

HIND BUSINESS REVIEW

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EDITORIAL

With great pleasure Commerce Forum of Department of Commerce, Assam University, Silchar is going to release the Eleventh issue of ***HIND BUSINESS REVIEW (HBR)***. In the present issue of HBR, a deliberate attempt has been made by the editorial board to create a broader spectrum by including research papers pertaining to diverse areas of business because of the inherent nature of business research.

The goal of Hind Business Review is to be one of the premier journals of business-related research. I put it on record my heartfelt thanks to all the contributors for submitting research papers. I have the strong conviction that the journal will certainly draw the attention of academicians in the days to come. The editorial advisory board of HBR has been adorned by academicians hailing from different institutes of higher learning from different parts of India and I must express my sincere gratitude to all of them.

All the members of Commerce Forum also deserve special thanks for their support for publishing this journal. I am thankful to the Head of the Department of Commerce and Chairman, Commerce Forum for his support from time to time. Despite relentless effort, there may be some inadvertent flaws in this issue. So, Hind Business Review expects feedback and suggestions in writing from the readers because we believe that improvement is a continuous process and collective wisdom can certainly enrich the forthcoming issues of Hind Business Review.

Dr. Kingshuk Adhikari
Chief Editor

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Welfare Policies and Border Area Development Programmes in the Indo-Bangla Borderland of Cachar District: An Analytical Study

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Abstract

The development of border areas is essential due to unique challenges resulting from its geographic condition, physical set up and cross border policies. These border regions, with their strategic importance and diverse populations, require focused welfare programmes. Keeping this in view the present study examines the implementation of various welfare schemes launched by the governments, with a focus on the Border Area Development Programmes (BADP), within the Indo-Bangla borderlands of Cachar District, Assam. During the course of the study data were collected through interviews with 261 families, selected via simple random sampling (SRS), from 21 villages located within a five-kilometer radius of the international borderland under Cachar district. The study observed certain impediments hindering effective implementation of welfare schemes, including bureaucratic reluctance, insufficient infrastructure, inappropriate beneficiary selection, low female participation, lack of social audits, and poor coordination among various tiers of the decentralized set up. The inefficacy of local bodies, district administration, and the Border Area Development Department (BADD) has led to a marginalization of the Indo-Bangladesh border region. The study further revealed issues such as recurring natural disasters, mismanagement of funds, ineffective sluice gates, and declining agricultural productivity for rural-urban migration. A concerted effort from local bodies, district administration, and the state government is required to address these persistent challenges effectively.

Key words: Borderland, BADP, BADD, Welfare Policies, Schemes

Introduction

The planning and development of border areas assume paramount significance due to the distinctive challenges faced by inhabitants in these areas. However, the extent of issues encountered varies widely across regions, contingent upon geographical conditions, socio-cultural setups, and the approach of adjoining country/countries. Inaccessibility and insecurity emerge as defining characteristics of the border areas, highlighting the imperative for special attention aimed at fostering accelerated and integrated sustainable development.

It is a fact that borderlands provide distinct possibilities and difficulties in terms of governance and development. These areas are frequently distinguished by their isolated positions, varied populations, and crucial strategic significance. Welfare programmes in borderland communities are essential for maintaining national security, building social cohesion, and supporting economic growth because of their special geopolitical location. Welfare programmes that are successful may meet the unique requirements of these areas, enhance the standard of living for citizens, and bolster the stability of the country as a whole. However, the welfare programmes in borderland areas are complex and call for an all-encompassing strategy that takes into account the special opportunities and problems that these areas present. Governments may enhance the standard of living for citizens by allocating resources towards socio-economic development, healthcare, education, economic empowerment, security, governance, cultural integration, and environmental sustainability. The success of these measures depends on cooperation between government agencies, local communities and non-governmental organizations to ensure that border regions are not only safe, but also prosperous and sustainable. One of the most important welfare measures in border regions is the promotion of socio-economic development. When compared to more central places, these areas frequently lag behind in terms of infrastructure, healthcare, education, and employment possibilities. To close this development gap, governments must spend money on

constructing roads, schools, hospitals, and communication networks. The Border Area Development Programme (BADP) of India, for example, attempts to address the unique developmental requirements of those who reside in isolated and unreachable areas close to the international boundary. By enhancing physical and social infrastructure, such initiatives can reduce regional disparities and improve living standards. Keeping the importance of the implementation of the welfare schemes in the border region, the study has undertaken the following objectives.

Objectives of the Study

- i) To examine the welfare policies initiated and implemented by the Government towards the Indo-Bangla borderland in Cachar District
- ii) To study the Border Area Development Programmes (BADP) in the Indo-Bangla borderland in Cachar District

Methodology

The study will be conducted in the border regions of Cachar district, situated in the Southern part of Assam. These areas encompass a 27.3 km stretch of the international border with Bangladesh, and the focus of the study is on the inhabitants living in those border areas. In the Katigora constituency of Cachar District, there are a total of 21 villages which fall within a five-kilometer radius of the Indo-Bangla international border. This study focuses on all 21 villages situated in close proximity to the Indo-Bangla border. From these villages, a total of 261 families were chosen by using simple random sampling technique. The selection of these households from the designated border villages¹ involved the application of randomization (SRS) to eliminate any potential bias. However, the number of households selected was proportionate to the sample size, ensuring a comprehensive representation. From the selected households, one of the family members (male/female) have been interviewed with the help of an open-ended interview schedule for understanding the details of the welfare measures adopted in the borderland.

Discussion and results

The selected villages in the Indo-Bangladesh border areas within the Katigora Constituency fall under the jurisdiction of the Cachar Zilla Parishad, and are governed by the Assam Panchayat Act of 1994. According to this Act, each village is managed by a Gaon Panchayat, making them eligible for various Central and State-sponsored Rural Development Schemes sanctioned by the respective governments periodically. It is evident that numerous rural development schemes are active in the state of Assam. Consequently, the residents of the Indo-Bangladesh border areas are beneficiaries of all welfare schemes launched by the Central and State Governments. These schemes encompass a wide range of initiatives, including infrastructure development, health care, education, agricultural support, and employment generation programmes. Each scheme is designed to address specific needs and challenges faced by rural communities, ensuring holistic development and improved quality of life. The active participation and proper implementation of these schemes by the local governing bodies are crucial for achieving the desired outcomes and fostering sustainable development in the border villages. The study has been conducted keeping two aspects of the welfare measures – i) Implementation of welfare schemes by rural self-bodies, ii) Welfare measures adopted under the BADP.

¹Baleswarpur Grant, Natanpur Grant, Natanpur, Rongpur, Niz-Jalalpur Pt I, Niz-Jalalpur Pt II, Pirnagar, Mahadevpur Pt I, Mahadevpur Pt II, Mahadevpur Pt III, Bhatarchak, Niz Leverpute Pt I, Niz Leverpute Pt II, Saidpur Pt I, Saidpur Pt II, Chandi Nagar Pt I, Chandi Nagar Pt II, Hari Nagar Pt I, Hari Nagar Pt II, Hari Nagar Pt III, Hari Nagar Pt IV

Welfare Measures in the Indo-Bangladesh Borderland

Implementation of Welfare Schemes in the borderland region

In order to understand the extent of implementation of welfare schemes related to infrastructure development, agricultural support, healthcare, education and livelihood enhancement, the study made a detailed field survey in the international borderland region under Cachar district and the findings are tabulated and interpreted below.

Table 1: Implementation of PMAY-G Scheme by the GPs in Indo-Bangladesh Borderland in Cachar district

PMAY-G	Opinion of the respondents
Received the benefits of the Scheme	105 (40.23)
Did not receive any benefits under the Scheme	142 (54.41)
Don't know	14 (5.36)
Total	261 (100.0)

Source: Field Survey

The rural housing programme began as an independent initiative with the Indira Awaas Yojana (IAY) in January 1996. However, due to inconsistencies in the Scheme and the Government's commitment to "Housing for All," the IAY was restructured into the Pradhan Mantri Awaas Yojana - Gramin (PMAY-G) effective from April 1, 2016. PMAY-G aims to provide a pucca house with basic amenities to those households who currently lacks a house, as well as to those living in kutchha or dilapidated houses. The minimum unit size has been increased from 20 sq.m to 25 sq.m, including a dedicated area for hygienic cooking. The scheme allows for the selection of beneficiaries using SECC-2011 data. The community, through the Gaon Sabha, identifies and selects beneficiaries from the SECC 2011 list based on housing deficiency and other social deprivation parameters assigned a crucial role to the GPs such as finalizing the priority list of eligible beneficiaries, based on SECC-2011 data, by convening a GS; prepares a list of additional beneficiaries through GS who were omitted from the original list of eligible beneficiaries; ensure broad participation in the GS convened to finalize the Priority List of beneficiaries, assist beneficiaries in obtaining construction materials at reasonable rates and provide access to trained masons required for the construction (Reddy et al. 2018). Thus, PMAY-G is a crucial scheme for the rural population, especially for those residing in the Indo-Bangla border region, as it has the potential to significantly improve their living standards. Recognizing the welfare potential of this scheme, respondents were asked specific questions to understand the involvement of GP in its implementing the Scheme. The responses are recorded in Table 1, revealing that only 40.23 percent of the respondents received the benefits of the Scheme. Respondents reported a lack of transparency in the execution of the Scheme, stating they were compelled to share a portion of their allotted amount with the elected representatives at the Panchayat level to avail of the Scheme. It was also reported that the President and the Secretary of the GP primarily decide the names of the beneficiaries for various schemes. These names are then formally approved during the GS Meeting. As a result, many genuine households in the borderland areas struggle to establish good connections with the office bearers and are consequently deprived of the welfare schemes. This lack of transparency and favoritism leads to the exclusion of deserving beneficiaries, exacerbating the challenges faced by borderland communities. This clearly highlights the urgent need for reforms to ensure fair and equitable distribution of resources, emphasizing the importance of accountability and transparency in the implementation of welfare schemes.

In the table 2, the opinions of respondents regarding the coverage of the MGNREGS are recorded. It was found that 54.79 percent of the respondents were engaged in work under the Scheme. However, it is observed that those who were engaged in work are not receiving their due remuneration. A significant number of respondents, specifically 78.32 percent, reported that they receive less salary because officials of the GP deduct a portion

from their salary, citing it as office maintenance. Moreover, it is reported that most of the time, they are not performing any actual work, yet their names are enlisted as job card holders and in return, they receive some amount. Considering that the Indo-Bangla borderland is prone to floods each year, further inquiry was made regarding the additional engagement of job card holders during natural calamities. However, it was found that no such engagement had been made for any of the respondents, despite the entire area being subject to annual floods.

Table 2: Persons Engaged under MGNREGS in Indo-Bangladesh Borderland in Cachar district

Engaged in MGNREGS	No. of respondents	Percentage
Engaged in Work	143	54.79
Not engaged in work	118	45.21
Additional engagement due to natural calamities	--	--
Total	261	100.00
Receive full salary for work		
Yes	18	12.59
No	112	78.32
Don't know	13	9.09
Total	143	100.00

Source: Field Survey

The data also reveals that 45.21 percent of the respondents were not engaged in any work, with a majority of these being women respondents. Although the Scheme aims to promote women empowerment and social equity, the actual implementation falls short of this goal. The reality on the ground indicates that the intended benefits are not being fully realized. It is important to note that many respondents expressed disappointment over the lack of transparency and accountability in the implementation of the Scheme. They highlighted issues such as delayed payments, absence of actual social audit and lack of proper grievance redressal mechanisms. This further exacerbates the challenges faced by those residing in international border areas, where economic opportunities are already limited. The findings highlight the need for more effective monitoring and implementation of the MGNREGS to ensure that its benefits reach the intended beneficiaries and contribute to sustainable development in these vulnerable regions.

Table 3: Implementation of Orunodoi Scheme in Indo-Bangladesh Borderland in Cachar district

Selection under the Scheme	No. of Women respondents	Percentage
Selected to receive amount through DBT	31	58.49
Eligible but not selected under the Scheme	22	41.51
Not eligible	--	--
Total	53	100.00
Expenditure incurred		
Grocery items	21	67.74
Child education	8	25.81
Medical expenses	2	6.45
Total	31	100.00

Source: Field Survey

The Orunodoi Scheme is a major welfare initiative of the Government of Assam (December 2020), designed to provide financial support to economically vulnerable families. This scheme predominantly focuses on women,

positioning them as the primary beneficiaries to ensure that financial aid reaches households directly. The Scheme stands as a significant step towards promoting social equity and economic stability among Assam's most vulnerable communities, fostering an environment where women and marginalized groups can thrive. In the course of the study, respondents, particularly women from the Indo-Bangladesh borderland, were asked about their opinions regarding the benefits they received under the Scheme. It can be observed from the above table that 58.49 percent of the women respondents were selected under the Scheme and are receiving the amount in their bank accounts through Direct Benefit Transfer (DBT) Scheme, while 41.51 percent are yet to be selected under the Scheme. It has been reported that the GP, which is the designated agency responsible for selecting beneficiaries, is not taking proactive measures to broaden the scope of selection. As a result, most of the women respondents are not receiving specific assistance from the local self-governing bodies to be included in the Orunodoi Scheme, which is aimed at the welfare of the rural populace, particularly women. This lack of proactive initiative by the GP hinders the intended reach and impact of the Scheme, leaving many deserving women without the support they need. Moreover, the absence of effective communication and outreach efforts creates a significant gap between the Scheme's objectives and its actual implementation.

Table 4: Benefits Received by the Respondents under various Central and State Sponsored Welfare Schemes

Name of the Welfare Schemes	Respondents availing the Schemes	No. of Respondents
Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)	22 (8.43)	261 (100.0)
Pradhan Mantri Jan Arogya Yojana (PMJAY) / Ayushman Bharat Health Scheme	66 (25.29)	261 (100.0)
Jal Jeevan Mission (JJM)	98 (37.55)	261 (100.0)
PM Kisan Samman Nidhi Yojana	42 (16.88)	261 (100.0)
Swahid Kushal Kunwar SarvajaninBridhya Pension Achari (SKKSBA)	16 (6.13)	261 (100.0)
Arundhati Gold Scheme	14 (5.36)	261 (100.0)
Assam Kalpataru Scheme	28 (10.77)	261 (100.0)

Source: Compiled from the Field Survey

The above table reveals that only 8.43 percent of the respondents were selected under the DDU-GKY Scheme. During interactions with these respondents, several key issues were identified: i) beneficiaries lack financial literacy, ii) the training infrastructure is inadequate, resulting in poor quality training, iii) there is insufficient employment support from the administrative side, iv) documentation issues among respondents lead to low participation in the scheme, and v) there is a low level of awareness among beneficiaries, with rural self-governing bodies making minimal efforts to address this.

In the case of Pradhan Mantri Jan Arogya Yojana (PMJAY), also known as the Ayushman Bharat Health Scheme, it can be observed from Table 4 that 25.29 percent of the respondents are availing the scheme. However, their experiences highlight several issues associated with the scheme- i) documentation, enrollment, and verification processes are perceived as rigid, which has resulted in fewer people benefiting from the scheme to date; ii) there are significant delays in reimbursement, and private hospitals often show reluctance to admit patients under the scheme; iii) there is a very low level of awareness among beneficiaries, further complicating the entire process. Besides, beneficiaries have also reported challenges in accessing information and support, which creates the difficulty in understanding the scheme.

Table 4 clearly indicates that the majority of respondents, specifically 37.55%, are currently accessing safe drinking water through the Jal Jeevan Mission (JJM). However, interactions with these respondents reveal

several critical issues faced by the JJM -i) there is a low level of maintenance of water plants, including pump machines, chemicals, electricity payments, and staff salaries, leading to frequent disruptions in water supply; ii) the daily water supply is often insufficient, forcing people to rely on alternative sources; iii) there is a lack of community participation in managing the scheme, and as per the JJM Guidelines, the local committee should oversee the entire plant, but this is not being effectively implemented in borderland areas. Lastly, the weaker sections of society are unable to pay the monthly charges required for the maintenance of the scheme. Moreover, these challenges highlight the need for a better maintenance and management framework to ensure the sustainability of the water supply systems. Addressing these issues would involve not only increasing financial and technical support but also fostering greater community engagement and ownership.

The PM Kisan Samman Nidhi Yojana, as presented in Table 4, reveals that a mere 16.88 percent of respondents have been selected under the scheme. This low percentage highlights the significant implementation challenges associated with the scheme. Respondents have reported facing several major issues: i) delays in receiving payments and the involvement of intermediaries during the registration process, who often complicate and slow down the procedure; ii) a cumbersome selection and verification process, which discourages farmers from participating in the scheme. The bureaucratic hurdles are seen as too daunting for many potential beneficiaries; iii) farmers who live on rented land are not being granted access to the scheme, effectively excluding a significant portion of the agricultural community. Besides, there are concerns about inadequate awareness in the borderland areas of Katigorah, which means that many eligible farmers remain uninformed about the scheme's benefits and the application process.

It can be further observed from Table 4 that there is a minimal selection of beneficiaries, i.e., only 6.13 percent under the Swahid Kushal Kunwar Sarvajanan Bridhya Pension Achari (SKKSBA). When questioned, respondents stated that they had not been informed about the scheme by the administration. The rigid documentation and verification process discourages needy individuals from registering. Besides, the payment receiving system is significantly weakened. Overall, the awareness level among stakeholders is very low. Similarly, a low level of participation (5.36 percent) is observed under the Arundhati Gold Scheme. Respondents reported that the entire application process is complicated and that they are not well aware of the procedure. Further, it is stated that the bank processes are not swift, and there is an absence of an appropriate monitoring mechanism for the scheme. Respondents expressed concerns about the lack of clear communication and support from the authorities, which adds to the overall difficulty in accessing the benefits of the scheme. This highlights the need for simplified procedures, better awareness campaigns, and a clear monitoring system to ensure the scheme's effectiveness and accessibility.

