how customers perceive online shopping quality. Two hundred responses were gathered for the study, and data were analysed through statistical tools such as factor analysis cross-tabulation and frequency tables. The outcome reflects that service quality factors such as ease of use, reliability, and security are the factors that influence customers the most.

Bhatt, V. (2021), in his study on "Factors Influencing Consumers' Online Buying Behaviour: An Empirical Study," analyses the role of online shoppers' demographics, social, cultural, psychological behaviour, and motivation. The findings reveal that over time, most retailers or businesses took up technological changes and started their businesses online, and they are trying their best to meet customer-specialized desires with their actual performance.

Sengupta, A., and Pandey, R.R. (2022), in their study "A study of customer's satisfaction towards online shopping in Gorakhpur", said that measuring the customer satisfaction level is very important because if customers are satisfied with the service, they will repeat, purchase and recommend other customers to try it once, which will automatically result in retailer profit maximisation.

Kavitha, M. (2023), in her study "A study on customer's satisfaction towards online shopping with reference to Coimbatore city", 130 questionnaires were distributed, out of which 120 useful responses were included for the further study and analysed through simple statistical and chi-square tools. The study suggested that to attract more customers to purchase above the particular value, the marketer can give gifts with an estimated delivery time clearly stated, and e-mail or sms alerts about the delivery must be given to the customers.

4. Research Gap

Various studies have been conducted on online shopping and related topics in different regions, both domestically and internationally. However, there has been no research focused on customer satisfaction among consumers in Dibrugarh Town, Assam. Therefore, this study aims to address this research gap.

5. Objective of the Study

1. To study the demographic profile of the customers.
2. To find the most preferred online shopping website in Dibrugarh town.
3. To know the types of products that customers buy most frequently through online shopping.
4. To assess customer satisfaction with online shopping.
5. To identify the factors that influence customers towards online shopping.
6. To find out the challenges faced by customers when shopping online.

6. Scope of the Study

The study explores the demographic profiles and satisfaction levels of online shopping customers in Dibrugarh town. It identifies the most preferred online shopping websites and the factors that influence customers' choices. Additionally, the study examines the types of products that customers purchase most frequently online, as well as the various challenges they encounter while shopping online.

7. Significance of the study

The rise of e-commerce is causing a shift in customer preferences toward online shopping. Today, numerous competing websites enable customers to purchase a wide range of products with just a click on their mobile devices, delivering items directly to their homes. Many consumers are increasingly opting for online shopping to avoid long lines, enjoy convenience, and benefit from greater efficiency. While various factors influence customers' choices for online shopping, their overall satisfaction is crucial for retaining them. This study aims to provide insights into the shopping habits of customers in Dibrugarh Town. The findings will be valuable for marketers seeking to develop new and innovative growth strategies.

8. Methodology

The study is descriptive research aimed at assessing customer satisfaction levels related to online shopping, identifying the most preferred online shopping website in Dibrugarh town, and determining the most frequently purchased products online. It also explores various influencing factors and challenges associated with online shopping.

Population: The population for this study includes all customers in Dibrugarh town who have made purchases through online websites.

Sample Size: In research, the sample size refers to the number of individuals or items selected from a larger population to draw conclusions about that population. For this study, the sample size consists of 50 respondents.

Sample Design: Respondents were selected using convenience and snowball sampling techniques through a Google Form that was shared on WhatsApp and Facebook.

Data Collection: Primary data were collected via an online survey using a Google Form, while secondary data were gathered from books, journals, and websites.

Tools for Data Analysis: The research study employed descriptive statistics for data analysis, including percentages, tables, pie charts, and median calculations to interpret the collected data.

9. Data Analysis and Interpretation**Table - 1**
Demographic profile of the respondents

Details	Groups	Frequencies	Percentage
Gender	Male	20	40%
	Female	30	60%
Age	18 to 25	9	18%
	26 to 35	24	48%
	36 to 45	12	24%
	46 to Above	5	10%
Education	Under Graduate	14	28%
	Graduate	14	28%
	Post Graduate	22	44%
Occupation	Student	11	22%
	Business	4	8%
	Employee	19	38%
	Profession	5	10%
	Retired	1	2%
	Housewife	6	12%
	Others	4	8%
Type of family	Nuclear	40	80%
	Joint	10	20%
Monthly family income	Below 20,000	15	30%
	20,001 to 40,000	17	34%
	40,001 to 60,000	8	16%
	Above 60,000	10	20%
Marital status	Single	26	52%
	Married	24	48%

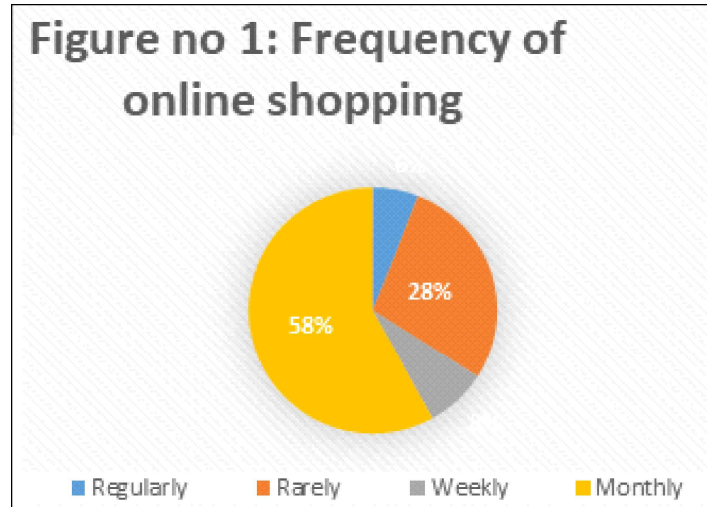
Source: primary data

Interpretation

The data presented in Table 1 indicates that 60% of the respondents are female, while 40% are male. The largest age group represented is 26 to 35 years old, encompassing 48% of the respondents. In terms of education, a significant portion of the respondents, 44%, have completed postgraduate studies. Regarding occupations, 38% of the respondents are employees. When looking at family structure, 80% of respondents come from nuclear families, while 20% belong to joint families. In terms of monthly family income, 34% of respondents earn between 20,001 and 40,000, 30% earn below 20,000, 20% earn above 60,000, and 16% earn between 40,001 and 60,000. Lastly, 52% of the respondents are single, and 48% are married.

Table - 2
Frequency of online shopping

Frequency of online shopping	Frequency	Percentage
Regularly	3	6
Rarely	14	28
Weekly	4	8
Monthly	29	58



Source: Primary data

Interpretation:

Table 2 and Figure 1 indicate that 58% of respondents shop online every month, 28% rarely, 8% weekly, and 6% conduct online shopping regularly.

Table - 3
Most preferred online shopping websites

Websites	Frequency	Percentage
Amazon	12	24
Flipkart	21	42
Myntra	13	26
Other	4	8

Source: primary data

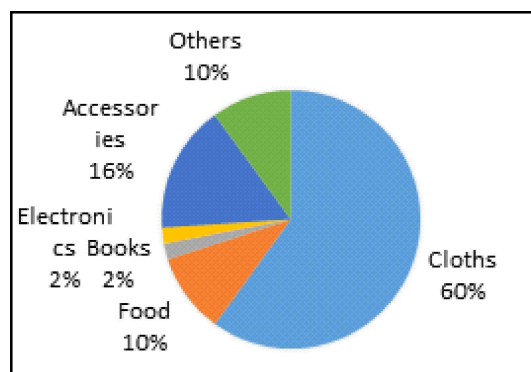
Interpretation

Table - 3 makes it clear that 42% of the respondents said that Flipkart is the most preferred online shopping website in the study area, followed by Myntra, Amazon and others at 26%, 24% and 8%, respectively.

Table - 4
Kind of products purchased most by the respondents

Products	Frequency	Percentage
Cloths	30	60
Food	5	10
Books	1	2
Electronics	1	2
Accessories	8	16
Others	5	10

Figure no 2: Shows the kind of product purchase most by the respondents



Source: Primary data

Interpretation

Table 4 and Figure 2 demonstrate that the majority, 60% of respondents, purchase clothes through online shopping, followed by accessories at 16%, foods and others at 10%, and electronics and books at 2%.

Table - 5 : Online Shopping Satisfaction Level of Consumers
(Where, HS - highly satisfied, S- satisfied, N- neutral, D- dissatisfied, HD- highly dissatisfied)

Particulars	HS	S	N	D	HD	Median	Rank
Price of the product	9	27	12	1	1	9	1
Quality of the product	4	28	16	1	1	4	6
Speed of delivery	8	18	19	4	1	8	2
Product packaging	5	25	17	2	1	5	5
Customer service	6	24	16	2	2	6	4
After-sale service	7	19	19	4	1	7	3

Source: Primary data

Interpretation

Table 5 clearly illustrates the satisfaction levels of respondents, indicated by both the median and their rankings. The factors ranked are as follows: 1st - Price of the product, 2nd- Speed of delivery, and 3rd-After-sale service. The majority of respondents expressed satisfaction with the product's price, which is why it ranks first.

