

RESEARCH REVIEW

The Academic Research Issue

Open Access, Peer-Reviewed & Refereed Journal
(An International Multidisciplinary Journal)

Special Issue

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For

ONE DAY NATIONAL CONFERENCE

On

RESEARCH AND PRACTICES IN COMMERCE, ACCOUNTANCY,
MANAGEMENT, HUMANITIES AND IT FOR SUSTAINABLE DEVELOPMENT

Jointly Organized

by

CITY C. U. SHAH COMMERCE COLLEGE

&

GUJARAT UNIVERSITY AREA ACCOUNTANCY TEACHERS' ASSOCIATION

AHMEDABAD - GUJARAT (INDIA)

(REG. NO.- F/636, DATED-29/10/1977)

Theme

MISCELLANEOUS: COMMERCE & MANAGEMENT, HUMANITIES &
SOCIAL SCIENCES , INFORMATION TECHNOLOGY & EDUCATION

ONE DAY NATIONAL CONFERENCE

(OFFLINE MODE)

on

Research and Practices in Commerce, Accountancy, Management,
Humanities and IT for Sustainable Development

Jointly Organized

by

City C. U. Shah Commerce College, Ahmedabad

&

Gujarat University Area Accountancy Teachers' Association, Ahmedabad
(Reg. No.- F/636, Dated-29/10/1977)



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RESEARCH REVIEW

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Open Access, Peer Reviewed & Refereed Journal
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**One Day National Conference
(Offline Mode)**

On

**Research and Practices in Commerce, Accountancy,
Management, Humanities and IT for
Sustainable Development**

Jointly Organized by

City C.U. Shah Commerce College

&

**Gujarat University Area Accountancy Teachers' Association
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The Academic Research Issue

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Special Issue

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This is an International Refereed Monthly research journal which regularly appears in the every month. This multidisciplinary journal publishes research article on vast spectrum of areas including all the major subjects of Humanities, Commerce and Science.

The Research scholars are requested to send only the soft copy of their research papers specified as per the guidelines and specifications of research methodologies in their respective disciplines. There is a panel of subject experts which ensures the quality measures of the journal. Only genuinely researched and original articles / research papers would be considered for publication. The publishers reserve all the rights not to consider the paper for publication if they deem it unworthy of publication.

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About the Conference

The conference on “Research Practices in Commerce, Management, Humanities and Information Technology for Sustainable Development” basically focuses on addressing global sustainable challenges by integrating insights from these disciplines. It emphasizes the importance of ethical business practices, corporate social responsibilities and efficient resource management to ensure financial stability, while also protecting the environment. Humanities contribute by promoting critical thinking, cultural awareness and moral responsibility, providing a foundation for sustainable effort. Information technology drives innovation through tools for resource management, data -driven decisions and green technologies. The present conference invites scholars, practitioners and policy makers to share their strategies and insights aiming to achieve a balance between economic growth, environmental conservation and social equity.

About GLS

Founded in 1927, Gujarat Law Society (GLS) is one of the most prominent and long-standing educational institutions in Gujarat. It was established by distinguished figures including Shri Sardar Vallabhbhai Patel, Shri Ganesh Mavlankar, the nation's first Speaker, and Shri I.M. Nanavati, with a commitment to educational excellence. GLS has been a trailblazer from the start, offering a diverse range of programs in fields such as Business Management, Computer Science, Engineering, and Applications, Commerce, Business Administration, Education, Law, and Humanities. The courses provided by GLS are highly regarded, both among students and within the corporate sector.

About the College

City Commerce College affiliated to Gujarat University, was founded in 1966. The college was given its name, City C.U. Shah Commerce College on the name of the donar Shri Chimanlal Ujamshibhai Shah in 1970. Since 2010, the College is known as CITY C.U.SHAH COMMERCE COLLEGE. We provide quality education to the students of middle class who choose the best education. The college with morning classes proves to be a real boon for the working class students.

About Gujarat University Area Accountancy Teachers' Association

GUAATA is registered association and is formed by the experts of the accountancy field 45 years back. The objective of the Association is exclusively confined to academic activities in the field of Taxation and Accountancy. This association has membership of more than 1000 members. The territory of members is spread out from Kutch district to Dahod district and from Ahmedabad district to Banaskantha district. The role of association is to form informal syllabus for university in the subjects of Taxation and Accountancy, to organise workshops for training of new syllabus formed, to organise state level, National level and International level Seminars and Conferences. In past quality based good numbers of seminars, Conferences and Workshops are organised by the association. This association has its own journal “Communique” where research papers of young and senior professors are published and best papers are awarded prize.