Minimal selection of beneficiaries under the Assam Kalpataru Scheme is noticed. A total of only 10.77 percent respondents are availing the Scheme. On query, respondents clearly stated that there is inadequate publicity about the benefits of the Scheme and cumbersome documentation process leads to low level of participation in the Scheme. Further, it is reported that there is insufficient focus on training and capacity-building under the Scheme. It is observed from Table 14 that there is minimal participation in the Assam Kalpataru Scheme, with only 10.77 percent of respondents benefiting from it. When questioned, respondents highlighted inadequate publicity about the Scheme's benefits as a major issue. They pointed out that the cumbersome documentation process deters many potential participants. Further, reports indicate a lack of emphasis on training and capacity-building initiatives within the Scheme, which hampers its effectiveness. The combination of these factors contributes to the low level of participation and suggests a need for comprehensive improvements in outreach, simplification of procedures, and enhanced support for skill development to maximize the Scheme's impact. The above table reveals that despite government's efforts to promote and implement various welfare schemes, awareness and participation levels vary significantly among the population, and this indicates a need for better communication and outreach to ensure that more people can benefit from these initiatives.

Welfare measures under the Border Area Development Programme (BADP)

The welfare measures are not confined solely to rural development programmes under the Union or State Governments. Residents in various border regions also benefit from welfare measures provided through one of

the Union Government's flagship initiatives, specifically designed for international border areas - the Border Area Development Programme (BADP). This programme represents the government's commitment to comprehensive welfare by incorporating a diverse range of projects aimed at improving the lives of those living in border regions. It is a Core Centrally Sponsored Scheme (CSS) and its primary goal is to address the unique developmental requirements and overall well-being of individuals residing in remote and inaccessible regions near the International Boundary (IB). By strategically providing vital infrastructure and fostering sustainable living opportunities in border regions, the BADP aims to integrate these areas with the broader national framework. This integration not only aims to create a positive perception of national concern and support but also endeavors to encourage the local population to remain in these border areas. The ultimate outcome is anticipated to be safe and secure borders through improved living conditions, fostering a sense of security and belonging among the residents.

The BADP is dedicated to the comprehensive well-being of the borderland regions. Consequently, it is essential to evaluate the overall effectiveness of the entire Programme, and therefore, a decision has been made to gather feedback from stakeholders living in the international border areas, especially those residing in villages adjacent to the Indo-Bangladesh border areas of Cachar district. This approach allows us to gain a precise understanding of the efficacy of the welfare measures implemented by the Government.

Table 5: Opinion of the Respondents Regarding Construction of Roads, Bridges, etc. under the BADP in the Indo-Bangladesh Borderland

Figures in Parentheses are Percentages to the total

Areas under the BADP	Opinion of the respondents regarding execution of works		
	Yes	No	Don't know
Construction & up-gradation of roads, Construction of bridges and culverts, Construction of Foot Suspension Bridges	124 (47.51)	96 (36.78)	41 (15.71)
Total	261		(100.00)

Source: Field survey

As per the Guidelines of the BADP the primary focus of the initiative is to drive infrastructural development in border areas. The highest priority under this programme is the construction of essential infrastructure such as roads, bridges, culverts, and footbridges within a 0-10 km radius of the first habitation along the international border. However, during a field survey, it was observed that only 47.51 percent of the respondents acknowledged the construction of some roads and culverts. They noted, however, that no significant efforts had been made toward bridge construction or road upgrades. Meanwhile, 36.78 percent of the respondents reported that no road construction had taken place in the border areas under the BADP. Interestingly, 15.71 percent of the respondents, most of whom were women, had no knowledge of any developments in this regard. This lack of awareness among a significant portion of the population, especially women, highlights the need for better communication and outreach about the programme's objectives and achievements. Moreover, the absence of bridge construction and road upgrades despite being a priority area indicates a gap between the programme's goals and its implementation on the ground.

Table 6 highlights that the funds allocated under the BADP have not been directed toward medical purposes. A significant majority of respondents, 86.59 percent, reported that they have observed no improvements in health infrastructure across the entire border region. In contrast, only 4.60 percent noticed any positive changes, while 8.81 percent of respondents were unaware of the state of healthcare facilities. According to the respondents, the Katigorah region is served by three government hospitals, but these facilities have seen no meaningful improvement over the years, with their conditions remaining largely unchanged.

Table 6: Opinion of the Resondents Regarding Development of Health Infrastructure under the BADP in the Indo-Bangladesh Borderland

Figures in Parentheses are Percentages to the total

Areas under the BADP	Opinion of the respondents regarding execution of works		
	Yes	No	Don't know
Development of Health infrastructure like Construction of houses for Government doctors, paramedics etc, Setting up of Government mobile dispensaries, purchase of medical equipments etc.	12 (4.60)	226 (86.59)	23 (8.81)
Total	261		(100.00)

Source: Field survey

This stagnation in healthcare development not only reflects the ineffective use of the BADP funds but also indicates the ongoing neglect of essential services in these border communities. The lack of investment in medical infrastructure continues to hinder access to quality healthcare, contributing to the region's overall underdevelopment.

Table 7: Resondents' Opinions on the Development of Education Infrastructure under the BADP in the Indo-Bangladesh Borderland

Figures in Parentheses are Percentages to the total

Areas under the BADP	Opinion of the respondents regarding execution of works		
	Yes	No	Don't know
Development of Educational infrastructure like Construction of houses for Government teachers/officials, Primary/ Middle/ Secondary/ HS school buildings & their up gradation, hostels etc.	5 (1.92)	246 (94.25)	10 (3.83)
Total	261		(100.00)

Source: Field survey

Table 7 shows the number of schools from the primary level to the highest level in the Indo-Bangladesh borderland region of Katigorah. The infrastructural developments of all the schools are not satisfactory. The above table reveals a concerning lack of progress under the BADP. An overwhelming majority of respondents, specifically 94.25 percent, indicated that there have been no visible improvements in the development of educational infrastructure in the border region. Despite the pressing need for such advancements, all levels of educational institutions - Primary, Upper Primary, High Schools, and Higher Secondary Schools -continue to operate with minimal facilities. No efforts have been made under the BADP to address or enhance the current conditions of these schools. Although the BADP provides clear guidelines for constructing accommodations for government teachers and officials, as well as for the construction and upgrading of school buildings, hostels, and other necessary infrastructure, these provisions remain largely unfulfilled. The funds allocated for these purposes, as outlined in Table 27, have not been effectively utilized to improve the status of government schools in the region. This situation highlights a significant gap between policy directives and their actual implementation, leaving the educational needs of the border area severely neglected.

Table 8: Resondents' Opinions on the Development of Agricultural Infrastructure under the BADP in the Indo-Bangladesh Borderland

Figures in Parentheses are Percentages to the total

Areas under the BADP	Opinion of the respondents regarding execution of works		
	Yes	No	Don't know
Development of agricultural infrastructure like construction of minor irrigation works, water conservation programmes	4 (1.53)	226 (86.59)	31 (11.88)
Total	261 (100.00)		

Source: Field survey

A detailed perspective of the respondents' regarding the development of agricultural infrastructure under the BADP is presented in table 8. A striking 86.59 percent of respondents expressed that no significant initiatives have been undertaken under the BADP to boost agricultural production through investments in critical infrastructure, such as the construction of minor irrigation systems, water conservation projects, etc. This observation is particularly concerning given the region's vast potential to transform into a thriving agricultural hub. Despite the explicit mention of agricultural infrastructure development in the BADP, the Administration has shown little effort in realizing these objectives. During field surveys, it was noted that farmers in several border-adjacent villages, including Mahadevpur Part I and Mahadevpur Part II, have been actively involved in large-scale vegetable production and have successfully marketed their product. However, these activities are being carried out independently, without any support from the BADP. This highlights a significant gap between the programme's intended goals and its actual impact on the ground. Moreover, the table reveals that 11.88 percent of respondents are unaware of any initiatives related to agricultural infrastructure development under the BADP. The lack of awareness among a portion of the population, coupled with the absence of visible development efforts, raises serious questions about the effectiveness and implementation of the BADP in addressing the region's agricultural needs.

Table 9: Resondents' Opinions on the Promotion of Socio-Economic Infrastructure under the BADP in the Indo-Bangladesh Borderland

Figures in Parentheses are Percentages to the total

Areas under the BADP	Opinion of the respondents regarding execution of works			
	Yes	No	Don't know	Total
Development of Social Sector infrastructure like anganwadi centre, community centre under the BADP	5 (1.92)	235 (90.04)	21 (8.04)	261 (100.00)
Development of Model villages under the BADP	3 (1.15)	240 (91.95)	18 (6.90)	261 (100.00)
Construction of infrastructure for Small Scale Industries under the BADP	8 (3.07)	230 (88.12)	23 (8.81)	261 (100.00)

Source: Field Survey

Table 9 reveals a striking lack of development in the social sector, with 90.04 percent of respondents indicating that no improvements have been made in areas such as Anganwadi centres or community centres. Similarly,

91.95 percent of respondents reported that there has been no progress in the development of model villages. Moreover, guidelines exist for the construction of infrastructure for Small Scale Industries under the BADP, 88.12 percent of respondents confirmed that no such initiatives have been undertaken. It is particularly concerning that approximately 12 crore rupees have been spent under the BADP in the Katigorah region over the past decade, yet no remarkable development work has been identified. This amount is also negligible when compared to the extensive list of development activities mandated by the BADP. It is important to highlight that while the BADP is designed to uplift the communities living in border areas, inadequate funding and poor monitoring have rendered it largely ineffective.

Conclusion

The study reveals some key issues that hinder the effective implementation of the welfare schemes. These issues include a reluctant attitude on the part of the govt, officials in executing the schemes, a scarcity of need-based schemes, insufficient GP infrastructure, inappropriate beneficiary selection, low participation of women members, the absence of social audit, and a lack of coordination among the tiers of Panchayats and the district administration. These factors affect the execution of projects, preventing the uplifting the borderland communities.

Further, the failure of the local bodies, district administration, the Border Area Development Department (BADD) and the Border Area Development Programme (BADP) resulted in the peripheral situation of the Indo-Bangladesh border region in Cachar district, which is reflected in the field assessment conducted with all the stakeholders. The assessment revealed a series of problems being faced by the borderland, such as. recurring natural disasters like floods and soil erosion, coupled with the misuse of government project funds and improper functioning of sluice gates, severely creating problem in agricultural production. Local governance is ineffective, with ineffective GPs and improperly conducted GS leading to doubtful beneficiary selection for welfare schemes and also the abortive implementation of the BADP. These problems are leading to rural-urban migration, growing drug abuse, and a lack of access to essential services like healthcare and education. It is important to note that the challenges faced by the borderlands are compounded by the fact that border-specific welfare measures are not being implemented with the sincerity and commitment they require. In spite of the existence of various welfare schemes under the Union and State Government the peripheral features in entire borderland region are clearly evident. It is not that that the borderlands are not getting the fruits of the welfare measures but while comparing the issues of the inhabitant across the region it is found that they are at the receiving hand, and hence a concerted effort on the part of the local bodies, district administration and state government is required.

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Exploring Consumer Attitudes and Buying Behaviour Towards Organic and Green Tea: A Study with Reference to Golaghat District, Assam

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Abstract

In India, tea plays a central role in the social, economic, and cultural fabric of the nation, making it the most popular non-alcoholic beverage globally. Recently, consumer behavior is shifting towards the purchase of organic and eco-friendly products, driven by growing concerns over food safety, health issues, and environmental sustainability, along with the rapid pace of urbanization. Organic tea, a major consumer product in India, is produced through environmentally sustainable practices, with India being the world's largest producer of organic tea, as noted by the Tea Board of India. This study aims to explore consumer attitudes and purchasing patterns towards organic and green tea in Golaghat town, Assam. Consumers in this research are defined as individuals who purchase organic or green tea for personal and family consumption. The research will adopt a descriptive approach, utilizing both primary and secondary data. Primary data will be collected via structured questionnaires administered to consumers, while secondary data will be drawn from journals, books, and online sources. The collected data will be analysed using simple percentage methods and SPSS software. By understanding consumer preferences and behaviors, the findings of this study could benefit marketers and retailers in the organic tea industry, enabling them to tailor strategies to consumer needs.

Keywords: Organic/Green tea, Attitudes, Consumer's, Buying behaviour, Environment.

Introduction

Tea is cultivated in over 36 countries, spanning diverse agro-climatic regions, with production and consumption reaching 5.5 million metric tons globally in 2023. Major producers and exporters include China, India, Kenya, and Sri Lanka, which collectively account for 80% and 73% of world production and exports, respectively. India is the second-largest global producer and exporter, with a total tea production of 250.73 million kilograms valued at \$776 million in 2023-24. While green tea constitutes a smaller share of exports compared to black tea, it is increasingly gaining popularity. Major tea-growing regions in India include Assam, West Bengal, Tamil Nadu, and Kerala.

Tea plays a central role in India's social, economic, and cultural life. As the most widely consumed non-alcoholic beverage globally, it is enjoyed by people across all socio-economic strata. While per capita tea consumption varies significantly across countries, India's consumption is comparatively modest, at approximately 800 grams per person annually. However, due to its large population, India accounts for 19% of the world's total tea consumption. The highest per capita consumption is observed in Turkey (3.20 kg) and Afghanistan (2.20 kg), with countries like the UK, Libya, Morocco, and Qatar averaging around 2 kg per person. Despite India's lower per capita consumption, it remains a leading producer and consumer of tea, with 76% of its total production consumed domestically (69th Annual Report of Tea Board India, 2022-23). Among the various types of tea, green tea has seen a significant surge in popularity in recent years. This trend is attributed to shifting consumer preferences, particularly towards healthier and more sustainable options. Green tea, along with other organic products, is becoming increasingly favored due to growing concerns over food safety, health, and environmental degradation.

India, with its extensive land area under organic cultivation, is one of the largest producers of organic tea, which is rapidly gaining traction in both domestic and international markets. According to research, the demand for green tea in India is growing at an impressive rate of 17% annually, in stark contrast to the more modest 3%

growth for black tea (Bora & Gogoi, M). This indicates a significant shift in consumer behavior, driven by urbanization and heightened awareness of health and sustainability.

Organic Tea/Green Tea

As consumers grow more environmentally conscious and health conscious, organic tea—made from leaves produced without the use of industrial pesticides, fertilizers, or genetically modified organisms (GMOs)—is becoming more and more popular. Organic tea cultivation prioritizes preserving the natural balance, fostering soil health, and reducing the environmental impact, in contrast to conventional tea farming, which frequently uses chemicals to increase yield and safeguard crops. One of the oldest and most widely consumed organic drinks in the world, green tea has gained a reputation as a refreshing beverage with numerous health benefits. Green tea has long been prized for its delicate flavour, light colour, and many medicinal benefits. In nations like China and Japan, where it is a staple of daily life, green tea has been enjoyed for generations. Because green tea is processed less than black tea, which oxidizes more slowly, its natural antioxidants and nutrients are preserved.

How Organic Tea is Grown

Organic tea is cultivated using traditional and sustainable farming practices that prioritize the health of the soil, the surrounding ecosystem, and the people who tend to the crops. Organic farming methods involve crop rotation, composting, and the use of natural fertilizers like manure or plant-based materials. Instead of chemical pesticides, organic tea farms use natural alternatives such as neem oil, garlic, and other botanical remedies to protect the plants from pests and diseases. This approach helps to preserve biodiversity and ensures that the tea is free from harmful chemicals. Organic tea farming has a smaller environmental footprint compared to conventional farming. By avoiding synthetic fertilizers and pesticides, organic tea cultivation helps protect soil health, reduces water pollution, and supports local ecosystems. The use of natural composts and fertilizers also contributes to the conservation of soil fertility and reduces the carbon footprint of farming activities. Additionally, organic farming encourages a more sustainable approach to agriculture, with an emphasis on maintaining ecological balance and promoting long-term environmental health.

Organic Tea in Assam

Assam has traditionally been home to large-scale tea estates, which produce significant quantities of black tea for both domestic and international markets. In recent years, however, there has been a growing shift towards organic farming in the region due to increasing consumer demand for organic products and a stronger emphasis on environmental sustainability.

Key factors driving the growth of organic tea in Assam

- a. **Health Consciousness:** As consumers become more health-conscious, many are moving away from conventionally grown teas that may contain pesticide residues and synthetic chemicals. Organic tea, grown without harmful chemicals, offers a cleaner, healthier alternative, making it particularly attractive to health-conscious buyers.
- b. **Environmental Sustainability:** The environmental impacts of conventional tea farming, such as soil degradation, pesticide runoff, and loss of biodiversity, have led to increased interest in organic practices. Organic farming in Assam helps preserve the region's delicate ecosystems, conserves soil fertility, and reduces pollution in local waterways.
- c. **Market Demand:** The global market for organic tea is growing rapidly, with consumers in Western countries, particularly Europe and North America, seeking out organic and Fair Trade-certified tea. Assam's tea estates, recognizing this demand, are increasingly adopting organic practices to cater to the international market.

Famous Organic Tea Estates in Assam

Assam has several tea estates that are either fully organic or are in the process of converting to organic farming. Some of the more prominent ones include:

- **Halmari Tea Estate:** This estate is known for producing high-quality organic teas that have gained recognition both in India and internationally. It produces both black tea and green tea, which are organically certified.
- **The Tonganagaon Tea Estate:** This estate in Assam has adopted organic practices with the help of various non-governmental organizations (NGOs) and certification bodies. The estate produces both black and green organic teas that are sold under the estate's own brand.