Table - 6 : Factors influencing online shopping.
(Where, SD- strongly disagree, D- disagree, N- neutral, A- agree, SA- strongly agree)

Particulars	SD	D	N	A	SA	Median	Rank
Price	0	3	14	17	16	14	1
Product variety	1	4	9	21	15	9	6
Offers/Discounts	0	5	13	14	18	13	2
Time saving	1	3	17	17	12	12	3
Detailed information about the product	0	6	8	24	12	8	7
Return policy	2	2	11	18	17	11	4

Website layout helps in product searching	1	5	11	22	11	11	4
Payment system	0	2	11	27	10	10	5
Easy comparison of prices and products	0	4	9	25	12	9	6
Convenience	2	7	10	16	15	10	5

Source: Primary data

Interpretation

Table 6 clearly illustrates the various factors influencing respondents' online shopping preferences, ranked as follows: 1st - price, 2nd - offers/discounts, and 3rd - time-saving. The majority of respondents indicated that price is the most significant factor in their preference for online shopping, which is why it is ranked 1st.

Table - 7

Problems of online shopping

(Where, SD- strongly disagree, D- disagree, N- neutral, A- agree, SA- strongly agree)

Particulars	SD	D	N	A	SA	Median	Rank
Additional charges	5	5	21	15	4	5	5
Lack of security	3	7	21	18	1	7	3
Payment issues	6	9	17	16	2	9	1
Unclear return and exchange policies	6	6	18	17	3	6	4
Out of stock	3	8	21	17	1	8	2

Source: Primary data

Interpretation

Table 7 illustrates that online shopping has several significant problems, as indicated by its median and ranking. The most pressing issues are: 1st - Payment problems, 2nd - Out of stock items, and 3rd - Lack of security. The majority of respondents identified payment issues as the most critical problem in online shopping, which is why it is ranked first.

10. Major Findings of the Study

- Demographics: The majority of respondents are female (60%), while 40% are male.
- Age and Education: Most respondents (48%) fall within the age range of 26

- to 35 years, and a significant portion (44%) hold postgraduate degrees.
- c) Employment and Family Structure: A notable percentage of respondents (38%) are employees, and most (80%) come from nuclear families.
 - d) Income Levels: About 34% of respondents have a monthly family income ranging from Rs. 20,001 to Rs. 40,000.
 - e) Shopping Habits: A majority (60%) purchase clothing regularly, and 58% engage in online shopping each month.
 - f) Preferred Online Retailer: Among the respondents, 42% identified Flipkart as their preferred online shopping website.
 - g) Satisfaction with Online Shopping: Respondents expressed satisfaction with product pricing, delivery speed, and after-sales service when shopping online.
 - h) Reasons for Online Shopping: The primary reasons for choosing online shopping include favourable pricing, offers/discounts, and the convenience of saving time.
 - i) Challenges in Online Shopping: Respondents reported that payment issues, out-of-stock items, and concerns about security are significant challenges they face while shopping online.

11. Limitations

1. This study focuses exclusively on customers from Dibrugarh Town who make purchases online.
2. The results may vary with a change in customer attitude and/or opinion.

12. Conclusion

It can be concluded that online shopping currently dominates the market. With the rapid growth of e-commerce, customers increasingly prefer to shop online. This study indicates that individuals aged 26 to 35 are the primary online shoppers, with many of them being employees who favour Flipkart for purchasing clothing. Customer satisfaction with online shopping varies based on individual perceptions and choices regarding products and services. However, this study reveals that the majority of customers are female and are satisfied with the product prices, delivery speed, and after-sale service when shopping online. The research highlights that factors such as competitive pricing, offers and discounts, and time-saving convenience significantly influence customers' preferences for online shopping. The study also points out some challenges that customers face while shopping online, which retailers should address to attract more potential buyers and improve the shopping experience. Customers often encounter various issues while shopping online, including delivery delays, damaged products, and trust-related concerns. It is essential to address these problems effectively. Regular feedback should be collected from customers to improve their experience. Websites must provide accurate and reliable information about the goods and services offered. A safe and secure online payment system is crucial for customer confidence. To prevent fraud and product substitution, robust

security measures should be implemented on online platforms. Furthermore, websites should only display products that are currently in stock, eliminating the need to show out-of-stock items.

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Shareholder Activism in India : Legal Dimensions and Effectiveness in Corporate Governance

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ABSTRACT

This paper examines shareholder activism in India, focusing on its legal framework, effectiveness in corporate governance, and mechanisms like proxy voting, public campaigns, and litigation. It explores the role of institutional investors, minority shareholders, and activist groups in driving accountability and transparency. By analysing landmark cases and challenges such as regulatory gaps and cultural barriers, the study provides policy recommendations to strengthen the governance ecosystem. Key findings highlight shareholder activism as vital for sustainable and accountable corporate practices in India.

Keywords: shareholder activism, institutional investors, proxy voting, regulatory gaps, governance ecosystem.

1. Introduction

Shareholder activism has emerged as a dynamic force reshaping the corporate landscape globally. Originating in the 1980s with the activism of institutional investors and hedge funds, it has since expanded to include a diverse range of stakeholders, including retail investors, pension funds, and advocacy groups. Shareholder activism involves using ownership rights to influence corporate governance, ethical practices, and strategic decision-making. Activists often target issues like board composition, executive compensation, environmental policies, and social responsibility. The growing emphasis on Environmental, Social, and Governance (ESG) metrics has further amplified its relevance, positioning it as a pivotal tool for ensuring corporate accountability. This evolution reflects a broader shift in investor priorities, moving beyond profit maximisation to encompass long-term sustainability and ethical behaviour.

While shareholder activism has demonstrated the potential to foster better corporate governance and accountability, it presents a complex duality. On the one hand, it serves as a mechanism for aligning corporate actions with shareholder interests and societal expectations, often driving meaningful change. For example, activist campaigns have successfully prompted corporations to adopt more sustainable practices or diversify their boards. On the other hand, the practice introduces significant legal and ethical challenges. These include disputes over fiduciary duties, conflicts of interest, and the misuse of insider information. The legal implications vary across jurisdictions, complicating the enforcement of regulations and raising questions about the balance between shareholder rights and managerial autonomy. This dual nature underscores the need for a nuanced exploration of shareholder activism.

2. Conceptual Framework

Shareholder activism is deeply rooted in various theoretical frameworks that provide insights into its legal implications and effectiveness in corporate governance. These include agency theory, stewardship theory, and corporate governance theory, each highlighting different dimensions of the shareholder-management dynamic.

3. Agency Theory

Agency theory forms the cornerstone of shareholder activism, highlighting the principal-agent relationship between shareholders and corporate management. Shareholders (principals) delegate authority to managers (agents) to operate the company on their behalf. However, this delegation often leads to agency problems, such as conflicts of interest, misaligned goals, or managerial self-interest. Shareholder activism emerges as a corrective mechanism to mitigate such issues by holding management accountable and ensuring alignment with shareholders' interests. Activist shareholders may push for changes in executive compensation, strategic direction, or board composition to curb managerial opportunism. This aligns the company's objectives with long-term shareholder value, demonstrating how agency theory justifies activism as a tool for effective oversight.

4. Stewardship Theory

In contrast to agency theory, stewardship theory posits that management acts as stewards of the company, intrinsically motivated to work in the best interests of shareholders. Managers are viewed as trustworthy and committed to maximising corporate performance. This perspective challenges the premise that shareholder activism is always necessary or beneficial. Activist interventions may disrupt management's strategic vision or foster short-termism, undermining long-term value creation. While stewardship theory acknowledges the potential for agency problems, it suggests that fostering trust and collaboration between shareholders and management might yield better outcomes than adversarial approaches.

5. Corporate Governance Theory

Corporate governance theory provides a broader framework for understanding shareholder activism by emphasising principles such as accountability, transparency, and the balance of power. Effective governance mechanisms empower shareholders to influence corporate decisions, ensuring managerial accountability. Shareholder activism often arises in response to perceived governance failures, such as a lack of board independence or inadequate financial disclosures. Legal frameworks, including voting rights and shareholder proposals, play a crucial role in facilitating activism. These mechanisms serve as checks and balances to prevent the concentration of power in management, fostering a more equitable relationship between stakeholders. Shareholder activism operates at the intersection of these theories, balancing oversight and collaboration. While agency theory underscores its necessity, stewardship theory cautions against overreach, and corporate governance theory offers a structured foundation for its implementation, enhancing both accountability and corporate performance.