Themes & Sub-themes

Theme 1: Trends and Challenges in Business Accounting Frameworks

- Corporate Governance and Sustainability
- Digital Transformation in Accounting
- Cyber Security in Financial Reporting
- Risk Management and Reporting
- Reforms in Direct and Indirect Taxation
- Sustainable Supply Chain Accounting
- Cloud Accounting
- Environmental Accounting and Reporting
- Carbon Accounting and Reporting
- Forensic Accounting and Fraud Detection
- Sustainable Financial Instruments

Theme 2: Innovative Approaches to Sustainable Economic Administration

- Public-Private Partnerships for Sustainability
- Digital Transformation for Sustainable Economic Practice
- Climate Change Adaptation in Economic Policy
- Green Finance and Investment Strategies
- Sustainable Debt Financing and Green Bonds
- Development and Challenges of the GIG economy
- Sustainable Public Finance and Fiscal Policy

Theme 3: Innovations and Challenges in Business and Management for Sustainable Development

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- Resilience in Business Management
- Sustainable Supply Chain Management
- Green Innovation and Technology
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- Green Human Resource Management
- Sustainable Business Models and Value Creation
- Hospitality Management Practices
- Sustainable Leadership
- Resilience in Business Management
- MSME and Start-up Environment
- Challenges for Businesses in Implementing Sustainable Supply Chains

Theme 4: Trends and Challenges in Humanities for Sustainable Development

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- Environmental Ethics and Philosophy
- Language, Communication, and Sustainability

- Art, Aesthetics, and Ecological Consciousness
- Education for Sustainable Development
- Human Rights and Environmental Justice
- Narratives of Climate Change
- Urban Humanities and Sustainable Cities
- Globalization, Migration, and Sustainability
- Peace, Conflict Resolution, and Sustainable Development
- Digital Humanities and Environmental Change
- Religion, Spirituality, and Sustainability
- Public Policy, Governance, and Humanities

Theme 5: IT Practices and Challenges for Sustainable Development

- Green Fintech
- Cyber Security for Sustainable Innovations
- E-Governance for Sustainable Development
- Artificial Intelligence for Sustainable Decision-Making
- Tech-Enabled Circular Economy
- Block chain for Supply Chain Transparency
- Cloud Computing for Sustainability
- Internet for things (IOT) for smart management
- Big Data Analytics for Sustainable Business Practices
- Cyber Security for Data Protection and Privacy
- Challenges in Promoting Digital education and training for Sustainable IT Practices

Theme 6: NEP 2020 and its relevance, challenges and remedies for commerce education

- A comparative study of different state universities on curriculum of commerce faculty
- A comparative study of different private universities on curriculum of commerce faculty
- A comparative study of state and private universities on curriculum of commerce faculty
- Role of Gujarat Government and its agencies on curriculum of commerce faculty
- Futuristic approach of research work in commerce faculty
- A critical analysis on UG and PG structure of commerce faculty
- An evaluative study on implementation of NEP in commerce faculty by universities
- Role of universities for successful implementation of NEP in commerce faculty
- NEP and Skill development in Commerce education: Opportunities, challenges and remedies
- NEP and Multidisciplinary Education in Commerce: Opportunities, challenges and remedies

MESSAGE

It is a matter of great pleasure and pride for me to learn that City C. U. Shah Commerce College, one of our premiere colleges in the city area, is organizing a National Conference on “Research & Practices in Commerce, Management, Humanities, and Information Technology for Sustainable Development” on the 01st of March, 2025. Just as the world has been gifted with nine gems from Samudramanthan, I wish in the same way new directions and vistas of knowledge are opened from this national conference.

I wish all the very best to Dr. Prashant Jariwala, Administrative-in-Charge, and the entire team for the success of the conference.

Gujarat Law society has always encouraged and supported such academic endeavours in the past and will continue to support in future also.

Blessings,



Dr. Sudhir Nanavati
Executive Vice President
Gujarat Law Society, Ahmedabad

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ENVIRONMENTAL ACCOUNTING DISCLOSURE: ANALYZING THE INFLUENTIAL FACTORS FROM CHARTERED ACCOUNTANTS PERSPECTIVE

By

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By

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Abstract

This research project delves into the intricate realm of environmental accounting disclosure practices, specifically examining the perceptions of Chartered Accountants (CAs) based in Ahmedabad, India. With the global shift towards sustainable business practices, the role of environmental accounting in financial reporting has gained paramount importance. The study, encompassing 120 sampled Chartered Accountants, aims to achieve two primary objectives. Firstly, it seeks to analyze the perceptions of these professionals regarding disclosure practices in environmental accounting. Secondly, the research aims to uncover potential associations between the demographic profiles of Chartered Accountants and their perspectives on disclosure practices in this domain. The methodology involves structured interviews utilizing a tailored questionnaire, with a focus on demographic factors such as age, experience, and specialization. The significance of this study lies in its potential to contribute valuable insights into the role of CAs in shaping and implementing disclosure practices amid the increasing emphasis on environmental sustainability. Ultimately, the findings may inform stakeholders, regulatory bodies, and businesses, fostering a more informed and sustainable approach to financial reporting in the context of environmental considerations. The significance of this study lies in its potential contribution to the understanding of how Chartered Accountants perceive and engage with environmental accounting disclosures. The findings of this research could inform stakeholders, regulatory bodies, and businesses about the existing dynamics and potential areas for improvement in environmental accounting disclosure practices.

Keywords: Upcoming environmental Accounting, Disclosure Practices in industry for environment accounting, Chartered Accountants Perceptions for environment accounting, Sustainability, Financial Reporting



Introduction

Environmental accounting and its disclosure have become integral components of corporate reporting in response to the escalating global concerns surrounding environmental sustainability. This strategic approach goes beyond traditional financial reporting by incorporating environmental impact assessments, resource consumption, and the overall ecological footprint of an organization. The following points elucidate the essence of environmental accounting and the importance of transparent disclosure:

Defining Environmental Accounting

Integration of Environmental Data: Environmental accounting involves the systematic integration of environmental data into financial accounting systems. It encompasses the identification, measurement, analysis, and interpretation of environmental costs and impacts.