Need of the Study

The tea industry in India, particularly in Assam, has witnessed a notable shift in consumer preferences in recent years. While traditional black tea continues to dominate, the demand for organic and green tea has grown significantly, driven by increasing health consciousness and a preference for sustainable products. This trend is evident both domestically and in international markets, reflecting a global shift toward healthier lifestyles. In regions like the Golaghat District of Assam, where tea cultivation is an integral part of the culture and economy, understanding these changing preferences is crucial. Consumers are now more discerning, valuing quality, authenticity, and eco-friendly practices. This evolving demand offers a strategic opportunity for the tea industry to diversify its product offerings and enhance value through innovation. By catering to these preferences, Assam's tea sector can strengthen its position in competitive markets while supporting local growers in adapting to dynamic consumer trends.

Review of Literature

Mahmoudi et al. (2021) emphasized the critical role of organic farming in achieving sustainable development. Their research highlights the importance of understanding consumer preferences for organic products to advance sustainable agricultural practices. The Choice Experiment (CE), a stated-preference method, has been identified as a valuable tool for evaluating consumer preferences and estimating willingness to pay (WTP) for various product and service attributes. The study underscores the growing significance of using WTP to analyze consumer preferences across a range of agricultural products, including organic goods. Furthermore, the application of CE has been significantly expanded due to scientific advancements, enabling its use in diverse fields such as health economics, transportation economics, natural resource economics, and microeconomics. The findings suggest that aligning organic farming initiatives with consumer preferences can play a vital role in driving sustainable agricultural development.

Nelum P. et al. (2023) conducted a study examining the impact of fertilizers on tea quality and comparing quality metrics between conventionally and organically cultivated tea. Their findings revealed that the distinctive flavor and color of tea arise from a complex interplay of substances, including methylxanthines, polyphenols, over 600 volatile compounds, carbohydrates, and amino acids. While caffeine imparts bitterness, the amino acids in tea, such as proline and GABA, contribute sweet and sour notes, resulting in a mellow and brisk tea profile. The study concluded that organically cultivated tea is gaining popularity and has become a focal point for extensive research. Recent findings highlighted that organic tea contains higher concentrations of polyphenols, individual catechins (ECG, EGCG, EC, and EGC), and amino acids compared to conventional tea. These enhanced biochemical properties underscore the growing consumer interest and potential health benefits associated with organic tea cultivation.

Godoy et al. (2013) conducted a study exploring the growing global consumption of tea, with a specific focus on mate tea in Brazil, made from yerba mate (*Ilex paraguariensis*). The study highlighted the increasing popularity of mate tea, driven by the development of mate-based products and rising health consciousness among Brazilians. The research, involving 100 consumers, evaluated two commercial mate teas and six experimental samples. Findings revealed that teabags were the most preferred form of mate consumption, followed by iced teas, with natural and lemon being the favored flavors. The majority of respondents (61%) consumed mate tea

with sugar, often drinking it at home before bedtime. Key factors influencing purchase decisions included product quality, brand, and price. The exploratory study also collected data on the socio-demographic characteristics of consumers and their tea consumption habits, offering valuable insights into consumer preferences and market trends in mate tea.

Li et al. (2024) in their study monitored quality changes in green tea during storage, focusing on chemical index analysis and hyperspectral data collection. A total of 30 tea samples were used to validate the analytical methods, while 240 additional samples were sealed in airtight aluminium foil packets and stored at 4°C (sample set 1) or 25°C (sample set 2) for further examination. Over a 360-day period, samples were removed at 90-day intervals (90, 180, 270, and 360 days) for experimentation. The findings revealed that caffeine levels remained relatively stable during storage at both temperatures. Caffeine concentrations in sample sets 1 and 2 ranged from 36.96–25.65 and 37.23–23.15, respectively, with standard deviations of 1.62 and 1.87. These results suggest minimal fluctuations in caffeine content, irrespective of storage conditions, providing valuable insights into green tea's chemical stability over time.

Syafrizal et al. (2023) quantitative study utilizing hypothesis testing to analyze customer attitudes and purchasing intentions for herbal products and supplements. Data were collected through a convenience sampling method, surveying 260 customers in West Sumatra. The research instrument was adapted from prior studies, and the data were analyzed using Structural Equation Modelling (SEM) with Smart PLS 3.0 software. The study found that health value and health consciousness significantly and positively influence customer attitudes and purchase intentions. Among the three primary predictors of purchase intention in the Theory of Planned Behavior (TPB)—customer attitude, subjective norm, and behavioral control—only behavioral control demonstrated a positive and significant impact on purchase intention. The research emphasizes the need for marketers and stakeholders to enhance accessibility to herbal products and supplements and to implement effective marketing strategies. These efforts should focus on promoting events and products that encourage healthy habits and lifestyles.

Kumari (2024) provides valuable insights into the factors shaping consumer attitudes and behaviors toward organic food, a growing trend in Bhagalpur City. Her study identifies several key factors influencing perceptions of organic food, including health consciousness, product information, affordability, ease of use, and trust. While the research did not directly examine actual purchase behavior, it highlights the influence of demographic characteristics on consumer sentiments about organic food. The study aims to present empirical data on the relatively unexplored topic of consumer views and practices regarding organic food in Bihar. Kumari also identifies significant challenges in the preservation and storage of organic products. Due to the absence of chemical pesticides during cultivation and storage, organic products are highly susceptible to decay and spoilage in their natural state, presenting logistical difficulties for producers and suppliers.

Balaji, V., and Injodey, J.I. (2017) conducted a research study on organic food products, identifying key factors that influence consumer purchasing decisions. Their findings revealed that "Consumers' Ideology," "Free from Chemicals," and "Health Benefits" collectively impact consumer behavior, with "Consumers' Ideology" and "Free from Chemicals" being the most statistically significant. The study demonstrated that consumers' "Ideology" (such as taste preferences) exerts a greater positive influence on purchasing behavior compared to the factor "Free from Chemicals." Furthermore, the research highlighted two primary perception characteristics—"Consumers' Ideology" and "Free from Chemicals"—as the main determinants of consumers' overall preference for buying organic food products. These insights provide a deeper understanding of the drivers behind organic food consumption and can inform marketing strategies in the organic food industry.

Bora, D.K., and Gogoi, M. (2018) conducted a study highlighting the numerous benefits of green tea. Their research revealed that green tea is a rich source of polyphenols, particularly catechins, which serve as potent antioxidants. These catechins play a crucial role in neutralizing free radicals generated during various metabolic processes, thereby contributing to overall health. Metal analysis of green tea indicated that it contains significant levels of essential minerals, including zinc, iron, manganese, magnesium, silver, copper, aluminium, bromine, nickel, chromium, and phosphorus. Furthermore, the study referenced research conducted at Rochester

University, USA, which found that green tea extract was beneficial in treating skin damage caused by radiotherapy in cancer patients. The authors also noted the emergence of small-scale tea growers in Assam producing hand-crafted organic green tea, which commands high prices in both domestic and international markets. They emphasized the importance of proper training for green tea producers by scientists to enhance competitiveness with larger industry players.

Prakash, M., and Mohan, S. (2016) conducted a study on consumer attitudes and buying behavior toward organic and green products in Erode District. The research aimed to assess consumer attitudes and identify buying patterns related to organic food products. The study found that 34.42% of respondents preferred organic food products due to the absence of pesticides, while a majority (43.23%) chose them primarily for health-conscious reasons. The findings highlight a strong consumer inclination to avoid pesticides and fertilizers that could negatively impact health. Furthermore, the study emphasized that a significant portion of consumers are health-conscious and exhibit a clear preference for organic or eco-friendly products. These insights underline the growing demand for organic products driven by health awareness and environmental considerations.

Objectives of the Study

The present study was carried out:

- 1) To examine the demographic profile of consumers of organic tea products.
- 2) To evaluate consumer attitudes towards organic tea.
- 3) To analyse the buying behavior of consumers of organic tea products.

Methodology

A descriptive research design was employed for this study, utilizing both primary and secondary data sources. Primary data were collected through structured questionnaires distributed to consumers in Golaghat town who visit retail stores selling organic products. The sample was selected based on the researcher's discretion, focusing on consumers who had purchased organic tea at least once. A total of 30 questionnaires were distributed, of which 22 were correctly completed, yielding a response rate of 73.33%. The remaining 8 questionnaires (26.67%) were incomplete and could not be used for analysis. Secondary data were gathered from various sources, including journals, reports, magazines, newspapers, and the internet. For data analysis, SPSS and the Simple Percentage Method were used to process and interpret the findings. This approach allowed for a comprehensive understanding of consumer attitudes and behavior towards organic tea in Golaghat.

Limitation of the Study

The study faced certain limitations due to the restricted interview time and the availability of respondents, which impacted the depth of responses and the accuracy of the gathered data. Additionally, the research is confined to Golaghat town, limiting the applicability of the findings to other regions. The scope of the study is further narrowed by focusing exclusively on organic tea products, which may not fully represent the broader market for organic goods. These constraints should be considered when interpreting the results, and future studies could expand to address these limitations for a more comprehensive understanding.

Data Analysis and Interpretation

The study examined the demographic characteristics of the respondents, their views on organic tea, and their level of awareness about it. It also explored the motivations or reasons behind their preference for organic tea, the frequency of their organic tea purchases, and their monthly spending on the product. Additionally, the study looks at the consumption of other organic products and the likelihood of respondents continuing to purchase organic tea in the future.

Demographics Profile of the Respondents

Table 1: Distribution of the Respondents

Gender	Frequency	Percent
Male	16	72.7
Females	6	27.3
Total	22	100.0
Age Group	Frequency	Percent
26 - 35 years	05	22.70
36 - 45 years	11	50.00
46 - 55 years	04	18.20
56 & Above years	02	09.10
Total	22	100.00
Marital status	Frequency	Percent
Married	16	72.7
Unmarried	6	27.3
Total	22	100.0
Educational Qualification	Frequency	Percent
High School	3	13.6
Bachelor's Degree	1	4.5
Master Degree	13	59.1
Doctorate Degree	5	22.7
Total	22	100.0
Occupation	Frequency	Percent
Service	17	77.3
Business	2	9.1
Agriculturist	3	13.6
Total	22	100.0
Annual Income	Frequency	Percent
Less than 200,000	1	4.5
Between 200,000 - 400,000	5	22.7
Between 400,000 - 600,000	9	40.9
More than 600,000	7	31.8
Total	22	100.0
Size of the Family	Frequency	Percent
2 -3 members	8	36.4
3-5 members	14	63.6
Total	22	100.0

Source: Primary Data

It is observed from the table 1 more than half i.e. (72.7%) of the respondents are male and 27.3% of the respondents are female. The data presented in the table indicates that 22.7% of respondents fall within the 26-35 years age group, while 50% belong to the 36-45 years age range. Additionally, 18.2% of respondents are in the 46-55 years age group, and the remaining 9.1% are aged 56 years and above. This distribution provides insight into the age demographic of the respondents. Table 1.3 displays the distribution of respondents based on their marital status. The data reveals that 72.7% of the respondents are married, while 27.3% are unmarried. The table below clearly shows that the majority of respondents (59.1%) hold postgraduate degrees, 22.7% have earned doctorate degrees, 13.6% are high school graduates, and the remaining 4.5% possess undergraduate degrees. It is apparent from the table 5 majority i.e. (77.3%) of the respondents are government employees, 9.1% of the respondents are engaged in business activities, and 13.6% of the respondents are agriculturist. Table 1.6 illustrates the distribution of respondents based on their annual family income. The data reveals that 4.5% of

respondents earn Rs. 200,000 or more annually, 22.7% earn between Rs. 200,000 and Rs. 400,000, 40.9% have yearly incomes ranging from Rs. 400,000 to Rs. 600,000, and 31.8% earn Rs. 600,000 or above. These findings suggest that organic tea consumption is predominantly associated with higher-income groups compared to lower-income groups. Table 1.7 presents the distribution of respondents based on the size of their family. The data indicates that a majority of respondents (63.6%) have 2 to 3 members in their family, while 36.4% have 3 to 5 family members.

Opinion about Preferring Organic Tea

Table 1.8 presents the respondents' opinions about organic tea. The data reveals that 31.8% of respondents consider organic tea to be healthier than non-organic tea, which influences their preference for or purchase of organic tea. Additionally, 27.3% of respondents find organic/green tea tastier than its non-organic counterpart. Furthermore, 13.6% of respondents each cited the absence of synthetic pesticides, chemical fertilizers, and added flavors as reasons for preferring organic/green tea.

Table 8: Opinion about Preferring Organic Tea

Preference for Organic Tea	Frequency	Percent
Organic tea is potentially healthy	7	31.8
Organic/green teas are tastier than non-organic tea.	6	27.3
Exclusion of synthetic pesticides	3	13.6
Exclusions of chemical fertilizers	3	13.6
Exclusions of added flavour	3	13.6
Total	22	100.0

Source: Primary Data

Awareness/Sources of Information about Organic Products/Organic Tea

The table below shows the sources through which respondents gain awareness or information about organic products, including organic tea. It reveals that 31.8% of respondents learn about organic products from newspapers, while 27.3% obtain information from magazines. Additionally, 18.2% of respondents indicated they get information from television programs or advertisements, 4.5% from radio advertisements, and 9.1% from their school or college education. Another 4.5% each cited promotional or educational events and word of mouth from growers as sources of awareness. These findings suggest that producers and marketers should enhance the promotion of organic tea through audio media and organize more educational events, such as seminars or conferences, to increase consumer awareness.

Table 9: Awareness/Sources of Information about Organic Tea

Source of Information	Frequency	Percent
Newspapers	7	31.8
Magazines	6	27.3
Televisions Programmes/Advertisement	4	18.2
Radio/Advertisement	1	4.5
Taught in school and college	2	9.1
At a promotional/Educational event	1	4.5
Word of mouth	1	4.5
Total	22	100.0

Source: Primary Data

Reasons for Preferring Organic Tea

The table clearly indicates that 36.4% of respondents prefer organic tea primarily due to their environmental concerns. Additionally, 22.7% of respondents cited health consciousness and affordability as key reasons for their preference. Furthermore, 18.2% of respondents reported that they consume organic tea/products based on their doctor's advice.

Table 10: Reasons for Preferring Organic Tea

Reason for Preference	Frequency	Percent
Health Consciousness /Nutrition value	5	22.7
Environmental concern	8	36.4
Doctor's advice	4	18.2
Price/Affordability	5	22.7
Total	22	100.0

Source: Primary Data

Frequency of Purchasing Organic Tea

Table 11 illustrates the frequency of organic tea purchases among respondents. The data shows that 50% of respondents purchase organic tea on a monthly basis, while 27.3% buy it weekly. Additionally, 18.2% of respondents indicated that they purchase organic tea annually.

Table 11: Frequency of Purchasing Organic Tea

Frequency	Frequency	Percent
Weekly	6	27.3
Monthly	11	50.0
Every six months	4	18.2
Yearly	1	4.5
Total	22	100.0

Source: Primary Data

Consumptions of Organic Products

It is seen from the table below that 40.9% of the respondents consuming organic fruits and vegetables besides consumption of organic tea, 22.7% of the respondents are consuming organic dairy products and the rest 18.2% each of the respondents are consuming organic cereals and other organic products respectively.

Table 12: Consumptions of other Organic Products

Products	Frequency	Percent
Organic dairy products	5	22.7
Organic fruits and vegetables	9	40.9
Organic cereals	4	18.2
Others	4	18.2
Total	22	100.0

Source: Primary Data

Monthly Expenditure Incurred for Organic Tea/Products

Table 13 illustrates the monthly expenditure on the purchase and consumption of organic tea/products. The data indicates that 31.8% of respondents spend between ₹101 to ₹200, while an equal proportion (31.8%) spends

₹201 to ₹300 per month on organic tea. Additionally, 27.3% of respondents reported spending ₹1 to ₹100 monthly on these products. The remaining respondents incur higher expenditures, with 4.5% spending ₹301 to ₹400 and another 4.5% spending ₹500 or more per month on organic tea or related products. These findings highlight varied spending patterns among consumers, with a majority opting for moderate expenditure levels.

Table 13: Monthly Expenditure for Organic Tea

Monthly Expenditure	Frequency	Percent
Rs.1 - 100	6	27.3
Rs.101 - 200	7	31.8
Rs.201 - 300	7	31.8
Rs. 301 – 400	1	4.5
Rs. 5.00 & above	1	4.5
Total	22	100.0

Source: Primary Data

Continuity/Consider Buying Organic Tea if

The table below reveals that 36.4% of respondents would continue or consider purchasing organic tea if it is priced lower than non-organic tea. Additionally, 31.8% of respondents indicated they would buy organic tea if their income increased, while 22.7% cited improved accessibility as a key factor. The remaining 4.5% agreed that better packaging and more media information would influence their decision. These findings suggest that producers and marketers should focus on pricing strategies, ensuring affordability, enhancing product accessibility, and investing in strong branding and packaging to attract consumers.

Table 14: Continuity/Consider of Buying Organic Tea

Reason	Frequency	Percent
More cheap prices than non-organic products/tea	8	36.4
More income	7	31.8
More accessible in the market	5	22.7
More recognizable packaging and labelling	1	4.5
More information in the media	1	4.5
Total	22	100.0

Source: Primary Data

Relationship between the Respondents Age and Reasons for Preferring Organic Tea

Table 15 illustrates the relationship between respondents' age groups and the reasons for preferring organic tea. Among respondents aged 26–35 years, 40% cited health consciousness, while 60% pointed to environmental concerns as the primary reason for choosing organic tea. In the 36–45 years age group, 18.2% chose health consciousness, 27.3% mentioned environmental concerns, and 18.2% preferred organic tea based on doctor's advice. Respondents in the 46–55 years age group were divided, with 25% citing health consciousness, 25% mentioning environmental concerns, and 50% preferring organic tea due to affordability. Among those aged 56 and above, 50% preferred organic tea for environmental reasons, while the remaining 50% were influenced by price. Overall, environmental concern (36.4%) emerged as the most common reason for preferring organic tea, followed by health consciousness and affordability (22.7% each), with a smaller percentage attributing their choice to medical advice (18.2%).