6. Research Objectives:

This study seeks to delve into the intricate relationship between shareholder activism, corporate governance, and legal frameworks. The primary objectives are:

1. To analyse the legal implications of shareholder activism, focusing on the interplay between regulatory environments and activist strategies.
2. To evaluate the effectiveness of shareholder activism in achieving corporate reforms, with an emphasis on ESG-related outcomes.
3. To investigate how shareholder activism shapes corporate behaviour, particularly in areas of transparency, accountability, and ethical decision-making.

Through these objectives, the study aims to contribute to a deeper understanding of how shareholder activism influences corporate practices and the potential need for legal reforms.

7. Significance of the Study

The significance of this study lies in its relevance to contemporary corporate and legal discourse. The rise of ESG concerns has heightened the stakes for corporations, placing shareholder activism at the intersection of finance, law, and ethics. Activists are not only questioning traditional governance structures but also pushing for systemic changes that align with global sustainability goals. This has profound implications for legal frameworks, as regulators grapple with the need to balance activist interventions with the protection of corporate interests. Understanding these dynamics is critical for policymakers, legal practitioners, and corporate leaders navigating this evolving landscape. By examining the legal and practical dimensions of shareholder activism, this research contributes to shaping strategies that foster

responsible corporate behaviour while mitigating potential conflicts and risks.

8. Literature Review

The growth of shareholder activism can be traced back to the 1980s when institutional investors and hedge funds began leveraging their ownership stakes to influence corporate governance. Activists like Carl Icahn and organisations such as CalPERS (California Public Employees' Retirement System) pioneered this movement, emphasising governance reforms and operational efficiencies (Gillan & Starks, 2007). Over time, activism expanded globally, with notable increases in Europe and Asia driven by ESG concerns (Clarke, 2007). Literature highlights the evolving nature of activism, shifting from confrontational tactics to collaborative engagements with management (Brav et al., 2008).

Shareholder activism takes various forms, each with distinct objectives and strategies. Studies have categorised activism into three primary forms: Proxy Battles: Activists seek to replace board members or influence policy changes through shareholder votes. Research shows these campaigns often target issues like board composition or executive compensation (Goranova & Ryan, 2014). Direct Engagement: Involves dialogue with management to address concerns. This non-confrontational approach is increasingly favoured, particularly by institutional investors seeking long-term value creation (OECD, 2019). Litigation: Shareholders may resort to legal action to enforce governance changes or address fiduciary breaches, particularly in jurisdictions with strong shareholder protection laws (Bebchuk & Jackson, 2010).

The legal landscape plays a critical role in shaping shareholder activism. In the United States, laws such as the Securities Exchange Act of 1934 and the Dodd-Frank Act govern proxy voting, shareholder proposals, and executive compensation disclosures (SEC, 2020). The European Union has introduced the Shareholder Rights Directive, emphasizing transparency and long-term engagement (OECD, 2019). Emerging markets often face challenges with weak legal protections and limited enforcement mechanisms, impacting the effectiveness of activism (Clarke, 2007). Despite regulatory progress, there remains debate over the balance between empowering shareholders and protecting corporate autonomy.

The impact of shareholder activism is well-documented, with studies linking it to improved corporate governance and financial performance. For instance, Brav et al. (2008) found that hedge fund activism often leads to significant operational improvements and value creation. Activism has also driven ESG advancements, with campaigns prompting companies to adopt sustainable practices and diversify their boards (ISS, 2023). However, some research highlights potential downsides, including short-termism and increased managerial pressure to meet activist demands (Strine, 2017).

This review provides a foundation for understanding shareholder activism's

origins, forms, legal frameworks, and impacts while identifying gaps for research.

9. Methodology

9.1 Research Design

This study relying solely on secondary data to examine the implications and effectiveness of shareholder activism. The focus is on analysing historical data, case studies, and corporate records to identify trends, patterns, and outcomes.

9.2 Data Collection

1. **Case Studies:** Detailed analysis of publicly available case studies on shareholder activism provide insights into strategies, interventions, and outcomes. These cases include high-profile examples of activist campaigns targeting corporate governance reforms or financial restructuring.
2. **Legal Cases:** Examination of court rulings and regulatory decisions involving shareholder activism. This data help assess the legal implications of shareholder interventions and the role of judicial systems in shaping corporate governance.
3. **Financial Performance Metrics:** Collection of historical financial data, such as return on equity (ROE), stock price movements, and earnings per share (EPS), of companies targeted by shareholder activists. These metrics are analysed to determine the financial impact of activism.
4. **Shareholder Resolutions:** Analysis of resolutions filed by activist shareholders, including their success rates and the subsequent actions taken by companies. Data is sourced from corporate filings, proxy statements, and institutional investor reports.
5. **Corporate Governance Scores:** Review of governance ratings and indexes (e.g., ESG scores) to evaluate the impact of activism on governance standards in targeted firms.

9.3 Sampling

The sample will focus on publicly traded companies across various sectors that have been targeted by activist shareholders over the past decade. A selection of 20-30 cases will be made to ensure representativeness across industries and regions. Legal cases will also be chosen based on their relevance to shareholder rights and governance reforms.

9.4 Data Analysis

A structured analysis of shareholder resolutions, case studies, and legal decisions are examined to identify recurring themes, success factors, and barriers to activism.

9.5 Limitations

Data Availability: Access to detailed case information or proprietary financial data may be limited.

Bias in Case Selection: Publicly documented cases may overrepresent high-profile activism, potentially skewing findings.

Causality Challenges: Establishing a direct causal relationship between shareholder activism and observed outcomes is complex due to confounding factors.

Despite these limitations, the exclusive use of secondary data allows for a broad and objective examination of shareholder activism's impact on corporate governance and performance.

10. Findings and Discussion

10.1 Impact on Corporate Governance and Accountability

Analysis of prominent cases in India, such as the activism seen in Tata Sons vs. Cyrus Mistry (2016), demonstrates how shareholder activism can lead to significant governance reforms. This case highlighted issues of board independence, transparency, and accountability. The legal battles culminated in greater awareness of corporate governance practices and the importance of shareholder rights in challenging management decisions. Activist efforts, including those by institutional investors, have led to enhanced adoption of governance reforms, such as the implementation of SEBI's revised corporate governance standards.

10.2 Targeting of Underperforming Companies

Financial analysis of cases like Fortis Healthcare (2018) reveals that shareholder activism often targets companies plagued by financial mismanagement or underperformance. In Fortis, shareholders successfully pushed for changes in board composition and a transparent bidding process for the sale of the company. These interventions aimed at addressing poor governance and stabilising financial performance, reflecting a strategic focus on unlocking shareholder value.

10.3 Analysis of Legal Implications

- **Disclosure Requirements:**

Under Indian laws, such as SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, stringent disclosure obligations have facilitated activism by institutional investors and mutual funds. Cases like Vedanta Limited (2018) show how activists leveraged mandatory disclosures to challenge decisions on delisting and minority shareholder interests. Enhanced transparency has proven to be a key enabler for activism.

- **Proxy Access and Voting Rights:**

Shareholder voting mechanisms under the Companies Act 2013, have empowered activists to challenge management. In the Yes Bank (2020) case, activist shareholders used voting rights to oppose board reappointments and demand accountability for financial irregularities. However, proxy access remains underdeveloped compared to global standards, limiting shareholder influence in some cases.

- **Litigation Risks:**

Cases like Tata Sons vs. Cyrus Mistry underscore the litigation risks associated with shareholder activism in India. While legal battles raised important governance questions, they also highlighted the high costs and prolonged timelines that can deter activism. The judicial system played a critical role in determining the boundaries of shareholder rights, emphasizing the need for more robust legal clarity.

10.4 Effectiveness of Activism

- **Governance Changes:**

Shareholder interventions have led to measurable governance improvements in cases like Infosys (2017), where whistleblower complaints and activist pressures resulted in enhanced board accountability and operational transparency.

- **Financial Performance:**

Post-activism analysis in cases like Fortis Healthcare shows that financial stability often improves after governance reforms, with stock prices recovering and investor confidence returning.

- **ESG Goals:**

Activism related to environmental and social issues in India remains limited but growing. For instance, in Tata Power, activist pressures have pushed for commitments to renewable energy projects, though implementation remains gradual.

10.5 Comparison with Literature

The findings align with global research highlighting the impact of activism on governance, but India's context introduces unique nuances:

- **Legal Constraints:**

Compared to markets with more robust proxy access rights, Indian shareholder activism is often constrained by limited legal mechanisms and prolonged litigation, as seen in Tata Sons.

- **Market Context :**

Activism in India is often reactive, driven by crises such as financial mismanagement or governance failures, consistent with emerging market trends (Aguilera & Cuervo-Cazurra, 2004).

Shareholder activism in India has proven effective in driving governance reforms and financial improvements, though its impact is tempered by legal constraints and evolving market practices. Strengthening regulatory frameworks and simplifying litigation processes could further empower shareholders to influence corporate governance effectively.