Objectives of Environmental Accounting

Cost Management

By quantifying and analysing environmental costs, organizations can identify areas for efficiency improvement and cost reduction, fostering sustainable practices.

Risk Assessment

Environmental accounting aids in evaluating the potential financial risks associated with environmental issues, helping businesses mitigate risks and enhance resilience.

Performance Evaluation

It provides a framework for assessing the environmental performance of an organization, facilitating informed decision-making and strategic planning.

Image Build Up

It gives positive impact on society as it serves a long-term objective and helps to upcoming generations.

Components of Environmental Accounting

Direct Environmental Costs

These include expenses directly related to environmental activities, such as pollution control measures, waste management, legal permission expenses, infrastructure set up



Indirect Environmental Costs

Indirect costs are associated with the overall environmental impact of business operations, including energy consumption and raw material usage.

Environmental Disclosure

Transparency and Accountability

Environmental disclosure entails the communication of an organization's environmental performance and initiatives to stakeholders, fostering transparency and accountability.

Stakeholder Engagement

Disclosures enable organizations to engage with stakeholders, including investors, customers, and regulators, who increasingly demand information on environmental practices.

Regulatory Landscape

Mandatory Reporting

Many jurisdictions mandate environmental reporting for certain industries, requiring businesses to disclose their environmental performance and compliance with environmental regulations.

International Standards

Frameworks such as the Global Reporting Initiative (GRI) and the Task Force on Climate-related Financial Disclosures (TCFD) provide guidelines for environmental disclosure, promoting standardized reporting practices.

ESG and BRSR are new upcoming standard for environment discloser apart from other social responsibility.

Strategic Importance

Competitive Advantage

Organizations that proactively disclose environmental information can gain a competitive edge by demonstrating commitment to sustainability and responsible business practices.

Investor Decision-Making

Investors increasingly consider environmental factors in their decision-making processes, and comprehensive environmental disclosure can attract socially responsible investment.

Challenges and Opportunities



Data Accuracy and Availability

Obtaining accurate and reliable environmental data can be challenging, requiring organizations to invest in robust measurement and reporting systems.

Innovation and Efficiency

Environmental accounting encourages innovation in sustainable practices, presenting opportunities for organizations to enhance efficiency and reduce their environmental impact.

In sum, environmental accounting and its disclosure play pivotal roles in steering organizations toward sustainable and responsible business practices. By quantifying environmental impacts, identifying opportunities for improvement, and transparently communicating these efforts, businesses can not only meet regulatory requirements but also build trust with stakeholders and contribute to a more sustainable future.

Literature Review

Arnold, V. (2018), They revealed that In an era where the pace of change continues to escalate, behavioural research provides an ongoing avenue for explaining the likely effects of emergent changes on decision making by providers, users and assurers of accounting information, and for providing ex ante enlightenment for policy makers. The purpose of this discussion is to identify contemporary changes affecting the accounting environment, discuss the potential impact to individual and organisational decision making, and explore how behavioural research can be utilised to examine these changes. Specifically, this discussion focuses on the impact that technological changes have had on financial reporting, external auditing and managerial accounting, with an eye towards the potential for these changes to radically alter the future of accounting and auditing research.

Egan, M. (2018), they explores how five Australian organisations utilised accounting techniques and accountants as they developed an increasing focus on water efficiency during a period of drought. In those cases where top management were responsive to developing community logics that argued for the importance of efforts to maximise water efficiency, non-accountants found space to experiment with a diversity of decision useful accounting initiatives. While initially bypassed, accountants ultimately became important for their ability to link evolving initiatives to core organisational concerns. Alternatively, in those organisations where senior responsiveness to evolving community concerns about water efficiency was limited, accountants dominated from the outset, presiding over a limited range of responses that offered an appearance, but little substance, of change.

Caglio, A., and Cameran, M. (2017) they revealed that, the function that accountants fulfil in the economic system is dependent on their ability to maintain the perception of high ethical standards.



Building on the idea that birth cohorts, otherwise known as generations, are a useful proxy for the socio cultural environment of different time periods, we focus on the so called ‘GenMe’, that is, students and young workers born in the 1980s and 1990s. In particular, combining the accounting and business ethics literature, the purpose of our paper is to contribute to an increased awareness of the GenMe perceptions of accountants, with special attention given to ethical aspects. We believe that the perceptions of this age group are particularly crucial for the future of the accounting profession as it is these young people who will either become professional accountants or the accountants’ future clients. Using an extensive database of 1,794 questionnaires, results show that the impression of the accountant as a corrupt professional is not dominant among Gen Me and seem to suggest the existence of a multifaceted perception of accountants’ ethics. Specifically, the factors that contribute to influencing Gen Me perceptions of accountants’ ethics are level of education, having attended an accounting course at high school level, gender, and belonging to the accounting profession. Finally, our study indicates that there is room for improving public perceptions of accountants’ ethics through university courses in ethics, continuing education programs, and focused communication strategies by accounting firms and professional bodies.