Table 15: Relationship between the Respondents Age and Reasons for Preferring Organic Tea

		Reasons for Preferring Organic Tea/Product				Total
		Health Consciousness /Nutrition value	Environmental concern	Doctor's advice	Price/Affordability	
Age groups of the respondents	26 - 35 years	2 (40%)	3 (60%)	0	0	5 (100%)
	36 - 45 years	2 (18.2%)	3 (27.3%)	2 (18.2%)	4 (36.4%)	11 (100%)
	46 - 55 years	1 (25.0%)	1 (25.0%)	2 (50.0%)	0	4 (100%)
	56 & Above years	0	1 (50.0%)	0	1 (50.0%)	2 (100%)
Total		5 (22.7%)	8 (36.4%)	4 (18.2%)	5 (22.7%)	22(100%)

Source: Primary Data

Relationship between the Respondents' Educational Qualification & Reasons for Preferring Organic Tea

Table 16 illustrates the relationship between respondents' educational qualifications and their reasons for preferring organic tea. Respondents with up to a high school education primarily cited health consciousness, environmental concern, and doctor's advice. All graduates preferred organic tea for environmental protection. Among respondents with a master's degree, 46.2% favored organic tea for environmental reasons, 23.1% due to health consciousness, and 15.4% each for doctor's advice and affordability. These findings highlight the varying motivations based on educational levels.

Table 16: Educational qualifications of the respondents * Reasons for Preferring Organic Tea/Product Cross tabulation

Educational Qualifications	Reasons for Preferring Organic Tea/Product				Total
	Health Consciousness /Nutrition value	Environmental concern	Doctor's advice	Price/Affordability	
High School	1(33.3%)	1(33.3%)	1(33.3%)	0	3(100%)
Bachelor's Degree	0	1(100%)	0	0	1(100%)
Master Degree	3(23.1%)	6(46.2%)	2(15.4%)	2(15.4%)	13(100%)
Doctorate Degree	1(20.0%)	0	1(20.0%)	3(60.0%)	5(100%)
Total	5(22.7%)	8(36.4%)	4(18.2%)	5(22.7%)	22(100%)

Source: Primary Data

The findings reveal that 36.4% of doctorate holders prefer organic tea due to environmental concerns, while 22.7% cite health consciousness and affordability as their main reasons. The remaining 18.2% attribute their preference to doctors' advice. Overall, regardless of educational qualifications, the primary reason for preferring organic tea is environmental protection (36.4%), followed by health consciousness and price/affordability (22.7%), with doctors' advice being the least cited reason (18.2%).

Major Findings

The study revealed that 72.7% of respondents are male and 27.3% are female. Regarding age, 22.7% belong to the 26-35 years group, 50% to the 36-45 years group, 18.2% to the 46-55 years group, and 9.1% are aged 56 and above. A majority (72.7%) of the respondents are married, and 27.3% are unmarried. In terms of education, 59.1% are postgraduates, 22.7% hold doctorate degrees, 13.6% are high school graduates, and 4.5% are university graduates. Additionally, 77.3% of the respondents are government employees, 9.1% are engaged in

business, and 13.6% are agriculturists. The respondents' annual income varies, with 40.9% earning between Rs. 400,000 and Rs. 600,000, and 31.8% earning Rs. 600,000 and above.

The study found that 31.8% of respondents prefer organic tea due to its perceived health benefits, while 27.3% find it tastier than non-organic tea. A significant portion (31.8%) receives information about organic products from newspapers, and 27.3% from magazines. Environmental concerns were the main reason for preferring organic tea (36.4%), followed by health consciousness (22.7%) and doctor's advice (22.7%). Half of the respondents purchase organic tea monthly, and 40.9% also consume organic fruits and vegetables.

Suggestions

Based on the findings of the study, a significant number of respondents expressed the belief that organic teas are not only tastier but also healthier than non-organic teas, and free from fertilizers and pesticides. Given these positive perceptions, it is recommended that manufacturers and marketers focus on educating consumers about the benefits of organic tea and products. By increasing consumer awareness, they can encourage more individuals to make the shift towards purchasing and consuming organic alternatives.

Conclusion

In conclusion, the study reveals that regardless of the respondents' educational qualifications, the primary reasons for preferring organic tea are the desire to protect the natural environment, health consciousness, affordability, and doctor's recommendations. Therefore, it is essential for manufacturers, promoters, and the government to enhance consumer awareness through promotional events, emphasizing the importance of environmental conservation and the positive attributes of organic, green products and tea. Additionally, the government should mandate certification for organic tea production, ensuring quality and authenticity. Producers must also consider consumer characteristics when setting prices to ensure alignment with consumer expectations and affordability.

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Reactions of the Stock Price to Earnings Releases– Evidence from The Indian Equity Market

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Abstract

The study investigates the relationship between stock returns and quarterly earnings announcements in the Indian equity market over the period 2019 to 2023, with a specific focus on firms listed under the S&P BSE SENSEX. It also evaluates whether the market exhibits characteristics consistent with the semi-strong form of the Efficient Market Hypothesis (EMH). Employing the event study methodology and using secondary data sourced from the BSE and other reputable financial databases—while adopting the BSE 500 index as a market proxy—the analysis reveals that quarterly earnings announcements exert a significant influence on the stock returns of SENSEX-listed firms. A noteworthy finding is the presence of post-earnings announcement drift, suggesting that stock prices in the Indian market do not adjust instantaneously or fully to new earnings information. This delayed adjustment implies potential short-term trading opportunities for informed investors. Furthermore, the observed abnormal returns during the event window challenge the tenets of semi-strong market efficiency, indicating that the Indian market does not fully and immediately incorporate publicly available earnings information into security prices.

Keywords: Quarterly Earnings, Event Study, Abnormal Return, Market efficiency, BSE 500.

Introduction

The debate on stock market informational efficiency largely centers on understanding how quickly and accurately security prices adjust to publicly available accounting information. As highlighted by Fama et al. (1969), investors may earn superior returns in a semi-strong inefficient market when market prices fail to fully and immediately incorporate publicly accessible information. Accounting disclosures therefore play a crucial role in shaping investor expectations and influencing stock return behavior, particularly around announcement dates. In many cases, the announcement of an event exerts a greater influence on market reactions than the event itself, as announcements alter investor perceptions, which are subsequently reflected in stock price movements. Various forms of accounting information—such as stock splits, mergers, takeovers, dividends, rights issues, and especially earnings announcements—have been shown to significantly affect investor sentiment and security prices. The pioneering work of Ball and Brown (1968) first demonstrated the impact of earnings releases on stock price behavior, leading to a substantial body of research examining how markets respond to different forms of accounting information. In India, much of this research gained momentum in the post-liberalization period, when regulatory and structural reforms reshaped disclosure practices. Earlier empirical studies analyzed the market response to bonus issues, takeovers, earnings disclosures, and other corporate announcements (Aggarwal, 1991; Joshi, 1991; Bernard, 1993; Belgaumi, 1995; Rao, 1994). Until the late 1990s, however, Indian corporates followed conservative disclosure norms, with most firms providing only annual financial information. Consequently, investors often had to rely on outdated data or delay investment decisions until new results were released, creating opportunities for insiders and speculators to exploit information gaps. A major shift occurred in 2001 when SEBI mandated timely quarterly disclosures, enhancing transparency and improving the flow of financial information to the market. Earlier studies on market efficiency in India primarily considered annual or half-yearly earnings announcements (Belgaumi, 1995; Bernard, 1993; Chaturvedi, 2000). Subsequently, researchers began focusing on quarterly earnings announcements to capture more frequent market reactions. For instance, Manickaraj (2004) analyzed 490 quarterly earnings announcements from BSE-listed firms, while Iqbal and Mallikarjunappa (2007) examined earnings disclosures from September quarters. Against this backdrop, the present study investigates the informational efficiency of the Indian stock market with respect

to quarterly earnings announcements. Drawing on the existing body of evidence, the research aims to evaluate the speed and accuracy with which earnings information is reflected in stock prices and to assess whether the market conforms to the semi-strong form of the Efficient Market Hypothesis.

Review of Literature

The Efficient Market Hypothesis (EMH) has been widely examined across developed markets such as the United States, the United Kingdom, and Australia, with one of the contributions by Fama et al. (1969) documenting significant price adjustments prior to stock split announcements providing early empirical support for semi-strong market efficiency. Jordan (1973) similarly found that security prices in the U.S. adjusted rapidly to quarterly earnings announcements, supporting semi-strong efficiency. Earlier, Ball and Brown (1968) established that yearly earnings announcements induced systematic price movements, reinforcing the relevance of accounting information in capital markets. Fama (1970) further noted that delays in incorporating new information into prices may lead to sub-efficient market behavior, where security prices do not fully reflect relevant information at the time of disclosure. Despite the theoretical expectation of efficiency, several studies documented deviations. Watts (1978) and Foster et al. (1984) reported significant abnormal returns following quarterly earnings announcements, indicating delayed market adjustment. Ball (1992) also highlighted a persistent lag between earnings disclosures and stock price reactions. Using an event study approach, Martikainen (1998) found that earnings announcements in the Finnish stock market produced strong reactions, particularly to favorable news. Similarly, Odabasi (1998), studying the Istanbul Stock Exchange, observed statistically significant abnormal returns around announcement days, suggesting informational content in earnings releases. Evidence from emerging markets was mixed; for example, Kong and Majid (2006) found that annual earnings announcements in China contradicted semi-strong efficiency, while Sponholtz (2008) reported positive abnormal returns in the Danish stock market around disclosure dates. In the Indian context, empirical findings on semi-strong efficiency have been diverse. Srinivasan (1997) concluded that the Indian stock market displayed semi-strong efficiency, whereas Belgaumi (1995) argued that investors required substantial time to absorb publicly available information, indicating inefficiency. Narayan Rao (1994) found significant price adjustments to corporate announcements such as bonus issues, rights issues, and dividend decisions, supporting semi-strong efficiency. Conversely, Obaidullah (1990), analyzing half-yearly earnings announcements, rejected the semi-strong form for India. Chaturvedi (2000, 2001) reported abnormal returns both before and after earnings disclosures and noted performance differences between low and high P/E stocks, signaling market inefficiencies. Research using quarterly earnings announcements has also produced mixed conclusions. Manickaraja (2004) observed that the Indian market incorporated quarterly earnings information relatively quickly, responding positively to favorable results and negatively to unfavorable ones, thereby supporting semi-strong efficiency. In contrast, Mallikarjunappa (2004a & 2004b) demonstrated delayed price adjustments and the possibility of earning abnormal profits, suggesting inefficiency. Gupta (2006), examining CNX Nifty firms, found that while average abnormal returns were largely insignificant, earnings declines triggered significant market reactions, confirming the informational relevance of earnings. Raja, Sudhahar, and Salvam (2009) further reported that although stock split announcements elicited rapid market responses, the Indian market did not exhibit full semi-strong efficiency, leaving room for abnormal return generation during the announcement window.

Objectives of the Study

1. To examine the influence of quarterly earnings announcements on stock returns.
2. To determine if the Semi-strong form efficiency characterizes the Indian stock market.

Hypotheses of the Study

H_0 = Average Abnormal Return tends to be insignificant around the announcement of the quarterly earnings announcements.

H_0 = Cumulative Average Abnormal Return tends to be insignificant around the announcement of the quarterly earnings announcements.

Data and Methodology

The purpose of this study is to examine how quarterly earnings announcements influence the daily return series of stocks listed on Indian stock exchanges. The date of the board meeting is considered the official announcement date for earnings disclosures. Investors generally rely on quarterly earnings information to guide their investment decisions, making these announcements particularly relevant for analyzing price reactions. The study focuses exclusively on fourth-quarter (Q4) earnings releases, as Q4 results tend to have a stronger impact on investor behavior due to their alignment with the end of the Indian financial year in March. This period often triggers portfolio adjustments and tax-related strategies, thereby influencing stock price movements (Sharma & Chander, 2009). The dataset spans the years 2019 to 2023 and includes all firms listed on the S&P BSE SENSEX. Daily closing prices for the selected companies were obtained from the official BSE website. The S&P BSE 500 index is used as the market proxy for estimating normal returns. The study employs the event study methodology under the market model to measure abnormal returns around the announcement window. Additional firm-level and market data were sourced from the Centre for Monitoring Indian Economy (CMIE) Prowess database, ensuring accuracy and reliability of the empirical analysis.

4.0 Data Analysis and Interpretation

Table 1. Critical t-value 5% significance level

SECTOR	N	D.O. F	5% SIGNIFICANCE LEVEL
Total Companies	30	29	-2.045 TO +2.045

Source: Author's Calculation

The critical (tabulated) t-values are shown in Table 1. Using 5% significance levels, we compare the estimated t-values with the tabulated t-values to decide whether or not the hypotheses should be accepted.

Table 2: Daily AAR & CAAR Surrounding the Announcement Day of Q4 Results in FY 2023

DAY	AAR	T Statistic	CAAR	T Statistic	DAY	AAR	T Statistic	CAAR	T Statistic
-10	0.00008	0.171	0.00008	0.063	1	-0.00374	-7.678*	-0.01186	-9.004*
-9	0.00010	0.206	0.00018	0.139	2	0.00244	4.997*	-0.00943	-7.156*
-8	-0.00529	-10.855*	-0.00511	-3.876*	3	-0.00010	-0.213	-0.00953	-7.235*
-7	0.00046	0.945	-0.00465	-3.527*	4	-0.00067	-1.382	-0.01020	-7.746*
-6	-0.00017	-0.356	-0.00482	-3.659*	5	0.00285	5.839*	-0.00736	-5.586*
-5	-0.00061	-1.260	-0.00543	-4.125*	6	0.00035	0.710	-0.00701	-5.323*
-4	0.00155	3.183*	-0.00388	-2.947*	7	0.00324	6.643*	-0.00377	-2.865*
-3	0.00005	0.101	-0.00383	-2.910*	8	-0.00384	-7.878*	-0.00761	-5.780*
-2	-0.00256	-5.246*	-0.00639	-4.851*	9	-0.00081	-1.666	-0.00843	-6.396*
-1	0.00066	1.362	-0.00573	-4.347*	10	0.00180	3.695*	-0.00663	-5.029*
0	-0.00239	-4.911*	-0.00812	-6.164*					

Source: Author's Calculation

* Significant at 5% level (± 2.045)

A detailed examination of Table 2 shows that, under the market model with log returns, AARs are negative for four days and positive for six days prior to the event day, while in the post-event period AARs are negative for five days and positive for five days. This shift indicates a slight increase in negative returns following the announcement. Overall, within the 21-day window, AARs are positive on eleven days and negative on ten days, suggesting a generally favorable return pattern. However, CAAR values paint a contrasting picture. CAAR remains negative throughout the entire 19-day window, beginning from the eighth day before the event and continuing until the tenth day after. This persistent negative trend implies that the market anticipated unfavorable quarterly earnings information and priced in expectations of bad news. The parametric t-test applied

to AAR and CAAR values further strengthens this interpretation. Out of the 21 days in the event window, 10 days show statistically significant AARs at the 5% level—three days prior to the announcement and seven days on or after the event day. The rejection of the null hypothesis that AARs are zero indicates the presence of abnormal returns. The significant deviations from zero suggest that stock prices did not fully and immediately adjust to earnings information, demonstrating a delayed market reaction. Such behavior is inconsistent with the semi-strong form of the Efficient Market Hypothesis.

Table 3: Daily AAR & CAAR Surrounding the Announcement Day of Q4 Results in FY 2022

DAY	AAR	T STATISTICS	CAAR	T STATISTICS
-10	0.00397	8.554*	0.00397	3.147*
-9	0.00011	0.234	0.00408	3.234*
-8	-0.00206	-4.430*	0.00202	1.604
-7	0.00066	1.429	0.00269	2.129*
-6	-0.00403	-8.674*	-0.00134	-1.062
-5	0.00278	5.994*	0.00144	1.143
-4	0.00119	2.564*	0.00263	2.086*
-3	0.00267	5.761*	0.00530	4.206*
-2	-0.00144	-3.097*	0.00387	3.066*
-1	-0.00017	-0.358	0.00370	2.935*
0	-0.00155	-3.344*	0.00215	1.704
1	-0.00035	-0.759	0.00180	1.425
2	-0.00248	-5.355*	-0.00069	-0.545
3	-0.00027	-0.582	-0.00096	-0.759
4	0.00084	1.812	-0.00012	-0.092
5	0.00399	8.589*	0.00387	3.068*
6	0.00220	4.744*	0.00607	4.813*
7	0.00165	3.565*	0.00772	6.125*
8	-0.00048	-1.024	0.00725	5.748*
9	0.00140	3.016*	0.00865	6.858*
10	0.00145	3.116*	0.01010	8.004*

Source: Author's Calculation

Significant at 5% level (± 2.045)

A detailed examination of Table 3 reveals that, under the market model with log returns, AARs are negative for four days and positive for six days prior to the announcement day. The same pattern continues after the event, with four days of negative AARs and six days of positive AARs. This stability in the distribution of positive and negative returns suggests that the market maintained a consistent reaction pattern before and after the earnings release. Across the full 21-day event window, AARs are positive on twelve days and negative on eight days, indicating a predominantly favourable return trend for the period. The CAAR values further reinforce this positive sentiment. CAAR remains consistently positive throughout the 17-day period of observation, implying that investors generally anticipated good news from the quarterly results. This sustained positive accumulation reflects an optimistic market environment leading up to and following the announcement. To evaluate the statistical significance of these movements, a parametric t-test was applied to both AARs and CAARs. Fourteen

out of the twenty-one AAR observations show significance at the 5% level—seven before the announcement and seven after—resulting in the rejection of the null hypothesis that AARs are zero. Similarly, CAAR values exhibit statistically significant t-statistics for seven days prior to the event and five days after it. These significant deviations from zero indicate the presence of abnormal and excess returns within the window. Overall, the results suggest that stock prices did not fully and instantaneously incorporate the earnings information. The persistence of abnormal returns before and after the announcement indicates a delayed market response, which is inconsistent with the semi-strong form of the Efficient Market Hypothesis.