11. Conclusion

This study examines the legal implications and effectiveness of shareholder activism in India, highlighting its role in enhancing corporate governance and financial performance. Notable cases, such as Tata Sons vs. Cyrus Mistry and Fortis Healthcare, demonstrate how activism has driven reforms in board independence, transparency,

and accountability. However, challenges like limited proxy access, lengthy litigation, and regulatory gaps hinder its full potential. Activism often targets governance inefficiencies or financial underperformance, as seen in cases like Yes Bank and Infosys. The growing focus on ESG goals, exemplified by Tata Power, reflects a shift towards sustainable corporate practices.

12. Implications and Scope for Future Research

The findings emphasise the importance of strengthening legal frameworks, such as SEBI regulations, to empower shareholders and promote accountability. Companies are encouraged to align management decisions with shareholder interests to foster trust and long-term value creation. Future research could explore activism strategies in emerging markets, the intersection with ESG objectives, and the long-term impact on financial performance. The role of technology in shaping activism dynamics also warrants attention.

13. Limitations of the Study

Despite its insights, the study has limitations, including reliance on secondary data, focus on publicly traded companies, and exclusion of macroeconomic and industry-specific influences. Addressing these gaps in future research could deepen understanding of shareholder activism's impact on governance and financial stability in India, contributing to a robust framework that aligns corporate practices with global standards.

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Online Resources:

1. Harvard Law School Forum on Corporate Governance: Regular updates on shareholder activism and legal developments in corporate governance (<https://corpgov.law.harvard.edu>).
2. Council of Institutional Investors: Reports and tools on shareholder activism and governance best practices (<https://www.cii.org>).

An M/G/1 Two Types of General Heterogeneous Queue with Bernoulli Feedback and Optional Re-service

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ABSTRACT

This paper considers a single server queueing model with vexatious service of call centers. There are two service representatives. Upon a call, customers must find a free call line to occupy the line. Customers holding a call line are served according to the first-come-first-served discipline. After completing a call, the customer leaves the system and the call line is released for a newly arrived customer or he may calling again as a feedback customer if the customer becomes dissatisfy with the service he received. We formulate the queueing system by making markovian, inclosing supplementary variables. We obtain the steady queue size distribution and also obtain the explicit queue size distribution at departure epoch for this model.

Keywords: Bernoulli feedback; supplementary variable technique; re-service

1. Introduction

The queueing system with two types of service was first investigated by Anabosi, and Madan (2003) where there is a single server queue with optional server vacations based on Bernoulli schedules and a single vacation policy where the server provides two types of heterogeneous exponential service and a customer may choose either type of service. Later, Madan et al. (2004) investigated the two types of service for batch arrival queue by introducing the concept of re-service. In such a model, the server provides two types of general heterogeneous services and an arrival unit (customer) has the option to choose any one of the two types of service before its service starts. But if a customer has to necessary the service again then the customer has an option to go for re-service or repeat his service once again. Madan et al. (2005) investigated a similar type of model, to study the concept of the Bernoulli vacation also. Tadj and Ke (2008) have investigated a model with a choice of service and optional re-service under a hysteretic bulk service policy. Baruah et al. (2012) studied a similar type of model, which is closely related to this system. More recently,

Choudhury and Kalita (2017) investigated this type of model subject to server's breakdowns occurring randomly at any instant while serving the customers and delayed repair. If the customer is feedback again to the head of the queue with some probability in a case when he is unsatisfied with his service, then this phenomenon is called Bernoulli feedback. The Bernoulli feedback mechanism with first and second moments of the sojourn time in a first-come-first-served M/G/1 queue were given by Takacs (1962). Takacs (1963) studied the feedback queue in depth on a single server queue. Rege (1993) studied the M/G/1 queue with Bernoulli feedback based on some branching process which simplifies the derivation of certain performance measures and its physical significance. Krishna Kumar et al. (2011) examined Bernoulli feedback in single-server retrial queue with collisions. Also, Choi et al. (2000) studied with multi-class customers, Upadhyaya (2016) considered a discrete-time GeoX/G/1 batch arrival retrial queue with Bernoulli feedback. More recently, Lan and Tang (2017) investigated the Bernoulli feedback system with a discrete-time Geo/G/1 repairable queueing system and randomized -policy.

Our model is applicable in call centers. Nowadays, call centers are one of the core parts for the customer support of companies and organizations because it serves as a channel for direct communication with customers. A call center, or in general a contact center, is defined as a service system in which customer representatives (agents or servers) serve customers (callers), over telephone, fax, email, etc. Examples of call centers include telephone shopping, ticket reservation, and telephone banking. Recently, call center business is also important because it provides a large amount of employment in many countries. Therefore, both theoretical and practical points of view optimal design and management of call centers are interesting. Managing a call center is a diverse challenge due to many complex factors related to uncertain and time-varying demand for service. Call centers have been attracting much attention of researchers from both academia and industry. In this paper, we focus on a problem of vexatious service of call centers. A call center operation is typically characterized by three fundamental processes of arrival, service, and abandonment. The most classic marvel in call centers is the abandonment of customers. It befalls when a customer has to wait to connect to a call agent. When a customer makes a call while all the call agents are busy with either a call or an after-call work then after some patient time the customer may abandon receiving their service. If a free call line is available, the customer can hold the line in order to wait for a free call agent instead of being blocked. The customer may abandon receiving service if the waiting time is too long. Waiting customers may abandon after some waiting time and then either join the orbit or leave forever. But in this paper, customer abandon is not considered, since the managers of call centers wish to keep the abandonment rate as small as possible under a minimal staffing level (number of call agents) undoubtedly. One of the single best ways to reduce abandonment is to offer customers a call-back as an alternative (sometimes referred to as 'virtual queuing'). Customer satisfaction, in

turn, hinges on the quality and effect of their experience and the goods or service they received. It is a highly personal assessment that is greatly affected by customer expectation. If a customer becomes dissatisfied with the service provider due to improper personal interaction, not meeting of confirmation or disconfirmation of individual expectation regarding a service or product, then move on from the service system or he may immediately join the tail of the original queue as a feedback customer for receiving another regular service. To this end, we need to develop a queueing model which captures the behaviors of customers as well as call agents for a careful design of call centers.

2. Model description

We consider a call center with *two* service representatives. Customer arrivals are assumed to be a Poisson process with rate λ , and each customer has the option to serve the first representative service (FRS) with probability p_1 or the second representative service (SRS) with probability p_2 , $p_1 + p_2 = 1$. Let B_1, B_2 denote the service time of types 1 and 2 services respectively. We assume that, each of B_1, B_2 has a general distribution with distribution function $B_j(x), j = 1, 2$ respectively, and the probability density function $b_j(x)$, Laplace-Stieltjes transform (LST) $B_j^*(s)$ and the finite moments $\beta_j^{(k)}, k \geq 1$ for $j = 1, 2$ (denoting FRS and SRS respectively). The total service time required by a unit to complete the service cycle is given by,

$$B = \begin{cases} B_1; \text{with probability } p_1 \\ B_2; \text{with probability } p_2 (= 1 - p_1) \end{cases}$$

Therefore, the LST $G^*(s)$ of G is given by

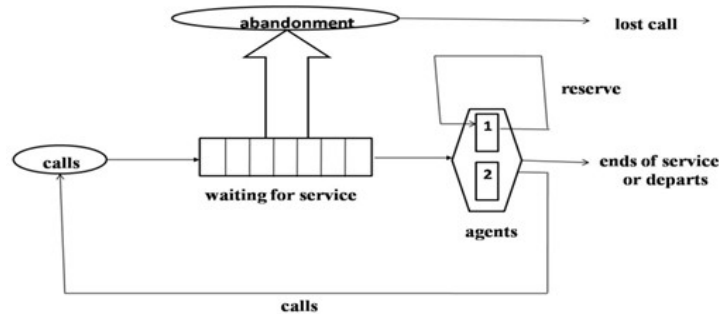
$$B^*(s) = p_1 B_1^*(s) + p_2 B_2^*(s)$$