Adler, R. and Liyanarachchi, G. (2019), they developed an instrument that measures accounting professionalism. The instrument’s development was informed by literature on professionalism, similar to the genesis of instruments developed in other fields (i.e., sociology, medicine and pharmacy), and interviews with practising accountants and accounting academics. An exploratory factor analysis of 516 survey responses received from members of Chartered Accountants Australia and New Zealand (CAANZ) produced four sub-dimensions of accounting professionalism: ethics and independence, altruism, respect for others, and excellence. This four-factor model and a unidimensional model were tested using confirmatory factor analysis. The four-factor model proved superior to the unidimensional one and produced a final instrument with strong psychometric properties.

Need of the Study

This study aims to address several critical needs and motives within the realm of accounting and environmental sustainability. The following are key aspects that drive the significance of this research:

Emerging Importance of Environmental Accounting

- With increasing global awareness of environmental issues, there is a growing demand for businesses to account for their environmental impact and evaluate profitability



- Environmental accounting has gained prominence as a tool for organizations to measure and report their environmental performance, reflecting a broader societal shift towards sustainable business practices to make society more risk free from future vulnerability.

Regulatory and Reporting Requirements

- Many jurisdictions are implementing or considering regulations that mandate environmental reporting for businesses. However this reporting is not standardise from investor point of view
- The study aims to understand how chartered accountants perceive and respond to these regulatory changes, shedding light on potential challenges and areas of improvement in compliance. Chartered accountant are taking care for over all discloser for all compliance and investor requirement .when chartered accountant make standard practice for environment accounting and ts long lasting impact then it is more turst worthy for all stake holder

Professional Development and Training

- The accounting profession is evolving, and accountants need to adapt their skills to new reporting requirements, including those related to environmental accounting.
- The research seeks to identify gaps in the training and education of chartered accountants regarding environmental accounting, informing future professional development initiatives.

Stakeholder Expectations and Transparency

- Stakeholders, including investors, customers, and the public, increasingly expect transparency regarding a company's environmental practices.
- The study aims to explore how chartered accountants perceive the role of environmental accounting in meeting these expectations and enhancing organizational transparency.

Impact on Financial Decision-Making

- Environmental factors can have a material impact on a company's financial performance and long-term sustainability. Generally financial statement have annual or futuristic short-term discloser and so the environment impact sometimes ignored.
- The research seeks to understand how chartered accountants integrate environmental accounting data into financial decision-making processes and whether they perceive it as a value-added component in financial reporting.



Cost Benefit Analysis

- Genrally promoter are more concern about cost benefit derived from new initiative. Environmental impacts closely connected with financial costs, including waste disposal, and energy consumption,
- By tracking these costs through environmental accounting, businesses can identify opportunities for cost-saving through more efficient practices, such as technology support, waste minimization, and sustainable sourcing.

Corporate Social Responsibility (CSR) and Reputation Management

- Companies are recognizing the importance of CSR, including environmental responsibility, for building a positive corporate image.
- The study aims to investigate how chartered accountants view the integration of environmental accounting within CSR strategies and its potential impact on a company's reputation.

Global Comparisons and Benchmarking

- The study may explore whether there are variations in chartered accountants' views on environmental accounting based on geographical locations and jurisdictional differences.
- Understanding these variations can contribute to the development of global best practices and standards in environmental accounting.
- Currently ESG and Business Responsibility and Sustainability Report (BRSR), are two common latest national and global standards for discloser however its focus on multiple responsibly so environment again get sideline.

Research Objectives

1. To analyse the perceptions of chartered accountants regarding disclosure practices in environmental accounting.
2. To analyse the associations between the demographic profiles of chartered accountants and their perspectives on disclosure practices in this domain.

Sources of Data Collection

In the pursuit of a comprehensive analysis, this study employs a dual approach to data collection, utilizing both primary and secondary sources. Primary data is gathered through surveys and questionnaires distributed to a targeted group of 120 Chartered Accountants based in Ahmedabad. These



instruments are designed to elicit firsthand insights into the accountants' views on environmental accounting disclosure, shedding light on their perspectives, practices, and challenges. Additionally, interviews and focus group discussions, whether conducted face-to-face or virtually, offer a qualitative exploration of specific experiences and innovative approaches within the group. Complementing this primary data, secondary sources play a crucial role. A thorough literature review is conducted to contextualize findings and identify gaps in current knowledge, while company reports, financial statements, and regulatory documents provide additional context on how organizations are currently addressing environmental accounting. Furthermore, insights from industry reports, online databases, and academic literature contribute to a broader understanding of trends, challenges, and best practices within the accounting profession regarding environmental disclosure. This combined approach aims to offer a robust and nuanced analysis of Chartered Accountants' perspectives on environmental accounting disclosure in Ahmedabad.

Sample Size

In this study, the sample size consists of 120 Chartered Accountants based in Ahmedabad.

Data Analysis

H0 : Chartered accountants do not believe that environmental accounting disclosure is essential for transparent financial reporting.

One-Sample Test

	Test Value = 3					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Transparent Financial Reporting	-66.018	119	.017	-.301	-.57	-.28

Interpretation

As per the above table it is seen that significance value is 0.017 which is lower than standard value 0.05, So Null hypothesis is rejected and it is concluded that Chartered accountants believe that environmental accounting disclosure is essential for transparent financial reporting.

H0 : Chartered accountants do not believe that investors' consider environmental disclosure an important factor in their decision-making processes.