Table 4: Daily AAR & CAAR Surrounding the Announcement Day of Q4 Results in FY 2021

DAY	AAR	T STATISTICS	CAAR	T STATISTICS
-10	-0.00130	-2.923*	-0.00130	-1.224
-9	-0.00217	-4.895*	-0.00347	-3.273*
-8	-0.00017	-0.377	-0.00364	-3.431*
-7	-0.00030	-0.685	-0.00394	-3.718*
-6	0.00172	3.866*	-0.00223	-2.099*
-5	-0.00142	-3.197*	-0.00365	-3.438*
-4	-0.00020	-0.448	-0.00384	-3.625*
-3	0.00394	8.864*	0.00009	0.085
-2	-0.00358	-8.068*	-0.00349	-3.292*
-1	-0.00026	-0.593	-0.00375	-3.541*
0	-0.00219	-4.929*	-0.00594	-5.604*
1	-0.00124	-2.799*	-0.00719	-6.776*
2	-0.00045	-1.005	-0.00763	-7.197*
3	-0.00052	-1.161	-0.00815	-7.683*
4	0.00088	1.980	-0.00727	-6.854*
5	0.00258	5.811*	-0.00469	-4.421*
6	0.00294	6.624*	-0.00175	-1.648
7	-0.00101	-2.275*	-0.00276	-2.600*
8	0.00201	4.528*	-0.00075	-0.705
9	0.00077	1.738	0.00002	0.023
10	0.00285	6.412*	0.00287	2.707*

Source: Author's Calculation

Significant at 5% level (± 2.045)

A thorough examination of Table 4 indicates that, under the market model with log returns, AARs are negative for eight days and positive for only two days prior to the announcement, suggesting predominantly unfavorable market expectations during the pre-event period. Following the event, the pattern becomes more balanced, with four days of negative AARs and six days of positive AARs. This shift reflects a notable improvement in investor sentiment after the announcement, although not sufficient to reverse the overall negative trend. Across the 21-day event window, AARs are negative for thirteen days and positive for eight days, indicating that stock returns during this period were generally adverse. The CAAR values provide further clarity: CAAR remains negative for nearly the entire window, with eighteen of the twenty-one days displaying negative cumulative

abnormal returns. This persistent negative trajectory suggests that the market anticipated disappointing quarterly results and continued to absorb the adverse implications even after the earnings were released. The parametric t-test reinforces these findings. Thirteen of the twenty-one AAR observations are statistically significant at the 5% level- six before the announcement and seven after—leading to the rejection of the null hypothesis that AARs are zero. CAAR values display an even stronger pattern of significance, with fifteen consecutive days showing statistically significant negative t-values. The rejection of the null hypothesis for both AAR and CAAR confirms the presence of sustained abnormal returns around the announcement. Overall, the prolonged negative abnormal and cumulative abnormal returns indicate that the market did not rapidly or fully incorporate the earnings information. The persistence of significant reactions well beyond the event day points to delayed price adjustments, which contradicts the assumptions of the semi-strong form of the Efficient Market Hypothesis.

Table 5: Daily AAR & CAAR Surrounding the Announcement Day of Q4 Results in FY 2020

DAY	AAR	T STATISTICS	CAAR	T STATISTICS
-10	0.00196	4.346*	0.00196	0.998
-9	0.00127	2.825*	0.00323	1.648
-8	0.00196	4.360*	0.00519	2.649*
-7	0.00179	3.965*	0.00698	3.560*
-6	-0.00009	-0.207	0.00688	3.513*
-5	0.00017	0.380	0.00706	3.600*
-4	0.00030	0.673	0.00736	3.755*
-3	-0.00422	-9.377*	0.00314	1.600
-2	0.00046	1.032	0.00360	1.837
-1	-0.00021	-0.468	0.00339	1.730
0	-0.00196	-4.345*	0.00143	0.732
1	-0.00124	-2.760*	0.00019	0.098
2	-0.00235	-5.217*	-0.00216	-1.101
3	0.00379	8.427*	0.00164	0.835
4	0.00228	5.060*	0.00392	1.998
5	0.00109	2.423*	0.00501	2.555*
6	0.00172	3.812*	0.00672	3.430*
7	0.00091	2.019*	0.00763	3.894*
8	0.00144	3.209*	0.00908	4.631*
9	0.00466	10.350*	0.01374	7.009*
10	0.00006	0.144	0.01380	7.042*

Source: Author's Calculation

Significant at 5% level (± 2.045)

A detailed inspection of Table 5 shows that, under the market model with log returns, AARs are negative for three days and positive for seven days prior to the announcement. After the event day, this pattern becomes even more favorable, with eight days of positive AARs and only two days of negative AARs. This increase in positive values from seven pre-event days to eight post-event days—indicates an improvement in market sentiment following the earnings release. Overall, within the 21-day event window, AARs are positive for fifteen days and negative for six days, suggesting a predominantly favorable return pattern throughout the

period. CAAR values further support this interpretation, remaining positive across the entire twenty-day span. This consistent upward movement in cumulative abnormal returns suggests that the market anticipated good news from the quarterly earnings announcement and continued to react positively in the days that followed. The statistical significance of these trends was evaluated using a parametric t-test. Fifteen out of the twenty-one AAR observations are significant at the 5% level—five before the announcement and ten on or after the event day. The rejection of the null hypothesis that AARs are zero indicates the presence of meaningful abnormal returns around the event. CAAR values also exhibit strong significance, with eleven consecutive days showing significant t-statistics. This again leads to the rejection of the null hypothesis that CAARs are zero. Taken together, the significant abnormal and cumulative abnormal returns before and after the announcement indicate that stock prices did not immediately adjust to the new information. The persistence of abnormal returns suggests delayed market assimilation, which contradicts the assumptions of the semi-strong form of the Efficient Market Hypothesis.

Table 6: Daily AAR & CAAR Surrounding the Announcement Day of Q4 Results in FY 2019

DAY	AAR	T STATISTICS	CAAR	T STATISTICS
-10	0.00249	4.900*	0.00249	1.737
-9	0.00398	7.826*	0.00648	4.512*
-8	-0.00020	-0.393	0.00628	4.373*
-7	0.00145	2.851*	0.00773	5.384*
-6	0.00401	7.876*	0.01173	8.176*
-5	-0.00017	-0.331	0.01157	8.059*
-4	-0.00032	-0.624	0.01125	7.838*
-3	0.00040	0.790	0.01165	8.118*
-2	-0.00115	-2.261*	0.01050	7.316*
-1	0.00054	1.055	0.01104	7.691*
0	0.00265	5.212*	0.01369	9.539*
1	-0.00481	-9.449*	0.00888	6.188*
2	-0.00209	-4.109*	0.00679	4.731*
3	-0.00141	-2.781*	0.00537	3.745*
4	0.00146	2.868*	0.00683	4.762*
5	-0.00111	-2.190*	0.00572	3.986*
6	0.00094	1.846	0.00666	4.640*
7	-0.00021	-0.418	0.00645	4.492*
8	0.00154	3.018*	0.00798	5.562*
9	0.00345	6.790*	0.01144	7.969*
10	0.00044	0.862	0.01188	8.275*

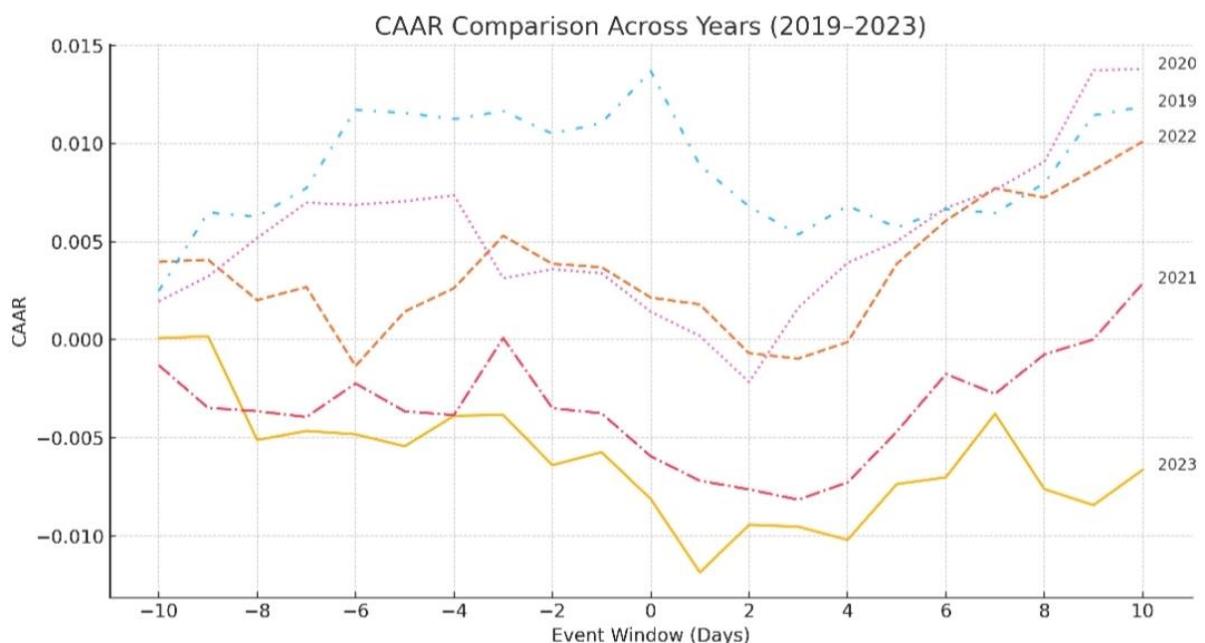
Source: Author's Calculation

Significant at 5% level (± 2.045)

A detailed examination of Table 6 reveals that, under the market model with log returns, AARs are negative for four days and positive for six days prior to the announcement day. After the event day, AARs again show a balanced distribution, with five positive and five negative days. This slight shift—an increase in negative days from four to five post-announcement—indicates a modest decline in market sentiment immediately following

the earnings release. Across the full 21-day event window, AARs are positive for eleven days and negative for nine days, suggesting a mixed but slightly unfavourable pattern of daily abnormal returns. In contrast, CAAR values remain positive throughout the entire event period. This uninterrupted upward trajectory indicates that, despite fluctuations in daily returns, the market generally interpreted the Q4 2019 earnings announcement as containing favourable information, leading to a cumulative positive reaction over time. The parametric t-test provides further insight into the significance of these movements. Thirteen of the twenty-one AAR observations are statistically significant at the 5% level—five prior to the event day and seven after—resulting in rejection of the null hypothesis that AARs are zero. CAAR values demonstrate even stronger significance, with favourable t-statistics across the first twenty days of the window. This again leads to rejection of the null hypothesis that CAARs are zero and confirms the presence of excess cumulative abnormal returns. Taken together, the results indicate that although daily abnormal returns fluctuated, the cumulative market reaction was consistently positive. The persistence of significant abnormal and cumulative abnormal returns around the event suggests that stock prices did not instantaneously incorporate the earnings information. This delayed adjustment pattern contradicts the assumptions of the semi-strong form of the Efficient Market Hypothesis.

Fig 1: CAAR Comparison Graph Across Years (2019-2023)



Source: Author's Calculation

The CAAR comparison graph illustrates how the Indian stock market responded to quarterly earnings announcements across five financial years (2019–2023). A distinct variation in the direction and magnitude of cumulative abnormal returns is observed for each year. The years 2019 and 2020 exhibit a consistently positive CAAR trend, indicating that the market generally anticipated favorable earnings outcomes and incorporated the information accordingly. In contrast, 2021 and 2023 show predominantly negative CAAR values, suggesting that the market expected weaker performance or reacted unfavorably to the disclosed earnings during these periods. The year 2022 displays a mixed pattern, with moderate fluctuations before stabilizing into positive territory after the announcement. Across all years, the shape of the CAAR lines confirms that stock prices did not immediately adjust to new earnings information. Instead, both upward and downward drifts persisted for several days following the announcement. This behaviour is consistent with the presence of post-earnings announcement drift (PEAD), indicating delayed market assimilation of public information. Such a pattern

challenges the assumptions of semi-strong form market efficiency and suggests that earnings announcements provide exploitable signals for investors in the Indian equity market.

Conclusion

This study examined the reaction of S&P BSE SENSEX stocks to quarterly earnings announcements over the period 2019 to 2023 using the event study methodology. The analysis of daily abnormal returns (AAR) and cumulative abnormal returns (CAAR) revealed that earnings announcements consistently influenced stock price behaviour, although the direction and magnitude of the impact varied across years. The findings indicate significant negative trends surrounding the announcements in 2021 and 2023, while 2022 and 2019 exhibited predominantly positive abnormal returns. For 2020, both positive and negative significant values were observed, reflecting an unstable market environment during that period. A key insight from the study is the presence of post-earnings announcement drift (PEAD), suggesting that the Indian equity market does not instantly and fully incorporate earnings information into stock prices. This delayed adjustment challenges the assumptions of the semi-strong form of the Efficient Market Hypothesis (EMH). The repeated occurrence of significant abnormal returns before and after the announcement window indicates that market participants may take additional time to interpret earnings signals, creating potential short-term trading opportunities for informed investors. Overall, the results highlight the strong link between corporate earnings information and stock price behaviour in the Indian market. The study contributes to the existing literature by providing multi-year evidence from a major benchmark index during a period marked by evolving market structure and increasing information transparency. While the findings enhance our understanding of informational efficiency in India, they also underscore the need for continued investigation, given the dynamic nature of financial markets and the increasing complexity of investor behaviour.

Limitations of the Study

This study is limited to S&P BSE SENSEX firms and only considers Q4 earnings announcements, which may behave differently from other quarters. The event window may also be influenced by overlapping market events, and the study period includes unusual conditions such as the COVID-19 pandemic, which may affect generalizability.

Scope for Future Research

Future studies can extend the analysis to other indices (Nifty 50, BSE 200/500), include all four quarterly announcements, or conduct sector-wise comparisons. Researchers may also apply advanced models or incorporate behavioral factors such as investor sentiment to better explain market inefficiencies.

Implications for Theory and Practice

The findings challenge the semi-strong EMH by showing delayed price adjustment, supporting behavioral finance perspectives. Practically, the results highlight potential trading opportunities around earnings announcements and emphasize the need for transparent reporting and improved information dissemination in the Indian market.

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Service Quality of Hospitals in Silchar Town of Assam: An Empirical Study

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Abstract

The service industry has grown steadily in a number of markets and is now a crucial part of the global economy. Success depends on its capacity to deliver good services that both meet and beyond the expectations of its clients. Businesses that put an emphasis on providing outstanding customer service are more likely to gain a competitive edge as the market becomes more competitive, which will increase customer retention and build trust. Hospital service quality is an essential part since it has a big impact on patients and healthcare providers. A high standard of service contributes to patient satisfaction and sustains hospitals' positive reputations. Evaluating service quality is essential to making sure medical facilities satisfy patients' requirements and expectations. Therefore, the current study aims to evaluate the dimensions and components of service quality of hospitals in Assam's Silchar town. A questionnaire was used to poll 79 individuals. Enhancing healthcare delivery, improving patient experiences, and promoting community well-being are the goals of the study on service quality at Silchar town's hospitals.

Keywords: *Reliability, Responsiveness, Assurance, Tangibility, Empathy.*

Introduction

Services mean the action and process carried out by a person or entity in place of another. Philip Kotler has defined service as an act or performance that one party might do to another that is essentially intangible and does not result in the ownership of something. Its creation may or may not be connected to a tangible good. (Apte, 2004) Hospital services as compared to other services carry a lot of hazards, they are among the most crucial one. Providing high-quality services is essential for service providers to succeed in the highly competitive business world of today. Good service contributes to patient satisfaction, which is critical since contented patients are more likely to adhere to treatment regimens and seek follow-up care. High-quality services are necessary to keep the hospitals' reputation intact.

Service quality means a crucial part of client perceptions, when it comes to pure services. Service quality may also be considered important in evaluating customer satisfaction in situations when customer service or services are provided in conjunction with a physical product. (Ramva, 2019). In addition to medical advancements, there have been significant changes in the way healthcare services are delivered and the experiences of patients in recent years. The quality of hospital services is closely linked to patient satisfaction, which has become a key metric for assessing the performance of healthcare systems. Customers assess quality using a range of context-relevant attributes rather than considering it to be one-dimensional. The SERVQUAL model, was established to measure service quality, includes five dimensions of service quality measurement. To achieve the study's goals, the SERVQUAL model's five dimensions were applied in this investigation (Zeithamal, et.al, 2013).