and the first two raw moments are given by

$$\beta_1 = p_1 \beta_1^{(1)} + p_2 \beta_2^{(1)}$$

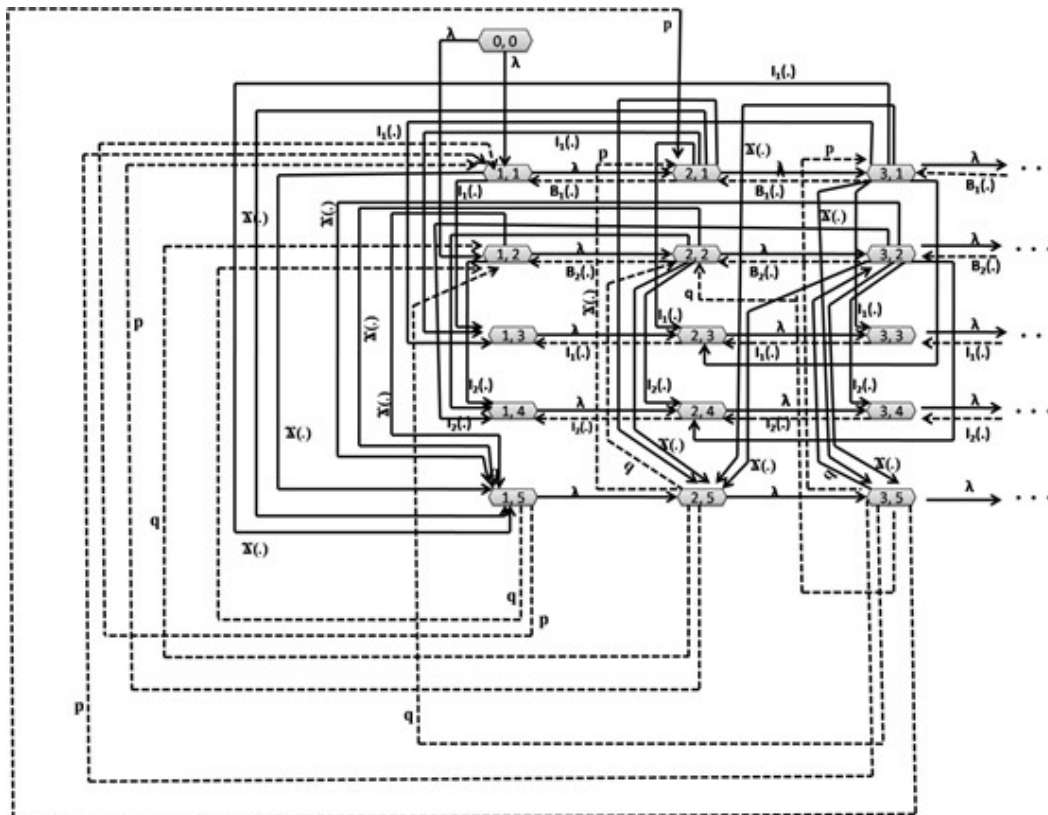
$$\beta_2 = p_1 \beta_1^{(2)} + p_2 \beta_2^{(2)}$$

Fig. 1: Call Center with arrival calls, reserve and abandonment



As soon as the service (of any kind) of a customer is complete, he has the option to leave the system or to repeat the same service. Thus as soon as a customer completes type j ' service, he may repeat type j ' service with probability f_j or may leave the system with probability $1 - f_j, j = 1, 2$. Let F_1, F_2 denote the re-service time of types 1 and 2 respectively and each of F_1, F_2 has a general distribution with distribution function $I_j(x), j = 1, 2$. It is further assumed that either service may be repeated only once. However if a customer is dissatisfied with its service for a certain reason or if it received unsuccessful service, in that case, the customer may immediately join the tail of the original queue as a feedback customer for receiving another regular service with probability θ . Otherwise, it may depart forever from the system with probability $\theta' (=1-\theta)$. Suppose X denotes the Bernoulli feedback and $X(x)$ is its general distribution function. The state transition diagram for this mathematical model is depicted in Fig. 2.

Fig. 2: State Transition Diagram



2.1 Steady state equations

Assume that the system is in steady state condition and define $N_Q(t)$ be the queue size at the time t' , $B_j^0(t)$ as the elapsed j^{th} representative service at time the t' , $j = 1, 2$. Let us introduce the following random variable,

$$Y(t) = \begin{cases} 0 & \text{; if the system is idle at time 't'} \\ 1 & \text{; if the system is busy with FRS at time 't'} \\ 2 & \text{; if the system is busy with SRS at time 't'} \\ 3 & \text{; if the system is repeat the FRS at time 't'} \\ 4 & \text{; if the system is repeat the SRS at time 't'} \end{cases}$$

Therefore the supplementary variables $B_1^0(t), B_2^0(t), F_1^0(t), F_2^0(t)$ are introduced in order to obtain a bivariate Markov process $\{N_Q(t), \phi(t)\}$, where $\phi(t) = 0$ if $Y(t) = 0$, $\phi(t) = B_1^0(t)$ if $Y(t) = 1$, $\phi(t) = B_2^0(t)$ if $Y(t) = 2$, $\phi(t) = F_1^0(t)$ if $Y(t) = 3$, $\phi(t) = F_2^0(t)$ if $Y(t) = 4$ and define the probabilities,

$$P_{n,j}(x; t)dx = \text{Prob} [N_Q(t) = n, \phi(t) = B_j^0(t); x < B_j^0(t) \leq x + dx], x > 0, n \geq 0,$$

$$R_{n,j}(x; t)dx = \text{Prob} [N_Q(t) = n, \phi(t) = F_j^0(t); x < F_j^0(t) \leq x + dx], x > 0, n \geq 0,$$

$$j = 1, 2 \text{ and } V_0(t) = \text{Prob} [N_Q(t) = 0, \phi(t) = 0].$$

Further, we assume that $B_j^0(0) = 0, B_j^0(\infty) = 1, F_j^0(0) = 0, F_j^0(\infty) = 1; j = 1, 2$ and $B_j(x),$

$I_j(x)$ are continuous at $x = 0$ so that $\mu_j(x) = \frac{b_j(x)}{1-B_j(x)}$ and therefore,

$$g_j(\Omega) = \mu_j(x) e^{-\int_0^\Omega \mu_j(x) dx} \quad j = 1, 2$$

In addition, we define the following steady-state probability generating functions

$$\text{(PGF): } P_j(x, z) = \sum_{n=0}^{\infty} P_{n,j}(x) z^n, P_j(z) = \sum_{n=0}^{\infty} P_{n,j}(z) z^n,$$

$$\text{and, } R_j(z) = \sum_{n=0}^{\infty} R_{n,j}(z) z^n, \quad j = 1, 2$$

Then following the argument of Cox, the system has the following steady state equations:

$$\frac{d}{dx} P_{n,j}(x) + (\lambda + \mu_j(x)) P_{n,j}(x) = \lambda P_{n-1,j}(x), \quad n \geq 0, j = 1, 2 \tag{1.1}$$

$$\frac{d}{dx} R_{n,j}(x) + (\lambda + \mu_j(x)) R_{n,j}(x) = \lambda R_{n-1,j}(x), \quad n \geq 0, j = 1, 2 \tag{1.2}$$

$$\lambda V_0 = (1 - f_1) \Theta' \int_0^\infty P_{0,1}(x) \mu_1(x) dx + (1 - f_2) \Theta' \int_0^\infty P_{0,2}(x) \mu_2(x) dx$$

$$+ \Theta' \int_0^\infty R_{0,1}(x) \mu_1(x) dx + \Theta' \int_0^\infty R_{0,2}(x) \mu_2(x) dx \tag{1.3}$$

The above equations have to be solved subject to the following boundary conditions

$$P_{n,1}(0) = \sum_{j=1}^2 (1 - f_j) p_1 [\Theta \int_0^\infty P_{n,j}(x) \mu_j(x) dx + \Theta' \int_0^\infty P_{n+1,j}(x) \mu_j(x) dx]$$

$$+ \sum_{j=1}^2 p_1 [\Theta \int_0^\infty R_{n,j}(x) \mu_j(x) dx + \Theta' \int_0^\infty R_{n+1,j}(x) \mu_j(x) dx], n \geq 0 \tag{1.4}$$

$$P_{0,1}(0) = \sum_{j=1}^2 (1 - f_j) p_1 [\Theta \int_0^\infty P_{0,j}(x) \mu_j(x) dx + \Theta' \int_0^\infty P_{1,j}(x) \mu_j(x) dx]$$

$$+ \sum_{j=1}^2 p_1 [\Theta \int_0^\infty R_{0,j}(x) \mu_j(x) dx + \Theta' \int_0^\infty R_{1,j}(x) \mu_j(x) dx]$$

$$+ \lambda V_0 p_1 \tag{1.5}$$

$$P_{n,2}(0) = \sum_{j=1}^2 (1 - f_j) p_2 [\theta \int_0^\infty P_{n,j}(x) \mu_j(x) dx + \theta' \int_0^\infty P_{n+1,j}(x) \mu_j(x) dx] + \sum_{j=1}^2 p_2 [\theta \int_0^\infty R_{n,j}(x) \mu_j(x) dx + \theta' \int_0^\infty R_{n+1,j}(x) \mu_j(x) dx], n \geq 0 \quad (1.6)$$

$$P_{0,2}(0) = \sum_{j=1}^2 (1 - f_j) p_2 [\theta \int_0^\infty P_{0,j}(x) \mu_j(x) dx + \theta' \int_0^\infty P_{1,j}(x) \mu_j(x) dx] + \sum_{j=1}^2 p_2 [\theta \int_0^\infty R_{0,j}(x) \mu_j(x) dx + \theta' \int_0^\infty R_{1,j}(x) \mu_j(x) dx] + \lambda V_0 p_2 \quad (1.7)$$

$$R_{n,j}(0) = f_j \int_0^\infty P_{n,j}(x) \mu_j(x) dx, \quad j = 1, 2; n \geq 0 \quad (1.8)$$