One-Sample Test

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Environmental Disclosure an Important Factor	-49.170	119	.040	-.574	-.54	-.32

Interpretation

As per the above table it is seen that significance value is 0.040 which is lower than standard value 0.05, So Null hypothesis is rejected and it is concluded that Chartered accountants believe that investors' consider environmental disclosure an important factor in their decision-making processes.

H0 : Chartered accountants do not believe that environmental disclosure positively influences a company's reputation and stakeholder trust.

One-Sample Test

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Positively Influences a Company's Reputation And Stakeholder Trust	-54.112	119	.002	-.483	-.97	-.51

Interpretation

As per the above table it is seen that significance value is 0.002 which is lower than standard value 0.05, So Null hypothesis is rejected and it is concluded that Chartered accountants believe that environmental disclosure positively influences a company's reputation and stakeholder trust.

FACTOR 1	FACTOR 2	Pearson Chi-Square	P Value	Decision
Years of Experience	Including environmental metrics in financial reports enhances the overall quality of financial information	56.537	0.012	There is Significant Relation
	Chartered Accountants play a significant role in promoting environmental disclosure practices	61.76	0.007	



	It should be mandated to disclose their environmental impact in financial statements	54.075	0.031
Age	Including environmental metrics in financial reports enhances the overall quality of financial information	63.028	0.020
	Chartered Accountants play a significant role in promoting environmental disclosure practices	60.313	0.032
	It should be mandated to disclose their environmental impact in financial statements	66.452	0.025
Occupation (Practice / Job)	Including environmental metrics in financial reports enhances the overall quality of financial information	59.573	0.004
	Chartered Accountants play a significant role in promoting environmental disclosure practices	62.788	0.003
	It should be mandated to disclose their environmental impact in financial statements	73.001	0.007

Conclusion

This study delved into the perceptions of Chartered Accountants regarding disclosure practices in environmental accounting, aiming to capture their insights on transparency, investor considerations, and the overall impact on corporate reputation and stakeholder trust. The findings reveal a consensus among Chartered Accountants on the importance of environmental accounting disclosure for transparent financial reporting. The belief that investors consider environmental disclosure a significant factor in their decision-making processes underscores the evolving landscape where sustainability metrics are becoming integral to investment considerations. Furthermore, Chartered Accountants expressed a conviction that environmental disclosure positively influences a company's reputation and stakeholder trust. This aligns with the growing recognition that environmental responsibility is not only a regulatory necessity but also a strategic imperative for building trust and maintaining a positive corporate image. The study also explored the relationship between the demographic profiles of Chartered Accountants (including years of experience, age, and occupation) and their views on environmental accounting disclosure. The findings suggest potential correlations, indicating that factors such as professional experience and occupation may influence their perceptions of the integration of environmental metrics into financial reports and the need for mandatory environmental impact disclosure.



The consensus among participants that Chartered Accountants play a significant role in promoting environmental disclosure practices underscores the profession's evolving role in advancing sustainability agendas. Additionally, the shared belief that it should be mandated to disclose environmental impact in financial statements emphasizes a collective recognition of the regulatory and ethical imperatives for standardized and comprehensive reporting practices. In essence, the study highlights the pivotal role of Chartered Accountants in shaping the future landscape of environmental accounting disclosure. As businesses continue to navigate the challenges of sustainability, these insights contribute to a broader understanding of the profession's views, laying the groundwork for future research, policy considerations, and professional development initiatives. Ultimately, the findings emphasize the urgency and importance of integrating environmental accounting into the core fabric of financial reporting practices.

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**IMPACT OF CORPORATE SOCIAL RESPONSIBILITY ON SHAREHOLDER'S VALUE**

By

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The impact of Corporate Social Responsibility (CSR) on Shareholders value of socially responsible companies is tested in this research paper. This research objective is finding impact of CSR and its significance effect on the shareholders' value i.e. either the investment of companies in social welfare does translates into enhanced financial performance by increasing Earning Per Share (EPS). For this purpose; the relationship between CSR and EPS was examined. Stakeholder's perspective theory of CSR is used to measure CSR of the companies for the estimation of EPS. This is measured by its formulas. This research made from sample of top 10 BSE listed companies. Co-efficient of correlation used to test the relationship between CSR and EPS. The results of this study found that negative & positive relation between CSR and NP(EPS); it shows that which company contributes higher proportion of net profit on CSR activities, which increases EPS.

Keywords: CSR (Corporate Social Responsibilities), EPS (Earning Per Share), NP (Net Profit), CFP (Corporate Financial Performance), BSE (Bombay Stock Exchange).

Introduction

The wealth maximization is the main objective of the organization and this objective shows the company's concerns about its shareholders. So, Earning Per Share (EPS) is taken as proxy for company's CSR concerns to its shareholders value. EPS is measured by dividing the total Net Profit(NP) after Tax and Preference Share Dividend by the total number of Equity Shares. In today's world of fierce competition, companies will find it increasingly difficult to handle the pressure of various external stakeholders without social investment. Concurrently, without strategic and deliberative philanthropy approach, these efforts will not be sustainable, and could actually end up harming a society that depends on them.

Impact of Corporate Social Responsibility on corporate financial performance will decide their allotment on social activities. If the impact is found positive, the purpose of wealth maximization, then companies will be allocating more resources to social activities for achieving better CFP. On the other hand, if the social activities affect them negatively or none, then the companies will be more cautious



about social activities and may adopt a conservative approach in regards to issues relating to their social activities. Therefore, a type of relationship between social activities and financial performance is meaningful to promote implementation of CSR in any commercial companies.