Review of Literature

Amin and Zahora Nasharuddin (2013) conducted a study to find out the service quality provided by hospitals and its impact on patient satisfaction in Malaysia. Five factors of service quality including admission, medical service, overall service, discharge and social responsibility were used. The findings of the study revealed that the SEM approach confirmed that the five dimensions admission, medical service, overall service, discharge and social responsibility are the necessary construct for hospital service quality. Also, it showed that service quality of hospitals had a significant impact on patient satisfaction, higher levels of service quality would make the customers to have a high level of satisfaction. Markovic, Loncaric & Loncaric (2014) conducted a study to assess the influence of service quality on satisfaction of patients in non-profit sectors in Croatia. The

relationship between customer satisfaction and loyalty were also tested. They identified the service quality expected and perceived by the patients using SERVQUAL model. The study revealed that the dimensions of perceived service quality had a significant impact in estimating overall customer satisfaction. Factors like output quality, assurance and staff communication and reliability had significant impact on overall customer satisfaction but hospital environment had insignificant impact on overall customer satisfaction. The results of correlation between overall customer satisfaction and loyalty were found to be positive and significant. Neupane and Devkota (2017) conducted a study to understand the perceptions of customer about service quality and their satisfaction. It also analyzed the relationship of service quality of hospitals in Nepal with patient satisfaction. The findings of the study revealed that factors of service quality are positively related to patient satisfaction. It also showed that the hospitals were providing high level of services. Fatima, Malik & Shabbir (2018) conducted a study to analyze the service quality of hospitals provided in Pakistan and to understand the relationship between hospital service quality dimensions with patient satisfaction and patient loyalty. The dimensions of service quality included physical environment, customer-friendly environment, responsiveness, communication, and privacy & safety. The findings of correlation revealed that the maximum correlation was between communication and customer-friendly environment on the other hand the lowest correlation was between responsiveness and physical environment and both lowest and highest values indicated a moderate positive relationship between them. There was a positive relationship between patient satisfaction and patient loyalty. Thus, the private hospitals were found to provide well-improved services to the customers. Nwobodo-Anyadiiegwu, Ibrahimu, & Mbohwa (2018) conducted a study to examine the difference between expectations of patients and perceptions of the service quality of clinics in South Africa. SERVQUAL model was used to analyze the customer satisfaction. The findings of the study revealed that the least gap was seen in tangibility and more should be done in order to provide a good service quality and remove the gap between expectations and perceived. Regardless of all the importance of hospital services in Silchar, Assam, there have been very less studies related to this matter. Hence this study seeks to understand the perception of the patients towards the services provided by hospitals in Silchar, Assam.

Objectives of the Study

- To assess the dimension wise service quality of hospitals situated in Assam's Silchar town.
- To evaluate the service quality of hospitals across the select demographic variables of patients under study.

Research Methodology

This is a descriptive study where survey method being used. To perform the study, firstly review of literature has been done in order to find out different components of service quality that are being applied to hospital. After this, all the components have been divided into five dimensions of service quality. A five point Likert scale has been used in here with a structured questionnaire being prepared to gather responses from the patients of Silchar town who are being treated in private hospitals located in Silchar town of Assam, on the components of the service quality dimensions. Those patients who have been admitted in the hospitals during the past few years have only been surveyed. Responses of 79 patients have been collected using the convenience sampling method.

Gender wise, Qualification wise and Monthly Income wise classification of the respondents is given in Table 1. Out of 79 patients, 55.7% of the respondents are male, while 44.3% of the respondents represented are female. Thus, it shows that most of the patients covered in this study are male patients. Out of 79 patients, 6.33% of the respondents are HSLC qualified, while 13.92% of the respondents represented are HS qualified, 45.57% of respondents are Graduate and 34.18% of respondents are Post Graduate. Thus, it shows that most of the patients covered in this study are Graduate. Out of 79 patients, 62.03% of the respondents have an income up to Rs 40000, whereas 24.05% of the respondents have income between Rs 40000 to Rs 80000, 8.86% of respondents have income from Rs 80,000 to Rs 120000 and 5.06% of respondents have an income range above Rs 120000.

Table 1: Gender wise, Qualification wise and Income wise Classification of Respondents

Gender	No. of Respondents	Percent
Male	44	55.7
Female	35	44.3
Total	79	100
Qualification	No. of Respondents	Percent
HSLC	5	6.33
HS	11	13.92
Graduate	36	45.57
Post Graduate	27	34.18
Total	79	100
Monthly Income	No. of Respondents	Percent
Up to Rs 40000	49	62.03
Rs 40000 to Rs 80000	19	24.05
Rs 80000 to Rs 120000	7	8.86
Above Rs 120000	4	5.06
Total	79	100

Source: Field Survey

Thus, it shows that most of the patients covered in this study have an income up to Rs 62.03%. Statistical tools like mean and standard deviation have been used for the data analysis.

Scope of the Study

- The patients who have received medical care in Silchar town's private hospitals are the exclusive focus of this study.
- The study has only employed five 5 service quality components.

Limitations of the Study

- It is not possible to totally eliminate out biasness because the study's conclusions are based on respondents' perceptions.
- Because the questionnaire was completed using a convenient sample approach, there is a chance that sampling error will occur.
- To find out how patients feel about the many aspects of the hospitals' service quality that are being examined.

Results and Discussion

Table 2 depicts the perception of patients regarding the select dimensions of service quality. Mean score was calculated for all the components depending on the responses of 79 respondents on a five-point scale. It was seen that among the five components tangibility dimension has the highest mean 3.78 shows the importance of this component in service quality, followed by reliability, empathy, and assurance with mean 3.65 and responsiveness 3.54. Thus, tangibility has the most favoured responses and responsiveness has the least response.

Table 2: Perception of Patients of Service Quality of Hospitals

Dimensions	Mean	SD
Tangibility	3.78	0.806
Reliability	3.65	0.644
Empathy	3.65	0.824
Responsiveness	3.54	0.798
Assurance	3.62	0.728
Overall Service Quality	3.65	0.670

Source: Field Survey

Standard Deviation was calculated for all the components depending on the responses of 79 respondents on a five-point scale. It was seen that among the five components empathy dimension has the highest SD 0.824, followed by tangibility, reliability, and assurance and responsiveness 3.54. Thus, tangibility has the most favoured responses and responsiveness has the least response.

Table 3: Gender wise Perception of Patients about Service Quality Dimensions of Hospitals

Factors	Male		Female	
	Mean	SD	Mean	SD
Tangibility	3.94	0.737	3.59	0.833
Reliability	3.73	0.577	3.54	0.688
Empathy	3.77	0.900	3.50	0.825
Responsiveness	3.67	0.727	3.37	0.834
Assurance	3.70	0.660	3.51	0.776
Overall Service Quality	3.76	0.603	3.50	0.705

Source: Field Survey

Table 3 depicts gender wise perception of patients about service quality dimensions of hospitals. In case of male patients, the mean value 3.94 is the highest for the factor Tangibility which is followed by Empathy, Reliability, Assurance and Responsiveness. Now when it comes to female patients mean value 3.59 is also highest for the factor Tangibility which is followed by Reliability, Assurance, Empathy and Responsiveness. In both the case the factor Responsiveness has the lowest mean which depicts that it is the least favourable dimension.

In case of male patients, the value of standard deviation is the highest for Empathy dimension of service quality which implies that the variation in the responses of male patients over this dimension is the highest while the value of standard deviation is the lowest for Reliability dimension of service quality which implies that the responses of male patients over this dimension is relatively consistent.

In case of female patients, the value of standard deviation is the highest for Responsiveness dimension of service quality which implies that the variation in the responses of female patients over this dimension is the highest while the value of standard deviation is the lowest for Reliability dimension of service quality which implies that the responses of female patients over this dimension is relatively consistent.

Table 4 depicts qualification wise perception of patients about service quality dimensions of hospitals. In case of patients with qualification HSLC the mean value 3.90 is the highest for the factor Reliability which is followed by Empathy, Assurance, Responsiveness and finally Tangibility which shows that Tangibility is the least favourable factor. Now when it comes to patients with qualification HS the mean value 3.76 is highest for the factor Tangibility which is followed by Empathy, Reliability, Responsiveness and Assurance, which means the

assurance in this case this factor has the lowest mean. In case of patients with qualification Graduation the mean value 4.04 is highest for the factor Tangibility followed by Reliability, Empathy, Assurance and lastly Responsiveness which has the least mean. Finally, when it comes to patients with qualification Post Graduation the mean value 3.56 is highest for the factor Tangibility followed by Empathy, Assurance and both Reliability and Responsiveness have the lowest mean.

Table 4: Qualification wise Perception of Patients about Service Quality Dimensions of Hospitals

Factors	HSLC		HS		Graduation		Post Graduate	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Tangibility	3.27	0.641	3.76	0.776	4.04	0.636	3.56	0.956
Reliability	3.90	0.224	3.50	0.581	3.83	0.567	3.41	0.738
Empathy	3.80	0.767	3.55	0.873	3.80	0.709	3.46	0.948
Responsiveness	3.33	0.971	3.45	0.898	3.69	0.678	3.41	0.879
Assurance	3.48	0.438	3.44	0.889	3.81	0.631	3.47	0.792
Overall Service Quality	3.56	0.563	3.54	0.736	3.83	0.558	3.46	0.762

Source: Field Survey

In case of patients with qualification HSLC, the value of standard deviation is the highest for Responsiveness dimension of service quality which implies that the variation in the responses of HSLC patients over this dimension is the highest while the value of standard deviation is the lowest for Reliability dimension of service quality which implies that the responses of HSLC patients over this dimension is relatively consistent.

In case of patients with qualification HS, the value of standard deviation is the highest for Responsiveness dimension of service quality which implies that the variation in the responses of HS patients over this dimension is the highest while the value of standard deviation is the lowest for Reliability dimension of service quality which implies that the responses of HS patients over this dimension is relatively consistent.

In case of patients with qualification Graduation, the value of standard deviation is the highest for Empathy dimension of service quality which implies that the variation in the responses of Graduate patients over this dimension is the highest while the value of standard deviation is the lowest for Reliability dimension of service quality which implies that the responses of Graduate patients over this dimension is relatively consistent.

In case of patients with qualification Post Graduation, the value of standard deviation is the highest for Tangibility dimension of service quality which implies that the variation in the responses of Post Graduate patients over this dimension is the highest while the value of standard deviation is the lowest for Reliability dimension of service quality which implies that the responses of Post Graduate patients over this dimension is relatively consistent.

Table 5: Monthly Income wise Perception of Patients about Service Quality Dimensions of Hospitals

Factors	Up to Rs 40000		Rs 40000 to Rs 80000		Rs 80000 to Rs 120000		Rs 120000 & above	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Tangibility	3.77	0.746	3.88	0.667	3.76	1.150	3.58	1.596
Reliability	3.64	0.608	3.70	0.518	3.79	0.895	3.19	1.143
Empathy	3.62	0.871	3.77	0.667	3.62	0.989	3.42	0.833
Responsiveness	3.57	0.796	3.46	0.739	3.62	0.848	3.42	1.258
Assurance	3.60	0.812	3.66	0.481	3.77	0.706	3.35	0.823
Overall Service Quality	3.64	0.692	3.69	0.508	3.71	0.781	3.39	1.068

Source: Field Survey

Table 5 depicts monthly income perception of patients about service quality dimensions of hospitals. In case of patients with income Up to Rs 40000 the mean 3.77 is the highest for the factor Tangibility which is followed by Empathy, Reliability, Assurance and finally Responsiveness which shows that Responsiveness is the least favourable factor. Now when it comes to patients with income Rs 40000 to Rs 80000 the mean value 3.88 is again highest for the factor Tangibility followed by Empathy, Reliability, Assurance and Responsiveness, which means the assurance in this case this factor has the lowest mean. In case of patients with income Rs 80000 to Rs 120000 the mean 3.79 is highest for the factor Reliability which means the trustworthiness and consistency of services provided by hospitals followed by Tangibility, Assurance, and both Empathy and Responsiveness have the least mean. Finally, when it comes to patients with income Rs 120000 & above the value mean 3.58 is highest again for the factor Tangibility followed by Empathy and Responsiveness with same mean, Assurance and lastly Reliability has the lowest mean.

In case of patients with income Up to Rs 40000, the value of standard deviation is the highest for Empathy dimension of service quality which implies that the variation in the responses of patients with income up to 40000 patients over this dimension is the highest while the value of standard deviation is the lowest for Reliability dimension of service quality which implies that the responses of patients over this dimension is relatively consistent.

In case of patients with income from Rs 40000 to Rs 80000, the value of standard deviation is the highest for Responsiveness dimension of service quality which implies that the variation in the responses of patients over this dimension is the highest while the value of standard deviation is the lowest for Assurance dimension of service quality which implies that the responses of patients over this dimension is relatively consistent.

In case of patients with income from Rs 80000 to Rs 120000, the value of standard deviation is the highest for Tangibility dimension of service quality which implies that the variation in the responses of patients over this dimension is the highest while the value of standard deviation is the lowest for Assurance dimension of service quality which implies that the responses of patients over this dimension is relatively consistent.

In case of patients with income Rs 120000 and above, the value of standard deviation is the highest for Tangibility dimension of service quality which implies that the variation in the responses of patients over this dimension is the highest while the value of standard deviation is the lowest for Assurance dimension of service quality which implies that the responses of patients over this dimension is relatively consistent.

Conclusion

Service quality refers to the comprehensive evaluation of how well a service satisfies or surpasses the expectations of the client. It involves a number of elements, including tangibles, assurance, empathy, responsiveness, and dependability. While poor service quality can lead to unhappiness and customer loss, high service quality fosters customer satisfaction, loyalty, and positive word-of-mouth. In essence, it's about providing services in a reliable, effective, and customer-friendly way. A hospital's ability to provide high-quality services is essential to guaranteeing patient happiness, security, and general health. The survey offers a number of significant insights into how hospitals in Silchar, Assam, are perceived in terms of service quality. The Hospitals are outstanding at giving patients a healthy environment since the tangibility factor had the highest mean score. Both Reliability and Empathy dimensions, being ranked second reflect high capacity of the hospitals to deliver services consistently and correctly while treating every patient equally. Assurance dimension reveals the ability of the medical staff to foster confidence and trust which comes in the third rank. However, Patients viewed responsiveness as the least valued dimension, nevertheless, because it shows a proactive approach to patient care that they may not have seen in the institutions where they were admitted.

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Influence of Self-Help Groups (SHGs) on Women Empowerment in The Village

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Abstract

Self-help groups (SHGs) are small, unofficial, volunteer groups of people from similar socioeconomic backgrounds that get together to solve problems and enhance their living conditions by working together, supporting one another, and learning from one another. Although SHGs are widely recognized across India for improving women's economic and social well-being, there is a scarcity of localized studies that consider the specific socio-cultural and infrastructural hurdles faced in distinct rural communities. The goal of this study is to determine how SHGs encourage rural women to start and run small businesses in order to assist them become financially independent and participate more in the economy. It focuses on the various forms of support SHGs provide such as access to credit, collective savings, and peer mentorship and how these contribute to cultivating entrepreneurial skills among women in remote areas. Furthermore, the study critically analyzes the effects of government initiatives like the NRLM and DAY-NRLM on SHG development and operations in the village, alongside evaluating beneficiaries' views on the effectiveness of these programs. The research also brings attention to an emerging yet less explored dimension of women's empowerment: digital inclusion.

Keywords: *Women Empowerment, Rural Development, Microenterprise, Government Policies.*

Introduction

The empowerment of women in rural India is deeply connected to the country's complex socio-economic and cultural transformations. Traditionally, rural women were marginalized, confined mostly to household roles, and faced limited access to education, healthcare, property rights, and economic resources. A strong patriarchal structure restricted their movement, decision-making power, and involvement in community affairs. To address these inequities, various social reform movements in the 19th and early 20th centuries advocated for women's rights, focusing particularly on education and social upliftment. After independence, the Indian government introduced constitutional guarantees and welfare initiatives aimed at improving women's status. However, initiatives like the Community Development Program, though targeting rural populations often viewed women as passive beneficiaries rather than active participants. Overall, before Self-Help Groups (SHGs) gained traction in the 1980s and 1990s, efforts to empower rural women were fragmented, and lacked the transformative effect needed to overcome structural challenges. The introduction of SHGs marked a turning point, fostering genuine progress in collective empowerment, and financial access.

Self-Help Groups (SHGs) are small, voluntary collectives composed mainly of women from similar socio-economic backgrounds who unite to tackle shared issues through cooperation, savings, and credit-based activities. Typically comprising 10 to 20 individuals, these groups pool their savings and offer low-interest loans to one another to address urgent financial needs, reducing dependency on traditional moneylenders. Self-help groups (SHGs) are typically initiated by governmental or non-governmental organizations (GOs/NGOs) that pursue comprehensive anti-poverty missions. These groups serve as tools to achieve various objectives such as women's empowerment, leadership development among the underprivileged, higher school enrollment rates, improved nutrition, and greater awareness and use of family planning methods.

Women empowerment involves enhancing women's ability to make informed choices and turn those into meaningful actions and results. True empowerment means ensuring equal access to education, employment, healthcare, legal rights, and decision-making, while also protecting women from violence, discrimination, and restrictive social norms.

A significant initiative to extend banking services to the underprivileged and unorganized sectors was the Bank–Self Help Group (SHG) Linkage Program, which began in the early 1990s. Launched by NABARD in 1992, the program aimed to connect the informal sector with the formal banking system.