3 Steady queue size distribution

If $P_q(z)$ as the PGF of the queue size irrespective of the type of then we have,

$$P_q(z) = \frac{\left((B_1^*(\lambda - \lambda z) - 1) \left(1 + f_1 B_1^*(\lambda - \lambda z) \right) p_1 + \left(B_2^*(\lambda - \lambda z) - 1 \right) \left(1 + f_2 B_2^*(\lambda - \lambda z) \right) p_2 \right) V_0}{z - (z\theta + \theta') \left[\frac{\left((1 + f_1) + f_1 B_1^*[\lambda - \lambda z] \right) p_1 B_1^*[\lambda - \lambda z]}{\left((1 + f_2) + f_2 B_2^*[\lambda - \lambda z] \right) p_2 B_2^*[\lambda - \lambda z]} \right]}$$

which obtain under the relationship $P_q(z) = P_1(z) + P_2(z) + R_1(z) + R_2(z)$ where,

$$P_j(z) = \frac{\left(B_j^*[\lambda - \lambda z] - 1 \right) p_j V_0}{z - (z\theta + \theta') \left[\frac{\left((1 + f_1) + f_1 B_1^*[\lambda - \lambda z] \right) p_1 B_1^*[\lambda - \lambda z]}{\left((1 + f_2) + f_2 B_2^*[\lambda - \lambda z] \right) p_2 B_2^*[\lambda - \lambda z]} \right]} \quad (1.9)$$

$$R_j(z) = \frac{\left(B_j^*[\lambda - \lambda z] - 1 \right) f_j p_j B_j^*[\lambda - \lambda z] V_0}{z - (z\theta + \theta') \left[\frac{\left((1 + f_1) + f_1 B_1^*[\lambda - \lambda z] \right) p_1 B_1^*[\lambda - \lambda z]}{\left((1 + f_2) + f_2 B_2^*[\lambda - \lambda z] \right) p_2 B_2^*[\lambda - \lambda z]} \right]} \quad (1.10)$$

$B_j^*[\lambda - \lambda z] = \int_0^\infty e^{-(\lambda - \lambda z)x} dB_j(x)$ is the Laplace-Steiltjes transform of the j^{th} type of service time, $j = 1, 2$.

$$P_q(1) = \lim_{z \rightarrow 1} P_q(z) = \frac{p_1 V_0 \lambda E(B_1)(1 + f_1) + p_2 V_0 \lambda E(B_2)(1 + f_2)}{\theta' - p_1 \lambda E(B_1)(1 + f_1) - p_2 \lambda E(B_2)(1 + f_2)} \quad (1.11)$$

this is the steady-state probability that the server is busy, irrespective of the type of service. Further the normalizing condition $Q + P_q(1) = 1$ gives on simplifying,

$$V_0 = 1 - \frac{p_1 \lambda E(B_1)(1 + f_1) + p_2 \lambda E(B_2)(1 + f_2)}{\theta'} \quad (1.12)$$

; which is the steady-state probability that the system is empty.

Here $\rho = p_1 \lambda (1 + f_1) \beta_1^{(1)} + p_2 \lambda (1 + f_2) \beta_2^{(1)}$, this is the steady-state probability that the system is idle. Also from Eq. (1.12), we have $\left(\frac{\rho}{\theta'} \right) < 1$, which is the necessary and sufficient condition under which the steady state solution exists and this is also well known as the stability condition for existence of the steady state solution.

Theorem 3.1: Under the stability condition $\left(\frac{\rho}{\theta'}\right) < 1$, the system state probabilities are,

(A) Probability that the server is busy with the first type of service,

$$P_{B_1} = \frac{1}{\theta'} (\lambda p_1 E(B_1))$$

(B) Probability that the server is busy with the second type of service,

$$P_{B_2} = \frac{1}{\theta'} (\lambda p_2 E(B_2))$$

(C) Probability that the server is repeated the first type of service,

$$P_{F_1} = \frac{1}{\theta'} (\lambda p_1 f_1 E(B_1))$$

(D) Probability that the server is repeated the second type of service,

$$P_{F_2} = \frac{1}{\theta'} (\lambda p_2 f_2 E(B_2))$$

Proof. These results can be obtained from the Eq's (1.9) – (1.10) by putting $z = 1$, but the right hand side of each Eqs. (1.9) – (1.10) is indeterminate of the zero/zero form at $z = 1$ therefore we use L'Hopital's rule and then using the Eq. (1.12) results are obtained.

4. Queue size distribution at a departure epoch

This section derives the probability generating function of the queue size distribution of service completion epoch of this model under study.

Theorem 4.1: If $\left(\frac{\rho}{\theta'}\right) < 1$, the probability generating function of queue size distribution at departure epoch $H(z)$ is obtained as,

$$H(z) = \frac{[\theta' - p_1 \lambda E(B_1)(1+f_1) - p_2 \lambda E(B_2)(1+f_2)](\theta z + \theta')(1-z)}{z - (\theta z + \theta') \{ [(1-f_1) + f_1 B_1^*(\lambda - \lambda z)] p_1 B_1^*(\lambda - \lambda z) + [(1-f_2) + f_2 B_2^*(\lambda - \lambda z)] p_2 B_2^*(\lambda - \lambda z) \}} \quad (1.13)$$

$$h_0 = T(1-f_1)\theta' \int_0^\infty \mu_1(x)P_{0,1}(x)dx + T(1-f_2)\theta' \int_0^\infty \mu_2(x)P_{0,2}(x)dx + T\theta' \int_0^\infty \mu_1(x)R_{0,1}(x)dx + T\theta' \int_0^\infty \mu_2(x)R_{0,2}(x)dx$$

$$h_i = T(1-f_1)\{\theta' \int_0^\infty \mu_1(x)P_{i,1}(x)dx + \theta \int_0^\infty \mu_1(x)P_{i-1,1}(x)dx\}$$

$$+ T(1-f_2)\{\theta' \int_0^\infty \mu_2(x)P_{i,2}(x)dx + \theta \int_0^\infty \mu_2(x)P_{i-1,2}(x)dx\}$$

$$+ T\{\theta' \int_0^\infty \mu_1(x)R_{i,1}(x)dx + \theta \int_0^\infty \mu_1(x)R_{i-1,1}(x)dx\}$$

$$+ T\{\theta' \int_0^\infty \mu_2(x)R_{i,2}(x)dx + \theta \int_0^\infty \mu_2(x)R_{i-1,2}(x)dx\} ; \text{ here } T \text{ be the normalizing constant}$$

Let $H(z)$ be the PGF of $h_i; i = 0,1,2, \dots$ then we get,

$$H(z) = \frac{T \lambda Q (\theta z + \theta')(1-z) \{ [(1-f_1) + f_1 B_1^*(\lambda - \lambda z)] p_1 B_1^*(\lambda - \lambda z) + [(1-f_2) + f_2 B_2^*(\lambda - \lambda z)] p_2 B_2^*(\lambda - \lambda z) \}}{z - (\theta z + \theta') \{ [(1-f_1) + f_1 B_1^*(\lambda - \lambda z)] p_1 B_1^*(\lambda - \lambda z) + [(1-f_2) + f_2 B_2^*(\lambda - \lambda z)] p_2 B_2^*(\lambda - \lambda z) \}} \quad (1.14)$$

Using the normalizing condition i.e. limit of $h(z)$ (queue size distribution at departure epoch) as $z \rightarrow 1$ is unity we get,

$$T = \frac{\theta' - p_1 \lambda E(B_1)(1+f_1) - p_2 \lambda E(B_2)(1+f_2)}{\lambda V_0} \quad (1.15)$$

Hence from Eqs. (1.14) and (1.15) we get $\pi(z)$ which is, (1.13).

Remark 4.1: If we take $p_2 = 0$, that is, there is no SPS in the system and $(f_1, f_2) = 0$ means no re-service in the system, then (1.13) reduces to,

$$\pi(z) = \frac{(\theta' - \rho)(1-z)(\theta z + \theta')B_1^*(\lambda - \lambda z)}{[(\theta z + \theta')B_1^*(\lambda - \lambda z) - z]}$$

which is the PGF of queue size distribution immediately after the service is completed for an M/G/1 queue with Bernoulli feedback (BF) system and this equation verifies the mathematical model of Takagi (1996).

Theorem 4.2: From the PGF of the queue size distribution at departure epoch we can generalize the Pollaczek Khinchine formula.