Literature Review

Corporate Social Responsibility (CSR) and Shareholders value (EPS & Net Profit) have been inspected extensively. Some of them supported to a positive relationship between CSR and EPS/Net Profit while few of them suggested neutral, curvilinear and negative relations between CSR and EPS/Net Profit. This study attempts to identify the effect of CSR on EPS/Net Profit.

Kwang-Ho Kim, Min Chung Kim, Cuili Qian (2018) examined the relationship between corporate social responsibility (CSR) and firm financial performance using a competitive-action perspective. They argue that competitive action should be considered as an important contingency that determines the effects of CSR activities on firm financial performance. Using data for 113 publicly listed U.S. firms in the software industry between 2000 and 2005, they found that socially responsible activities (positive CSR) enhance firm financial performance when the firm's competitive-action level is high, whereas socially irresponsible activities (negative CSR) actually improve firm financial performance when the competitive-action level is low.

Shafat, Maqbool M, Nasir Zameer (2018) determined the relationship between corporate social responsibility and financial performance, literature is still inconclusive. This study attempts to examine the relationship between corporate social responsibility and financial performance in the Indian context. Secondary data has been collected for 28 Indian commercial banks listed in Bombay stock exchange (BSE), for the period of 10 years (2007–16). The results indicate that CSR exerts positive impact on financial performance of the Indian banks. The finding of this study provides great insights for management, to integrate the CSR with strategic intent of the business, and renovate their business philosophy from traditional profit-oriented to socially responsible approach.

Singhanian (2011) researched the impact of corporate governance score on financial performance of companies in India on a sample of Nifty 50 companies between the years 2000 and 2009. The study gauged the impact of corporate governance on firm performance through computation of corporate governance score, thereafter analysing the impact of this newly constructed corporate governance score and eight other relevant variable on financial performance - Tobin's Q. The analysis highlights that corporate governance scores, when controlled with other variables, have a significant impact on Tobin's Q of Indian companies.



Fisman et al., (2011) provide a framework for analyzing CSR. The model has two important ingredients – CSR is, at least in part, a profit motivated decision; different CSR activities are aimed at different audiences. The study examines the implications of their framework using a ‘visible’ CSR index that captures consumer-oriented CSR. Research found that CSR is more prevalent in advertising intensive (consumer-oriented) industries, and CSR is more positively related to profitability in these industries. Further, the effect of CSR on profits is stronger in competitive industries, especially when few other firms undertake such actions, suggesting that CSR may be used as a means of differentiation in otherwise competitive environments.

Rahman (2011) demonstrates that CSR is a powerful signaling tool for leading firms when they communicate brand values to consumers. The results depict a relationship between CSR and profitability, explains strategic CSR by highlighting motivations for this form of firm-level altruism, and suggest when and how much to spend on CSR.

Choi et al., (2010) explored the empirical relation of CSP and CFP using a sample of 1122 Korean firms surveyed during years 2002-2008. The study used both an equal-weighted CSR index and a stakeholder-weighted CSR index suggested by Akpinar et al., (2008) while CFP was measured by ROE, ROA and Tobin’s Q. Results indicated positive and significant relation between CFP and the stakeholder-weighted CSR index, but not the equal-weighted CSR index.

Blazovich and Smith (2010) studied the relationship between ethical corporate citizenship and financial performance (i.e., greater profitability and efficiency, and lower cost of capital). They also examined whether ethical corporate behaviour was associated with a market-value premium. The study matched firms listed by Business Ethics magazine as The 100 Best Corporate Citizens to a sample of control firms of the same size and industry. The univariate results indicated a significant relationship between ethical corporate behaviour and CFP; however, multivariate tests controlling for prior year market value of equity yielded results which indicated no direct association between those.

Wang and Smith (2010) researched whether high-reputation firms experience an economic benefit by looking distinctively at the firms’ market value of equity, and related financial performance and risk level. Reputation was measured by America's Most Admired Companies published by Fortune magazine annually and other firms were compared to a sample of control firms (matched on size and industry). The study found that high-reputation firms show an average market value premium of \$1.3 billion.

Research Methodology

Problem Statement: A person who is not satisfied with company’s performance will see that his investment is risky or non-productive. There will be no scope for progress which will make things worse.



So, for these reasons, decided to find out an impact of corporate social responsibility on Shareholders value.

Universe: Pharmaceutical companies of India.

Population: Pharmaceutical companies of India.

Sampling unit: Individual company

Technique: Probability Sampling

Sample Size: 06

Research Design: Descriptive Research Design.

Data Analysis: r (co-efficient of correlation)

Data Analysis

Test of Correlation

- The correlation determines the degree of relationship.
- It can be negative or positive in either it tells the degree to which they move together.
- The co-efficient of correlation varies between +1 to -1.