Review of Literature

SHG women's emancipation via entrepreneurship was investigated and the study revealed that women's entrepreneurship contributed to their financial status and decision-making skills. Economic standing, self-worth, self-confidence, and the social standing of female entrepreneurs are all elements that impact women's empowerment. The study concluded that the effectiveness of women's empowerment depends on SHG women with entrepreneurial skills (Sharma and Muduli, 2022). After joining SHGs, women experienced marked improvements in key indicators of economic empowerment, such as income, employment, and savings (Sarania, 2015). The essential role of SHGs in improving the socio-economic conditions of women in rural areas was examined by another researcher. Her findings indicated notable growth in self-esteem, leadership qualities, and saving practices among SHG members. These women also demonstrated increased awareness of their rights and enjoyed improved access to education and healthcare services. The study concluded that SHGs act as a vital forum for women to express themselves and earn recognition within both their families and broader communities (Anuradha, 2022). A study was conducted on 800 SHG members from the Bijapur and Bagalkot districts of Karnataka, evaluating the SHG-Bank linkage program. The findings indicated that economically and socially marginalized members have benefited from the financial support provided, which has contributed to improving their socioeconomic status. The SHGs in the region are making positive strides in reducing rural poverty and promoting women's empowerment. The study also noted a significant rise in rural women's employment, though it remains comparatively lower than in other areas (Joshi, 2019). Another study was conducted to assess rural women's empowerment through Self-Help Groups (SHGs). The findings indicated that after joining SHGs, women experienced improvements in economic status, personal growth, and social well-being. Participants reported increased income levels post-membership. The researchers concluded that SHG-related economic activities in Ghaziabad district were notably effective in empowering rural women (Gupta and Agarwal, 2017). The positive influence of SHGs such as awareness campaigns and loan schemes on women's empowerment in Medak District of Andhra Pradesh was examined. The study revealed that SHGs played a crucial role in strengthening women's financial positions by encouraging savings and reinvestment (Kondal, 2014).

Objectives of the study

1. To investigate into how SHGs encourage rural women to start and maintain small businesses.
2. To investigate how Government policies help SHGs and how they affect women's empowerment.
3. To assess the challenges rural women face when implementing technology for SHG-related tasks.

Research Methodology

The study involves a quantitative research approach. A survey method has been applied to collect the data. The non-probability convenience sampling method was applied in this study.

The sample size for the current study is 90 women respondents who are active members of Self-Help Groups (SHGs) in Kathal Grant village, located in the Silchar subdivision of Cachar district, Assam. The data for this research was obtained through a mix of structured questionnaires and personal interviews with women who are members of SHGs. Percentage analysis, and graphs are used to depict the analysis.

Profile of the Study Area

According to the 2011 Census, the village Kathal Grant covers a total area of 753.38 hectares and has a population of 6,613 residents. The overall literacy rate is 45.79%, with male literacy at 51.92% and female literacy at 39.23%. There are around 1,376 households in the village. A significant share of the population (47%) belongs to Scheduled Castes. Agriculture is the dominant livelihood, with paddy as the chief crop. Overall, Kathal Grant reflects the characteristics of a typical rural village in Assam.

Results and Discussion

Demographic Profile

Table 1: Respondent's Demography

Demography	Particular	Frequency	Percentage
Age	Below 25 Years	15	16.67
	25-35 Years	45	50
	35-45 Years	22	24.45
	Above 45 Years	08	8.88
Marital Status	Married	55	61.12
	Unmarried	17	18.88
	Widow	18	20
Occupation	Agriculture	20	22.23
	Small Business	30	33.34
	Daily Wage Labor	23	25.56
	Home Maker	10	11.12
	Others	07	7.76
Duration of SHG Membership	Less Than 1 Year	5	5.56
	1-3 Years	10	11.12
	3-5 Years	15	16.67
	More Than 5 Years	60	66.65

Source: Field Survey

The Table 1 shows that out of 90 respondents, majority i.e. 50% of the women respondents are in the age group of 25-35 years, followed by 24.45% in 35-45 years category. Also, a majority of the respondents 61.12% i.e. 55 out of 90 women are married. This indicates that most participants are likely balancing household duties and managing finances with SHGs. The next largest group consists of widows, making up 20% of the sample. This notable percentage suggests that many women without spousal support turn to SHGs, likely driven by the need for financial independence.

In terms of occupation, the largest portion of respondents, 33.34% (30 individuals), are involved in small businesses which reflects a notable level of entrepreneurial activity. The next largest category includes daily wage earners, making up 25.56%. These individuals often face financial instability due to inconsistent income, low wages, and limited job security. For them, SHGs can provide a more dependable financial foundation, access to credit, and opportunities to learn new skills or explore additional income sources. Respondents working in agriculture account for 22.23%, highlighting the rural and farming-oriented nature of the study area.

Table 1 shows that a significant majority of respondents (66.65%) have been associated with SHGs for over five years. This long-term membership reflects stability, trust, and overall satisfaction with the SHG model. Sustained involvement typically indicates that members have gained meaningful benefits—such as credit access, business support, and personal development—which motivates their continued participation and deeper involvement in group activities.

Role Of SHGs in Encouraging Rural Women to Start and Maintain Small Business

Table 2 shows that the most common reason for joining SHGs is access to loans, reported by 38.88% with 35 respondents. This highlights the importance of financial assistance as a key motivator for SHG participation. Many women turn to SHGs to overcome challenges in accessing formal credit, enabling them to secure low-interest loans. Government support is the second leading reason, cited by 28.88%. This indicates that government initiatives such as subsidies, financial aid, and skill-building programs—play a significant role in encouraging SHG membership. Other notable reasons include peer encouragement 16.67% which underscores the role of community ties in motivating women to join, often based on positive feedback from friends or family already involved in SHGs.

Table 2: Reasons for joining Self Help Groups (SHGs)

Reasons	No. of respondents	Percentage (%)
Assess To Loan	35	38.88
Peer Encouragement	15	16.67
Government Supports	26	28.88
Business Training	14	15.57
Total	90	100

Sources: Field Survey

According to Table 3, Handicraft-based businesses are the most prevalent, involving 44.43% (40 respondents) of participants. This indicates that traditional skills such as weaving, embroidery, and crafting handmade items are central to rural women's entrepreneurial efforts. Dairy farming is the second most common business activity, with 33.35% engaged in it. SHGs frequently help members by offering loans for livestock and connecting them to dairy cooperatives or local markets. Tailoring accounts for 16.67%, suggesting that garment-making is also a viable income-generating activity. This type of work is usually home-based, requires relatively low investment. The remaining 5.55% (5 respondents) are involved in other types of enterprises, such as small retail shops, service-oriented businesses.

Table 3: Kind of Businesses run with SHGs support

Businesses	No. of respondents	Percentage (%)
Tailoring	15	16.67
Handicraft	40	44.43
Dairy Farming	30	33.35
Others	5	5.55
Total	90	100

Source: Field Survey

Table 4 shows that the most frequently mentioned benefit of SHG participation is skill development, noted by 35.55%. This highlights the significant role SHGs play in strengthening members' entrepreneurial and vocational capabilities. Access to credit was cited by 32.23% (29 respondents) as another major advantage, emphasizing the importance of SHG-provided financial support in launching and maintaining small businesses, especially for those with limited access to formal financial institutions.

Table 4: Main Benefits of SHGs for Businesses

Benefits	No. of respondents	Percentage (%)
Credit Access	29	32.23
Group Support	14	15.55
Skill Development	32	35.55
Market Linkage	15	16.66
Total	90	100

Sources: Field Survey

The data presented in Table 5 reveals that 72.23% of respondents considered SHG loans to be highly beneficial in launching their businesses by offering accessible and timely financial assistance.

Table 5: Helpfulness of SHGs Loans in starting business

Helpful	No. of respondents	Percentage (%)
Very Helpful	65	72.23
Somewhat Helpful	15	16.66
Not Helpful	7	7.77
Didn't Take Loan	3	3.34
Total	90	100

Source: Field Survey

Role of Government Policies on SHGs and Women's Empowerment

Table 6 shows that a significant share of respondents 48.88% reported being highly aware of such schemes, suggesting effective outreach and information dissemination among SHG members. Furthermore, 35.55% expressed a moderate level of awareness. Conversely, a smaller proportion showed limited familiarity: 10% were somewhat aware, 3.34% slightly aware, and 2.23% not aware at all.

Table 6: Awareness of any Government Schemes for SHGs

Awareness	No. of respondents	Percentage (%)
Very Much Aware	44	48.88
Moderately Aware	32	35.55
Somewhat Aware	9	10
Slightly Aware	3	3.34
Not At All Aware	2	2.23
Total	90	100

Source: Field Survey

Table 7 shows that the National Rural Livelihood Mission (NRLM) is regarded as the most beneficial scheme, with 42.23% of respondents identifying it as the most helpful. This reflects NRLM's strong emphasis on livelihood development and capacity building. The Prime Minister's Employment Generation Programme (PMEGP) is next, with 26.66% recognizing its contribution to their business initiatives. Additionally, 16.66% highlighted the MUDRA (Micro Units Development and Refinance Agency) scheme for its role in offering collateral-free loans to small enterprises.

Table 7: Classification Based on which Government Scheme has Benefited SHGs the most

Schemes	No. of respondents	Percentage (%)
NRLM	38	42.23
PMEGP	24	26.66
MUDRA	15	16.66
Not sure	13	14.45
Total	90	100

Sources: Field Survey

Table 8 shows that most respondents reported a favorable level of satisfaction, with 33.34% stating they were satisfied and 24.43% expressing high satisfaction. Conversely, 14.45% (13 respondents) indicated dissatisfaction, while 11.12% (10 respondents) were highly dissatisfied. Furthermore, 16.66% (15 respondents) maintained a neutral stance, which may reflect limited exposure to the schemes or varied experiences with their implementation.

Table 8: Level of Satisfaction with Government Support for SHGs

Satisfaction Level	No. of respondents	Percentage (%)
Highly Dissatisfied	10	11.12
Dissatisfied	13	14.45
Neutral	15	16.66
Satisfied	30	33.34
Highly Satisfied	22	24.43

Sources: Field Survey

The data in Table 9 shows that collateral-free loans were cited by 27.76%. Both cash incentives and scheme-linked benefits were mentioned by 22.23% (20 respondents each), indicating that these forms of support offer immediate financial relief. Additionally, skill development 16.66% and livelihood promotion 11.12% were recognized as key factors, highlighting the role of government schemes in enhancing women's capabilities and supporting long-term income generation.

Table 9: Influence of Government Schemes on Women's participation in SHGs

Influencing Factors	No. of respondents	Percentage (%)
Skill Development	15	16.66
Collateral- Free Loans	25	27.76
Cash Incentives	20	22.23
Livelihood Promotion	10	11.12
Scheme –Linked Benefits	20	22.23

Sources: Field Survey

Challenges of rural women in implementing technology for SHG-related tasks

Data in Table 10 reveals that the most frequently cited challenge is a lack of digital literacy, reported by 31.12% (28 respondents). This suggests that many SHG members lack adequate training in using Smartphone, applications, and digital platforms, limiting their ability to take full advantage of technology-based services for SHG-related work. The second most common challenge is the absence of Smartphone access, affecting 22.23%, which points to infrastructural constraints that hinder women from independently utilizing digital tools. Additional challenges include fear of making errors (16.66%), language barriers in digital applications

(14.45%), and inconsistent network connectivity (15.54%). These findings indicate a need for more user-friendly, multilingual interfaces and underscore the ongoing infrastructure challenges in rural areas.

Table 10: Difficulty faced in using Digital tools for SHGs tasks

Difficulty Faced	No. of respondents	Percentage (%)
Lack of Digital Literacy	28	31.12
No Access to Smartphones	20	22.23
Fear of Making Mistakes	15	16.66
Language Barrier in Apps	13	14.45
Irregular Network Issue	14	15.54
Total	90	100

Sources: Field Survey

Conclusion

Self-Help Groups (SHGs) on women's empowerment in the rural community offers valuable insights into how grassroots collective models can change the lives of women who have historically faced socio-economic exclusion. SHGs have become influential tools in enabling rural women to gain control over their economic circumstances by promoting saving practices, providing access to microcredit, and supporting the creation and sustainability of small enterprises. Government initiatives such as NRLM, MUDRA, and PMEGP have supported SHGs by offering financial and infrastructural resources. A significant number of women still find it challenging to understand and fully benefit from these programs due to low literacy rates and insufficient support at the local level. The adoption of technology, which is becoming increasingly essential for the effective functioning of SHGs, presents another major obstacle.

Suggestions

SHG-related policies should be consistently monitored and evaluated at the local level. The fact that some women expressed dissatisfaction or neutrality toward government support indicates shortcomings in delivery or accessibility at the grassroots level. Ongoing feedback can contribute to improving these schemes, making them more effective in promoting women's empowerment and entrepreneurial initiatives. To reach those who are unaware or have little knowledge of government programs, increase awareness campaigns utilizing visual aids and local language. Empower Community Resource Persons (CRPs) by providing advanced training in digital tools and ensuring they are more readily available to support SHG members. The implementation of schemes should be more transparent and inclusive.

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Digital Financial Literacy: A Conceptual Review in Indian Context

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Abstract

With the growth of digital financial services and technology, the financial environment has become much more complex. The Government of India has adopted several policy initiatives, including Digital India that has made economic integration easier. With the rise of Fintech and growing digitization, the phrase "Digital Financial Literacy" has become more and more common. There are particular benefits, hazards, and difficulties associated with this new financial environment, which is defined by digital financial channels, services, and products. Financial consumers must therefore possess the information and abilities necessary to manage these new risks and issues. This study offers a conceptual review of the literature addressing digital financial literacy in Indian context.

Key Words: Digital Financial Literacy, Financial literacy, Education, fintech literacy

Introduction

The world economy has witnessed rapid growth and development in recent years. To cope with this pace, it is necessary to move alongside and must be capable of taking correct financial decisions. Financial awareness is the prerequisite for taking the correct financial decision and understanding the financial scenario. Here, the term financial awareness refers to the ability to use financial knowledge and skills effectively and manage financial resources efficiently at a personal level and through the life cycle. Financial awareness of a person is very much dependent on the financial literacy level of that person. Financial literacy is necessary to take the correct financial decisions and understand the financial scenario. The Organization for Economic Cooperation and Development (OECD) (2011) has defined financial literacy as "a combination of awareness, knowledge, skill, attitude, and behavior necessary to make sound financial decisions and ultimately achieve individual well-being". The Prime Minister started the Digital India program in 2015 with the goal of enabling all citizens to transact online. Nevertheless, it is a common belief that in order to obtain something, one must first lose something. Before digitalization can be used effectively, it is necessary to grasp the fundamentals of the digital world. The primary reason behind the limited adoption of digital activities in India is a deficiency of knowledge and abilities. Utilizing digital technology fully requires an understanding of financial information. The essential component of this process is financial digital literacy; without it, the advantages are lessened. The November 2016 demonetization event highlighted how important it is for Indians to be digitally literate. As we know that cashless transactions now a day has become essential and the use of digital transactions is necessity for every citizen. This study investigates the facts to determine what benefits and challenges the Indian people confront in the event that digitization is the country's primary goal. The study also concentrated on a number of other aspects of digital financial literacy, including initiatives, needs, significance, opportunities, and obstacles.

Statement of the Problem

The growth and development of an economy are very much dependent on the financial literacy and awareness of the people. Financial literacy enhances the rate of savings and capital formation and it will result in increased industrialization. A financially literate person can make a proper analysis of available financial avenues and take effective financial decisions. In this connection, the present study is an attempt at systematic investigation to explore the conceptual review of the literature addressing digital financial literacy in Indian context. The study further investigates the importance and needs of Digital financial literacy; Digital Financial Literacy Initiatives in India and Challenges of Digital Financial Literacy in India as well.

Objectives of the Study

The prime objectives of the study are to explore the conceptual framework relating to Digital financial literacy. Further, the study also attempts to highlight

- Importance and needs of Digital financial literacy
- Digital Financial Literacy Initiatives in India
- Challenges of Digital Financial Literacy in India

Methodology of the Study

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. A qualitative approach is adopted to reveal the objective of the present study.

Conceptual Framework

Digital Financial Literacy

Digital financial literacy combines two concepts: digital literacy and financial literacy (Tony and Desai, 2020). Digital literacy involves the knowledge, awareness, and skills needed to use digital information, while financial literacy encompasses the knowledge, awareness, and utilization of financial information. Both aim to enhance human knowledge and simplify life. Financial literacy is not a new concept; it was first introduced in 1787, with John Adams recognized as a founding figure. Over time, financial literacy has evolved into digital financial literacy. Now, people need guidance on digital financial literacy, building on their knowledge of traditional financial literacy (Gupta et.al. 2019). Although digitalization has reached rural areas, its impact is limited due to inadequate digital financial literacy. In India, many believe digital financial literacy is primarily for adults, but it is equally essential for older individuals who may find it difficult to visit banks for cash transactions.

Digital financial literacy, much like digital literacy and financial literacy, is a multi-faceted concept. While previous literature, such as OECD (2017), has outlined various components of digital financial literacy, a standardized definition remains absent.

Digital financial literacy encompasses the knowledge and skills required to effectively manage one's financial affairs using digital tools and platforms. It involves using technology to access financial services, make informed decisions, and safeguard against financial fraud. This literacy includes understanding how to use online banking platforms, mobile payment systems, and digital wallets. It also involves the use of financial planning software and apps to manage expenses, savings, and investments. Importantly, it covers knowledge of digital security practices such as protecting personal information and preventing identity theft.

According to Panos and Wilson (2020), financial literacy is a crucial factor in determining an individual's ability to make prudent financial decisions. It consists of five basic competencies: earning, saving and investing, spending, borrowing, and protecting. Nevertheless, in the twenty-first century, digital competencies are necessary to leverage fintech to enhance financial well-being. Students who receive inclusive fintech literacy training should be better equipped to use fintech effectively and efficiently, increasing their ability to make wise financial decisions by giving them the digital skills and confidence they need (Lusardi, 2019).