Proof. Takagi (1991) states the behavior of queue size distribution at departure epoch of M/G/1 queue with Bernoulli feedback system, if $\Phi(z)$ as the PGF of queue size distribution at a departure epoch for an M/G/1 queue two phase of service and Bernoulli feedback then utilizing that argument of Takagi we may write,

$$\Phi(z) = \frac{L(z)}{(\theta z + \theta')} \tag{1.16}$$

Now from the Eq. (1.13) we get $\Phi(z)$ which is,

$$\Phi(z) = \frac{(\theta' - \rho)(z-1)[\{(1-f_1)+f_1B_1^*(\lambda-\lambda z)\}p_1B_1^*(\lambda-\lambda z)+\{(1-f_2)+f_2B_2^*(\lambda-\lambda z)\}p_2B_2^*(\lambda-\lambda z)]}{z-(\theta z + \theta')[\{(1-f_1)+f_1B_1^*(\lambda-\lambda z)\}p_1B_1^*(\lambda-\lambda z)+\{(1-f_2)+f_2B_2^*(\lambda-\lambda z)\}p_2B_2^*(\lambda-\lambda z)]} \tag{1.17}$$

; which is the equivalent to the Pollaczek Khinchine formula for our model: $M/(G_1/G_2)/1$ queueing model with two types of general heterogeneous service under Bernoulli feedback and optional re-service.

Remark 4.2: The result of Eq. (1.17) was obtained by Takacs (1963) for a standard M/G/1 queue with BF system for $p_2 = 0$ and $(f_1, f_2) = 0$ in our model.

Remark 4.3: If L be the mean queue size at departure epoch (1.17), then differentiating (1.17) with respect to z and putting $z=1$,

$$L = \left. \frac{d\psi(z)}{dz} \right|_{z=1} = \frac{\rho(1-\rho)}{(\theta' - \rho)} + \frac{\lambda^2(\beta_2 + p_1\beta_2^{(2)}f_1 + p_2\beta_2^{(2)}f_2)}{2(\theta' - \rho)} + \frac{\lambda^2(p_1(\beta_1^{(1)})^2(f_1 - 2) + p_2(\beta_2^{(1)})^2f_2)}{(\theta' - \rho)} \tag{1.18}$$

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Cryptocurrency : A Novel Approach in Diversifying Portfolios

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ABSTRACT

The emergence of cryptocurrencies as a new asset class poses both obstacles and opportunities for investors seeking to diversify their portfolios. Despite their extreme volatility, cryptocurrencies such as Bitcoin, Ethereum, and developing digital assets provide an alternative to traditional financial markets. This article investigates the significance of cryptocurrencies in portfolio diversification, focusing on their historical performance, risk-reduction potential, and the interactions between crypto assets and traditional assets. Adding cryptocurrency into diversified portfolios combines both modern portfolio theory and the concept of correlation. The article attempts to define cryptocurrency's long-term investment potential and impact on global financial markets.

Keywords : cryptocurrency, Bitcoin, Ethereum, digital, financial, assets.

Introduction

Cryptocurrencies, first launched in 2009 with Bitcoin, have matured from speculative digital assets to widely recognised financial tools. They are now regarded as an alternative investment, with possible diversification benefits for standard investment portfolios. According to traditional portfolio theory, a diverse portfolio of stocks, bonds, and other assets can lower overall risk while increasing profits. However, the introduction of cryptocurrencies, with their distinct risk-return profile, calls into question this notion and opens up new options for investors. The goal of this study is to investigate the significance of cryptocurrencies in portfolio diversification by comparing their characteristics and performance to traditional assets such as equities, bonds, and commodities. Incorporating Bitcoin into a diverse portfolio can help investors reduce risks, increase portfolio resilience, and maximise returns.

History

The invention of Bitcoin in 2009 by an unidentified individual or group going by the moniker Satoshi Nakamoto marked the beginning of cryptocurrency. Bitcoin

established a blockchain-based decentralised digital currency system that eliminates the need for middlemen like banks and guarantees transaction security, transparency, and immutability. Thousands of other cryptocurrencies, including Ethereum, which introduced the idea of smart contracts, were developed as a result of this invention. Due to their potential for large profits, their application in decentralised finance (DeFi), and their function as a substitute for established financial institutions, cryptocurrencies have grown in popularity over time. The cryptocurrency business has grown despite regulatory obstacles, security issues, and market volatility, drawing in both institutional investors and individual users worldwide.

Literature Review

Portfolio diversity, a key component of modern investing strategy, seeks to reduce risk by combining assets that respond differently under different market conditions. Traditional asset classes such as stocks, bonds, and commodities have long served as the principal diversification vehicles. However, as global markets grow more interconnected and traditional assets exhibit stronger correlations at times of crisis (for example, the 2008 financial crash and the COVID-19 pandemic), the quest for non-correlated assets has increased.

Cryptocurrencies, particularly Bitcoin, have been shown to have a poor correlation with traditional assets (Baur et al., 2018), making them a potentially useful diversification tool. Early research (Yermack, 2013) recognised Bitcoin's extreme volatility while also emphasising its potential as an uncorrelated asset class during periods of market stress. Other research has suggested that cryptocurrencies could serve as a "safe haven" or inflation hedge, particularly in emerging nations (Dyhrberg, 2016). However, the speculative nature of cryptocurrencies, as well as regulatory uncertainties, continue to impede their general acceptance in financial portfolios.

Theoretical Framework

Harry Markowitz created Modern Portfolio Theory (MPT) in 1952, which serves as the theoretical underpinning for portfolio diversification. MPT emphasises the trade-off between risk and return, arguing that an optimal portfolio may be built by combining assets with different risk-return profiles. While traditional asset classes have been thoroughly examined within this framework, the incorporation of cryptocurrencies poses a new difficulty due to their unique behaviour.

Cryptocurrencies display characteristics that set them apart from traditional financial assets. Their price swings are influenced by network effects, legislative changes, technology improvements, and market emotion, making them extremely volatile. However, their decentralised nature-free from the jurisdiction of governments and central banks offers a unique value proposition, especially during times of economic turmoil or inflation fears (Nakamoto S., 2008).

Methodology

This study evaluates the potential of cryptocurrencies in portfolio diversification by combining qualitative and quantitative research approaches. It uses statistical metrics such as correlation coefficients and beta values to analyse empirical research on the relationship between cryptocurrencies and conventional asset classes. It also looks into mean-variance optimisation models and how cryptocurrencies affect Sharpe ratios in portfolios. This study attempts to demonstrate the advantages of diversity, risk-adjusted returns, and overall portfolio performance by contrasting portfolios with and without bitcoin exposure.

Cryptocurrency in Portfolio Diversification includes

1. Risk-Return Features

Because of their volatility, cryptocurrencies carry a high risk even though they have a significant potential return. Over the past ten years, Bitcoin, the most well-known cryptocurrency, has experienced both notable price fluctuations and outstanding profits. Similar to this, there is a lot of volatility in other altcoins like Ethereum and Litecoin. Cryptocurrencies are prone to steep drops during market corrections or regulatory changes, but they also have a tendency to yield disproportionate profits during bull markets (Bakry et al., 2021)

2. Correlation with Conventional Asset

The low correlation of cryptocurrencies with conventional assets is one of the strongest arguments for their inclusion in portfolios. Research has indicated that there is little to no association between Bitcoin and stocks over extended periods of time (Baur et al., 2018). This implies that cryptocurrencies could function independently or even increase in value during stock market downturns, providing a hedge against the volatility of conventional assets (Schwartz E., 2019).

3. Portfolio Optimization

A number of studies have shown that, when it comes to risk-adjusted returns, portfolios with a small portion of cryptocurrencies perform better than standard portfolios. For example, it has been demonstrated that investing 1% to 5% of a portfolio in Bitcoin raises the Sharpe ratio, which gauges risk-adjusted return (Schwartz, 2019). On the other hand, conventional 60/40 equity-bond portfolios frequently fall short of providing enough returns when the economy is uncertain. By lowering drawdowns and improving long-term performance, cryptocurrencies' special qualities can aid in the stabilisation of these portfolios.

4. Regulatory and Market Risks

Although cryptocurrencies have a lot of promise for diversification, there are a few risks that need to be properly controlled. As governments throughout the world continue to change their positions on digital currencies, the regulatory framework continues to be the biggest barrier for institutional investors. As seen by the market's responses to reports of regulatory crackdowns in large economies like China and the US, this uncertainty can result in price instability (Omelchuk et al.,2021).