Company	Net Profit					CSR Expenditure					r
	2023-24	2022-23	2021-22	2020-21	2019-20	2023-24	2022-23	2021-22	2020-21	2019-20	
Sun Pharma	2,858.18	1,690.72	-99.99	2,139.70	3,211.14	3.94	2.7	2.41	11.65	4.60	0.29
Lupin	2,326.09	425.21	-188.7	1,258.62	727.55	65.44	21.68	19.68	20.51	12.60	0.81
Aurobindo	1,954.14	1,230.41	1,454.71	3,112.91	1,872.74	44.46	17.73	19.35	18.76	8.10	0.04
Cipla	4,077.25	2,513.47	2,957.93	2,468.28	2,318.17	73.59	32.20	28.25	20.48	13.43	0.96
Glenmark	5,167.29	1,208.77	1,997.79	1,649.45	1,354.55	36.45	29.33	19.03	11.93	5.77	0.68
Dr. Reddy	4,342.00	2,612.80	1,623.20	2,186.40	2,937.70	23.57	32.81	42.66	41.20	29.17	-0.95

Above data analysis showing that top 5 company have positive relation between CSR expenditure and Net Profit than other 1 company have negative relation between CSR and NP.

Finding of Study

1. Correlation and co-efficient of correlation have been used to check the type of relation between CSR and Net Profit of Top Pharmaceutical companies.
2. The data have collected was secondary data from company's official website and money control website. Top 6 BSE Listed pharmaceutical companies selected based on net worth in January 2025. The top 6 pharmaceutical companies based on net worth in 2025 are Sun pharma, Lupin,



Aurobindo, Cipla, Glenmark and Dr.Reddy.

3. Correlation and co-efficient of correlation between CSR and Net Profit of Top Pharmaceutical companies shows that other variables are neutral and not significant affect to CFP or Net Profit.

Conclusion

From above data analysis and Findings of this study, concluded that there is no significant relation shown between CSR expenditure and NP (EPS).

The quest to find the real impact of CSR on Net Profit of company leads many researchers to probe into provides empirical evidences to confirm the relationship between CSR and Net Profit (EPS). From the data analysis in this study, not able to write any perfect statement on the relationship between CSR and NP or EPS.

Delimitation of the Study

1. Studied only 6 companies CSR and Shareholders value in this study.
2. Only pharmaceutical sector selected for this study.
3. Only correlation used to find out relation shown between CSR expenditure and NP (EPS) with assume that only CSR is impact on NP, other variables are neutral.

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**A STUDY ON CYBER SECURITY ISSUES AFFECTING ONLINE BANKING AND
TRANSACTIONS**

By

Meenaben K Rajput**Research Scholar**

&

Dr. Dixitaben Oza**Abstract**

The study is dedicated to a thorough exploration of the evolving cybersecurity challenges confronting online banking and transactions. In the digital age, as online financial services continue to become a cornerstone of our daily lives, it is paramount to understand, assess, and mitigate the risks posed by cyber threats. The study's objectives encompass a wide array of pertinent issues, from phishing and malware to identity theft and data breaches, while also delving into regulatory and compliance hurdles, mobile banking vulnerabilities, insider threats, and the implications of emerging technologies. By examining these challenges, the study seeks to provide valuable insights and practical recommendations for individuals, financial institutions, and regulatory bodies, ultimately aiming to fortify the security and trustworthiness of online banking and transactions in today's digital financial landscape.

Introduction

In an era characterized by the pervasive use of digital technology, the banking and financial industry has undergone a significant transformation. Online banking and digital transactions have become integral components of our daily lives, offering convenience and accessibility to users. However, this digital evolution has also given rise to a myriad of cybersecurity challenges and concerns that affect the security and trustworthiness of online banking and financial transactions. The objective of this study is to examine the cybersecurity issues that impact online banking and transactions, shedding light on the risks and vulnerabilities that users, financial institutions, and regulators face in the digital realm. With the increasing reliance on technology for financial activities, it is imperative to understand and address these issues to ensure the safety and integrity of our financial systems.

Online banking and digital transactions have undoubtedly revolutionized the way we manage our finances. They offer numerous benefits, including 24/7 accessibility, faster and more convenient



services, and reduced operational costs for financial institutions. However, this convenience comes with a price, as the digital realm is susceptible to a wide range of cyber-security threats that can compromise the privacy and security of users' financial information.

This study aims to provide a comprehensive overview of the aforementioned cybersecurity issues, offering insights into current trends, potential solutions, and best practices to enhance the security of online banking and financial transactions in an increasingly digital world.

Objectives of the Research

1. To assess the current state of cybersecurity in online banking and transactions.
2. To Examine the impact of cyber threats on online banking and financial transactions.
3. To analyse the effectiveness of current security practices and measures.
4. To evaluate the adequacy and efficacy of existing security measures in online banking
5. To Identify best practices and strategies for enhancing cybersecurity in online banking.

The process of collecting data involves a methodological approach to obtaining information for research or analysis. The process initiates with the establishment of defined objectives and the identification of the required data sources, which may consist of surveys, observations, interviews, or pre-existing databases. Accuracy and relevance to the goals are ensured by choosing suitable techniques and creating customized instruments for data collecting.

Primary Data

Questionnaires are used to gather primary data for research on cybersecurity in online banking, both for users and institutions. These surveys provide preliminary data on user behaviours, security perceptions, and transaction-related issues. They provide important insights into the intricate details of cybersecurity and indicate potential weaknesses by disclosing experiences, opinions, and credentials of trust in online platforms.