A decade ago, taking out cash required going to the bank and filling out an application. These days, all it takes is one click to access money anywhere in the world. This shift, brought about by digitalization, has simplified several procedures and transformed our economy by transferring information into digital form. India is keeping up with the worldwide digitalization movement that is sweeping the globe.

Importance of Digital Financial Literacy

Digital financial literacy is crucial in India for several reasons. India is swiftly moving towards a digital economy, leading to a significant increase in the use of digital financial services such as mobile banking, digital wallets, and online payment platforms. This transition highlights the importance of individuals having the necessary knowledge and skills to use these services effectively, securely, and efficiently.

- **Promoting Financial Inclusion:** Digital financial literacy plays a crucial role in promoting financial inclusion in India. A significant portion of the Indian population, especially those in rural and underserved areas, lacks access to traditional banking services. Digital financial services provide a way for these individuals to interact with the financial system. Initiatives like the Pradhan Mantri Jan Dhan Yojana (PMJDY) have opened over 450 million bank accounts, many of which are accessible via digital platforms. Digital financial literacy ensures that these new users can understand and effectively use digital financial services, thereby promoting greater financial inclusion and economic participation.
- **Empowering Financial Decisions:** Financial decision-making is another crucial benefit of digital financial literacy. With the right knowledge and skills, individuals can better compare and select financial products and services, manage their money more effectively, and make informed decisions about investments and savings. Understanding the nuances of digital financial products enables individuals to choose options that best meet their needs and financial goals.
- **Protection against Fraud and Financial Crimes:** Digital financial literacy also acts as a defense against fraud and other financial crimes. As the use of digital financial services increases, so does the incidence of cybercrime and financial fraud.

Need to Study Digital Financial Literacy

Studying digital financial literacy in India is crucial for several reasons:

- **Financial inclusion:** Digital financial literacy can help bridge the gap between the unbanked population and formal financial services, promoting inclusive growth. This is particularly important in rural and semi-urban areas where access to traditional banking infrastructure is limited.
- **Economic Empowerment:** By understanding digital financial tools, individuals can make informed decisions about savings, investments, loans, and insurance. This empowerment can lead to better financial management and improved economic stability for households.
- **Reduction in Fraud and Scams:** With the increase in digital transactions, the risk of fraud and scams has also risen. Educating people about safe digital practices can reduce their vulnerability to such threats.
- **Government Initiatives:** The Indian government has launched several initiatives like Digital India and financial inclusion programs (e.g., Jan Dhan Yojana) that rely on digital platforms. Understanding these tools and services can maximize their benefits for the population.
- **Economic Growth:** A digitally literate population can enhance economic growth by improving the efficiency of financial transactions, reducing transaction costs, and fostering entrepreneurship and innovation.
- **Adapting to Change:** The financial landscape is changing rapidly due to fintech advancements. Digital financial literacy ensures that individuals and businesses can keep up with these changes and take advantage of new opportunities.
- **Crisis Management:** In times of crisis such as the COVID-19 pandemic, digital financial tools are crucial for accessing financial services, conducting transactions, and receiving government aid. Increasing literacy in this area can bolster resilience during future crises.

Literature Review

The review of the literature helps in obtaining knowledge about the research area and provides information about the research problem. Therefore, some important and relevant literature has been reviewed to get an insight into the present study.

In Joseph's (2012) study, national and international developments in financial literacy were explored. The research aimed to establish a theoretical framework for assessing the financial literacy of marginalized individuals and to examine the factors influencing their financial literacy. The study found that the financial behaviors of marginalized individuals are distinct, as they save, spend, borrow, and invest based on their own

perceptions. Notably, the research revealed that those with higher education and income levels among the marginalized population exhibit the highest levels of financial literacy.

Lusardi & Mitchell (2014) conducted a study to evaluate households' ability to make complex financial decisions and the impact of financial literacy on important economic behaviors. The study found that individuals without a college education have less knowledge about basic financial literacy concepts, and those with low educational attainment struggle with numeracy skills in particular. Additionally, the study observed that employees and self-employed individuals demonstrate higher levels of financial literacy compared to the unemployed. Moreover, respondents living in rural areas showed lower levels of financial literacy than those in urban areas, and the researchers discovered a strong correlation between respondents' financial literacy and their parents' education levels. Furthermore, the study found that individuals with higher financial literacy tended to be in a better financial position after retirement.

Balani (2016) investigated the level of financial literacy among investors in Rajasthan and categorized them based on their financial literacy. The study also looked into the relationship between financial literacy and various demographic and social factors, and examined how financial literacy influences investors' behavior. The study found that investors in Rajasthan generally have high levels of financial literacy. Additionally, it did not find any correlation between demographic variables such as gender and academic qualifications with financial literacy. However, there was a significant association between financial literacy and demographic factors like age and employment status. Further, the study concluded that there is a significant correlation between financial literacy and investors' behavior.

In 2018, Bhandari conducted a study to assess the level of financial literacy among working youth in Punjab. The study aimed to explore the relationship between demographic variables and financial literacy, and to identify the factors significantly associated with the financial literacy of working youth. The findings revealed that financial behavior, skills in dealing with financial matters, financial attitude, knowledge and understanding of financial issues, future financial planning, and managing debt and credit were significantly and positively related to the financial literacy of the working youth.

Srilakshmi (2020) attempted to analyze the trends in the Indian securities market and the financial literacy initiatives of the regulatory authorities concerning the involvement of retail investors. The researcher also sought to examine the socioeconomic profile and financial literacy levels among retail investors in Visakhapatnam City. The study also looked at the relationship between the investment profile and the financial literacy of retail investors, and suggested measures for improving investment in the securities market as recommended by the regulatory authorities and retail investors. The study concluded that the financial literacy of retail investors depended on their educational qualification, marital status, and residential area, and that most retail investors had little awareness regarding terms related to risk analysis.

Vyas (2020) investigated the connection between financial knowledge, financial behavior, and financial attitude on Post Retirement Financial Planning among Salaried Individuals. The study also analyzed the influence of overall financial literacy on post-retirement financial planning among salaried individuals. Additionally, the study examined the differences in financial literacy related to post-retirement financial planning between high-risk appetite and low-risk appetite salaried individuals. The study noted the significant difference in post-retirement financial planning between individuals with high and low-risk appetite in terms of financial literacy and identified a significant impact of Financial Literacy on Post Retirement Financial Planning among Salaried Individuals.

In a study conducted by Vivek in 2020, the financial literacy level in Hazaribag district was examined based on financial attitude, financial behavior, and financial knowledge, and an attempt was made to identify any association between the demographic profile and financial literacy of the respondents. The findings revealed that the financial literacy of people in the Hazaribag district was below average. There was a lack of financial attitudes or financial behavior among the respondents, coupled with very poor financial knowledge. The study also concluded that demographic variables such as gender and age showed no association with financial literacy. However, employed respondents from urban areas demonstrated higher financial literacy compared to

unemployed respondents from rural areas. Additionally, the effectiveness of financial literacy programs was found to be lacking, warranting the need for more impactful initiatives. It was noted that the Pradhan Mantri Jan Dhan Yojna Saving Account and Customer Service Points of Banks were identified as the most successful government programs for promoting financial awareness.

In the study conducted by Roy (2021) focused on understanding the theoretical and practical aspects of financial literacy and its impact on financial planning and individual financial goals. The research specifically analyzed the factors influencing investment decisions among general and senior college teachers affiliated with the University of Mumbai. The study also examined the relationship between demographic variables and financial literacy, as well as the objectives of investment and their connection to the financial literacy of the participants. Additionally, the research explored the association among financial attitudes, financial knowledge, financial behavior, and financial literacy of the respondents, and investigated the impact of financial literacy on their investment decisions. It was found that married male respondents tended to have higher financial literacy. Furthermore, the research acknowledged that individuals with high financial literacy tended to invest more in tax planning, retirement planning, and capital gain compared to those with low or moderate levels of financial literacy.

Lohia (2022) conducted a study to assess the financial literacy level of women entrepreneurs and identify the factors influencing their financial behavior. The researcher also examined the impact of financial literacy on the financial behavior of women entrepreneurs. In the study, self-rating measures were used to determine the financial literacy level. The results showed that out of the women with graduate or postgraduate degrees, 66.7% fell into the literate category, 13.1% in the highly literate category, and 20.1% in the low literacy category. The study did not find any significant difference between financial literacy scores and demographic variables such as the number of dependents, marital status, education program, turnover, business ownership, and nature of business. However, the income of the respondents and their education program showed positive associations with their financial behavior.

The study, titled "Digital Financial Literacy among Adults in India: Measurement and Validation," identifies several important factors that influence the level of digital financial literacy (DFL) among Indian adults. These factors include financial knowledge, awareness of risks associated with digital finance, knowledge of digital financial services (DFS), knowledge of customer rights, product suitability, product quality, gendered social norms, practical application of knowledge and skills, self-determination to use knowledge and skills, and decision-making.

The study also highlights that individuals using DFS without adequate DFL may face various challenges, such as the inability to complete transactions, financial loss, and privacy breaches. Consequently, the study concludes that DFL is essential for the effective use of DFS (Ravikumar et al., 2022).

A study titled "Digital Financial Literacy and Its Determinants: Empirical Evidence from Rural India" examines how socio-economic demographic factors affect digital financial literacy in rural India. The study uses ordinary least squares and multiple regression models to analyze the impact of various independent variables such as age, gender, income, religion, social groups, family size, marital status, educational level, and occupation on respondents' digital financial literacy. The study collected primary data from 500 individuals in the rural areas of the Aligarh district (Azeez & Akhtar, 2021).

Digital Financial Literacy Initiatives in India

In order to develop a knowledge-based economy and a digitally empowered society, India is promoting digital financial literacy through various projects. The Digital India program, introduced by the Indian government in 2015, is a key component of this effort. The initiative aims to enhance digital literacy across multiple industries and ensure universal access to digital services.

One of the main initiatives under Digital India is the Pradhan Mantri Jan Dhan Yojana (PMJDY) project. It aims to provide bank accounts to all households in the country. As of 2024, the PMJDY has successfully opened over 450 million bank accounts, significantly boosting financial inclusion and paving the way for digital financial

literacy. Another notable project is the government's Bharat Interface for Money (BHIM) app, a mobile payment tool designed to facilitate reliable, fast, and secure cashless transactions. This is a widely utilized and supports multiple Indian languages.

India has made significant progress in promoting financial inclusion, especially after launching the Pradhan Mantri Jan Dhan Yojana in 2014. This initiative led to an increase in the number of deposit accounts. The demonetization in 2016 also encouraged the adoption of digital financial services. Other initiatives like no-frill accounts, Electronic Benefits Transfers, and MUDRA banks have played important roles in advancing financial inclusion. However, despite these efforts, many bank accounts remain inactive, indicating a gap in the effective utilization of financial services (Barik & Sharma, 2019).

India's digital financial infrastructure, which includes the Aadhaar biometric identity system and the Unified Payments Interface (UPI), has played a crucial role in expanding financial inclusion. UPI allows for both person-to-person (P2P) and person-to-merchant (P2M) payments, accessible through smart phones and USSD-based feature phones. Additionally, it provides features such as balance inquiries (Reserve Bank of India, 2021).

India's digital financial infrastructure has played a crucial role in promoting financial inclusion. The Aadhaar biometric identity system and the Unified Payments Interface (UPI) have been instrumental in this effort. UPI allows for both person-to-person (P2P) and person-to-merchant (P2M) payments, accessible through smart phones and USSD-based feature phones. It also offers features such as balance inquiries (Reserve Bank of India, 2021). Efforts like the Payments Infrastructure Development Fund are focused on expanding digital payment infrastructure in smaller towns and rural areas. The Aadhaar-enabled payment system has been particularly effective in enhancing payment coverage in rural regions. Furthermore, the establishment of Small Finance Banks and Payments Banks aims to decrease the proportion of the financially excluded population. Recent examples underscore the growing significance and impact of digital financial literacy in India. The Unified Payments Interface (UPI), developed by the National Payments Corporation of India (NPCI), has revolutionized digital transactions. With over 10 billion transactions recorded in May 2023 alone, UPI has become a cornerstone of India's digital payment ecosystem, enabling seamless and secure money transfers across the country.

The Reserve Bank of India (RBI) has made efforts to improve digital financial literacy. In 2021, the RBI introduced Financial Literacy Week with a focus on "Go Digital, Go Secure." This initiative aimed to educate the public about the benefits and risks of digital financial services, emphasizing the importance of secure digital transactions. Additionally, private sector initiatives have been crucial in promoting digital financial literacy, with major financial institutions like the State Bank of India (SBI) and ICICI Bank developing comprehensive digital literacy programs. These programs offer workshops, webinars, and online resources to educate customers on utilizing digital banking services, understanding cyber security threats, and managing personal finances digitally.

The government is actively promoting digital financial literacy through the Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA). This initiative aims to make six crore rural households digitally literate by teaching them how to use digital devices for banking and financial transactions. The goal is to bridge the digital divide in rural areas. In the fintech industry, companies such as Paytm and PhonePe have launched educational campaigns and user-friendly interfaces to promote digital transactions and improve users' comprehension of digital financial tools. These platforms offer services such as mobile recharges, bill payments, and online shopping, as well as educational content to assist users in safely utilizing digital financial services.

Digital financial literacy is crucial in today's digital age because it allows individuals to manage their finances effectively and make informed decisions. Improving digital financial literacy can help people access financial services more efficiently, reduce the risk of fraud and financial loss, and enhance financial security and well-being. As digital financial services continue to develop, ongoing education and awareness are essential to ensure that everyone can benefit from the opportunities offered by digital finance.

Challenges of Digital Financial Literacy in India

Understanding digital financial literacy as the proficient use of digital financial services to promote economic inclusion and growth is crucial. Although India has made progress in expanding digital financial services, it faces several challenges that obstruct widespread adoption and effective utilization. These challenges fall into categories such as awareness, infrastructure, financial literacy, security concerns, language barriers, trust issues, and regulatory challenges.

- **Lack of Awareness:** Many individuals in India, especially in rural areas, are still unaware of digital financial services and their benefits. This lack of awareness hampers the adoption of digital financial services, restricting economic opportunities and financial inclusion.
- **Limited Digital Infrastructure:** Access to essential digital infrastructure, including smart phones, internet connectivity, and digital payment systems, remains restricted in numerous areas of India, particularly in rural and remote regions. This lack of basic digital amenities exacerbates the existing digital divide.
- **Low Levels of Financial Literacy:** A significant portion of the Indian population has limited understanding of basic financial concepts such as interest rates, credit scores, and savings. This low level of financial literacy hinders individuals' ability to make informed decisions about digital financial services, which further entrenches economic disparities.
- **Rural Adoption:** In rural and semi-urban areas, there is often limited awareness and understanding of security practices related to digital payments. It is crucial to educate these users about safe transaction practices to expand digital financial literacy.
- **Technology Disruptions:** Digital financial systems, such as the Unified Payments Interface (UPI), may experience technical glitches and downtimes, disrupt transactions and cause inconvenience. Network congestion during peak usage times can also result in delays and failed transactions.
- **Connectivity Problems:** Although there have been advancements in mobile internet access, many parts of India still experience inconsistent or limited connectivity. This results in a significant digital gap, as only 15% of rural households have reliable internet access, in contrast to 42% in urban areas. Women, especially those from poorer households, are disproportionately impacted by low levels of digital literacy.
- **Security Concerns:** The rise in cyber threats, such as phishing, malware, and hacking, is a major obstacle to the widespread use of digital financial services. Many individuals lack the knowledge and skills to safeguard themselves from cyber fraud, causing them to be hesitant about using digital financial services.
- **Dependency on Smartphone:** The reliance on smart phones for UPI transactions excludes individuals who do not own these devices or are uncomfortable using digital technology, posing a significant barrier to universal digital financial literacy.
- **Limited Language Support:** Digital financial services often rely heavily on English, which is not widely spoken or understood in many parts of India. The lack of multilingual support creates a language barrier, preventing non-English speakers from effectively accessing these services.
- **Lack of Trust in Financial Institutions:** Many Indians lack trust in financial institutions, deterring them from using digital financial services due to perceived corruption and inefficiency.
- **Fake Apps and Websites:** The increase in fake UPI apps and phishing websites aimed at stealing personal and financial information poses a significant threat. These fraudulent platforms can deceive unsuspecting users, resulting in financial losses and undermining trust in digital financial services. Addressing these challenges requires a joint effort from the government, financial institutions, and other stakeholders to ensure widespread access to digital financial services and the knowledge to use them effectively and safely. Enhancing digital financial literacy in India is crucial for promoting economic inclusion and enabling individuals to participate in the digital economy.

Conclusion

Digital financial literacy is crucial for everyone. Even though India ranks as the second-highest country in terms of internet usage in the world as of 2024, it still lags behind in the global race towards digitalization. When individuals are informed, confident, knowledgeable, and responsible in using digital financial tools, their ability to contribute and benefit increases. This not only fosters personal development but also fuels growth for the country and the global community. This study highlights the importance of digital financial literacy in India for promoting financial inclusion, especially for underserved and marginalized communities. It emphasizes that enhancing digital financial literacy can help reduce the costs and inconveniences associated with traditional banking services and promote the use of digital financial services. However, the study also identifies several challenges to promoting digital financial literacy in India, including the digital divide, limited access to digital infrastructure and services, and a general lack of awareness and understanding of digital financial services. Further, the study concludes that underprivileged and marginalized people in India need to be encouraged to become digitally literate financial citizens. Enhancing access to digital infrastructure and offering instruction and training on digital financial services should be the main priorities of efforts that would raise the amount of digital financial literacy in India.

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