5. Market Maturity and Liquidity

Despite being more liquid because of exchanges like Coinbase and Binance, cryptocurrencies continue to have issues with scalability, fraud, and market infrastructure. The liquidity of cryptocurrencies may become an issue during times of severe market stress, especially if exchanges encounter technical difficulties or government interference. Additionally, the cryptocurrency market is still in its infancy and has not yet demonstrated its long-term stability (Corbet et al., 2023)

Future Prospects of Cryptocurrency in Portfolio Diversification

1. Growing Institutional Adoption

Growing interest from institutional investors is one of the biggest trends in the bitcoin market. Cryptocurrencies are becoming more and more integrated into the portfolios of major financial institutions, such as investment firms, hedge funds, and pension funds. The bitcoin market will probably stabilise as a result of this institutionalisation, increasing its viability for long-term investment. It is anticipated that products like blockchain-based financial instruments and Bitcoin ETFs (Exchange-Traded Funds) will proliferate, making them more accessible to mainstream investors (Baur et al.,2018)

2. Regulatory Clarity

One of the key barriers to the wider use of cryptocurrencies is still regulatory uncertainty. Globally, governments are attempting to develop lucid and cohesive cryptocurrency regulatory frameworks (Rice M., 2019). Some nations, like El Salvador, have accepted Bitcoin as legal money, but others are still wary or antagonistic. Whether cryptocurrencies may be broadly incorporated into institutional portfolios will depend heavily on future regulatory developments. Investor trust can be increased, and their inclusion in diverse portfolios can be further encouraged by positive regulatory clarity.

3. Blockchain Integration and Technological Developments

The blockchain technology that powers cryptocurrencies has enormous potential that goes beyond virtual money (Khakzar B. et al., 2024). The emergence of non-fungible tokens (NFTs) and decentralised finance (DeFi) platforms is changing the financial scene and opening up new avenues for diversification. Cryptocurrencies are only the first step; as blockchain

technology develops, it may offer other diversification options, such as tokenised commodities, stocks, and real estate, giving investors access to asset classes that were previously closed to the general public.

4. Hedge Against Inflation and Economic Uncertainty

Cryptocurrencies, especially Bitcoin, have been marketed as a store of value during difficult economic times and as a hedge against inflation (Baur et al., 2018). Some have compared Bitcoin to gold because of its finite quantity, which is capped at 21 million units. Given the devaluation of traditional fiat currencies brought on by inflationary policies and geopolitical tensions, cryptocurrencies could be a compelling substitute, particularly in developing nations where currency values are erratic.

5. Market Maturity and Volatility

Cryptocurrencies are notoriously volatile. Nonetheless, there's a chance that volatility will decline as the market develops. In the long term, cryptocurrencies may be better suited for portfolio diversification due to the entry of institutional investors, enhanced market liquidity, and the rising acceptability of cryptocurrencies in traditional financial markets, which may lessen the amplitude of price swings. Furthermore, the emergence of stablecoins - cryptocurrencies linked to conventional currencies-may offer greater stability, particularly for investors who are risk-averse (Rice M., 2019).

6. Sustainable Cryptocurrencies and Environmental Issues

Mining Bitcoin requires a lot of energy, there are environmental issues about cryptocurrencies in general. As a result, the cryptocurrency industry is investigating more environmentally friendly models, like proof-of-stake (PoS) processes, which use a lot less energy than proof-of-work (PoW). Cryptocurrencies will become more acceptable to institutional investors and environmentally concerned portfolios as their environmental effect decreases due to their increased energy efficiency (Dyhrberg. A.H., 2016).

Advantages of Cryptocurrencies in Portfolio Diversification

1. Possibility of Higher Returns

The last ten years have seen a notable increase in the use of cryptocurrencies. For example, when compared to more conventional investments, Bitcoin has produced remarkably high returns (Khaki A. et. al., 2023). The possibility of enormous gains might be a strong argument for high-risk investors to add cryptocurrency to their holdings. Portfolio performance can be greatly enhanced by the potential to profit greatly during market rallies or adoption events (such as institutional adoption).

2. Minimal Association with Conventional Assets

Historically, there has been little association between cryptocurrencies-especially Bitcoin and Ethereum-and conventional assets like stocks, bonds,

and commodities. This indicates that changes in the price of cryptocurrencies frequently occur independently of changes in bond or stock market prices. Investors can increase diversity and lower total portfolio risk by incorporating cryptocurrencies, particularly in volatile markets (Aliu F. et al., 2021).

3. Hedge against inflation and currency depreciation

Cryptocurrencies, like Bitcoin, are often referred to as "digital gold" due to their finite availability (Dyhrberg. A.H., 2016). This scarcity might make them appealing as a hedge against inflation or currency depreciation, especially in countries undergoing hyperinflation or economic instability. In such settings, cryptocurrencies, like precious metals such as gold, can be used as a store of value.

4. Independence from Central Authorities and Decentralization

Because they run on decentralised networks, cryptocurrencies are not governed by a single financial institution or government (Aliu F. et al., 2021). For investors looking to safeguard their money from possible financial system instability, currency manipulation, or government meddling, this can be beneficial. Cryptocurrencies can offer a certain amount of independence since they are not dependent on the economic or political decisions of any one nation.

5. Enhanced Accessibility and Liquidity

Due to their 24/7 trading on several exchanges, cryptocurrencies provide investors tremendous liquidity and the flexibility to purchase or sell assets whenever they choose. Cryptocurrencies provide the flexibility of real-time trading, in contrast to traditional financial markets that are confined to office hours. Active traders and investors looking to swiftly enter or exit positions may benefit from this improved liquidity (Khaki A. et al., 2023).

6. Technological Developments and Innovation

The field of blockchain technology, which powers cryptocurrencies, is one that is developing quickly. New avenues for portfolio diversification are being made possible by innovations like smart contracts, decentralised finance (DeFi), and asset tokenisation. In the future, these technologies might make it possible for investors to diversify into new asset classes, such as digital collectables or tokenised real estate, which would increase the prospects for portfolio diversification (Alexander C. et al., 2020).

Disadvantages of Cryptocurrencies in Portfolio Diversification

1. High volatility

One of the most significant hazards of investing in cryptocurrencies is their extreme volatility. Cryptocurrencies' prices can fluctuate dramatically in short periods of time, potentially resulting in significant losses. For example, Bitcoin and other altcoins have been known to change by 10% or more in

a single day. This volatility might be damaging to investors who expect consistent returns or have a limited risk tolerance (Qarni et al., 2021)

2. Uncertainty in Regulation

The regulatory landscape surrounding cryptocurrencies is quite unpredictable. Different nations regulate digital currencies differently; some have enacted regulations that are supportive, while others have imposed tight limitations or outright prohibited them. For instance, the market has been significantly impacted by China's crackdown on cryptocurrency mining and trading (Aliu et al., 2021) The long-term sustainability of cryptocurrencies as an asset class may be impacted by the uncertain environment caused by unclear and inconsistent legislation.

3. Risks of Hacking and Security

Due to a number of well-publicized instances of exchanges and wallets being compromised in the past, cryptocurrencies are susceptible to hacking and cyberattacks. Despite the inherent security of blockchain technology, trading and cryptocurrency storage systems and exchanges are not impervious to security risks. Investors risk permanently losing access to their possessions if their wallets or private keys are compromised (Dyhrberg, A.H., 2016).

4. Insufficient Protection for Consumers

Cryptocurrencies are mainly unregulated; investors do not have the same consumer safeguards as they do in regular financial markets (Trushina, 2021) Investors usually have no options if an exchange fails or if money is stolen by a scammer. Investing in cryptocurrencies is riskier than more conventional investments since there is no established legal structure for settling disputes or guaranteeing the security of digital assets (Tenkam H. et al., 2022).

5. Market manipulation

Compared to established financial markets, the cryptocurrency market is still small, making it vulnerable to manipulation (Aliu F. et al., 2021). By placing sizable purchase or sell orders, "Whales"-large cryptocurrency holders-can have a big impact on the market. Together with "pump-and-dump" scams, this kind of manipulation can cause market inefficiencies that could hurt smaller investors.

6. Environmental Issues

Bitcoin and other cryptocurrencies have a proof-of-work consensus, and mining them uses a lot of energy (Sichinava D., 2019). Because cryptocurrency mining adds to substantial carbon emissions, its effects on the environment have been a topic of discussion. Investors and regulators who care about the environment are concerned about this. Although continuing, market-wide efforts to switch to more energy-efficient consensus

processes, such as proof-of-stake (PoS), have not yet been fully implemented.

7. Certain Cryptocurrencies' Illiquidity

Other altcoins and smaller cryptocurrencies may experience liquidity issues, but Bitcoin and Ethereum enjoy great liquidity (Alexander C. et al., 2020). Due to their possibly low trading volumes, it might be challenging to enter or leave holdings in these assets without significantly altering their price. Those with substantial holdings or larger investors may find this illiquidity to be particularly troublesome (Yermack, D., 2013).

Conclusion

Cryptocurrency offers a fresh and exciting way to diversify investment portfolios. As an asset class with distinct risk-return characteristics and little correlation with traditional assets, it provides appealing diversification advantages. However, its inclusion in a portfolio necessitates a thorough awareness of its potential hazards, which include volatility and regulatory uncertainty. Moving forward, cryptocurrencies are likely to play a more important part in portfolio management, but investors must exercise caution and smart thinking.

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