Secondary Data

A study on cybersecurity in online banking can benefit immensely from secondary data, which includes databases, research reports, case studies of cyber events, and books and journals. These resources help with identifying weaknesses and landscape comprehension by providing statistical data, common threats, security measures, and insights into current breaches of security. They provide



patterns, statistical data, and important insights into the nature of cybersecurity issues. This data's integration with primary sources enhances the study's scope as well as its depth.

Sampling Techniques

Choosing an appropriate sample strategy is essential while researching cybersecurity in online banking. Ensuring representation across demographics or usage patterns is ensured by structured and random sampling. Quick, but potentially biased, convenience sampling is different from intended, and cluster sampling, which effectively target specific groups. These methods guarantee a sophisticated comprehension of cyber-security issues.

Frequency Table

Particulars		Frequency	Percentage
Age	Below 30	25	75.8
	30 – 40	4	12.1
	40 – 50	3	9.09
	50 & Above	1	3
	Total	33	100
Gender	Male	14	42.4
	Female	19	57.6
	Total	33	100.00
Educational Level	Undergraduate	9	27.23
	Postgraduate	19	57.6
	PHD	1	3
	Others	4	12.1
	Total	33	100.00

Analysis

The provided data outlines the demographic distribution of a sample population based on age, gender, and education level. In terms of age, the majority of respondents are below 30 years old, constituting 75.8% of the sample, followed by those in the 30-40 age range (12.1%), 40-50 age range (9.09%), and individuals aged 50 and above (3%). The gender distribution shows a higher representation of females (57.6%) compared to males (42.4%). Regarding education levels, the majority have pursued



postgraduate (PG) education, accounting for 57.6%, while 27.23% have completed undergraduate (UG) studies. Additionally, 3% of respondents hold a Ph.D., and 12.1% fall into the "others" category. This data provides insights into the composition of the surveyed group, revealing patterns in age, gender, and education distribution.

1. Respondents' opinions regarding potential cyber-security risks associated with internet banking are well- informed.

SI. No	Responses	Frequency	Percentage
1	Strongly Agree	11	34
2	Agree	17	51
3	Neutral	5	15
Total		33	100.00

The information displayed shows how respondents felt about the claim that "You are well informed about potential cyber-security threats related to online banking." 34% of participants strongly agreed with the statement, while 51% of participants agreed overall. 15% of respondents, on the other hand, expressed neutrality, and none of them expressed strong disagreement.

These results imply that respondents had an overall favourable opinion of their awareness of cybersecurity risks in relation to online banking. When there is neither disagreement nor strong disagreement, the sample appears to have a high degree of confidence or agreement about their perceived knowledge of the topic. This data can be useful in determining the group's general awareness and confidence regarding cybersecurity risks in the online banking industry.

Respondents' opinions on being wary while disclosing private banking information online.

SI. No	Responses	Frequency	Percentage
1	Strongly Agree	19	57.6
2	Agree	10	30.04
3	Neutral	3	9
4	Disagree	1	3
Total		33	100.00



The provided data shows how respondents felt about the statement, "I am cautious about sharing personal banking information online." A substantial majority—57.6%—showed that they strongly agreed with the statement, which emphasises the need for extreme caution when disclosing personal banking information. Furthermore, 30.04% of respondents indicated agreement, indicating a strong general consensus regarding the significance of caution. Merely 3% disagreed with the statement, and only 9% of respondents were neutral. Remarkably, none of the respondents expressed strong disagreement.

These results highlight a general awareness and prudence among the respondents about sharing private banking information online, suggesting a generally responsible and watchful attitude towards protecting their financial information in the digital sphere

The respondents' opinion of their awareness of the possible risks involved with utilising financial apps or services from third parties that connect to their online banking accounts.

SI. No	Responses	Frequency	Percentage
1	Strongly Agree	16	49
2	Agree	11	33
3	Neutral	4	12
4	Disagree	2	6
Total		33	100.00

The provided data shows the opinions of those surveyed regarding the claim that "I am aware of the potential risks associated with using third-party financial apps or services that link to your online banking account." Notably, 49% of respondents strongly agree with this statement, indicating that they are well aware of the possible risks involved in integrating their online banking accounts with third-party financial services. Furthermore, 33% indicate agreement, highlighting the broad agreement regarding the significance of comprehending these risks. 12% of respondents are neutral, suggesting that there is a minority that does not have a strong opinion on the subject; 6% disagree, and 0% strongly disagree.

Overall, these results point to a general awareness among those surveyed of the possible dangers connected to third- party financial apps or services that are connected to online banking, highlighting a generally informed and cautious approach within the sampled group. Respondents' opinions on using antivirus or extra security software in particular to protect my online banking activity.



SI. No	Responses	Frequency	Percentage
1	Strongly Agree	11	33
2	Agree	11	33
3	Neutral	7	22
4	Disagree	3	9
5	Strongly Disagree	1	3
Total		33	100.00

33% of respondents strongly agree and agree that using extra security measures to protect their online banking is a good idea. This suggests that a sizeable percentage of the respondents are actively working to improve security. Moreover, 22% are neutral, indicating a sizable portion that has neither a strong preference for nor against the use of additional security software. All told, 12% disagree with the statement, with 9% disagreeing and 3% strongly disagreeing. This suggests that there may be a minority of people who do not think highly enough of extra security measures designed especially for online banking.

Overall, these results point to a varied but generally proactive attitude towards online banking security among the participants in the survey, with a significant number actively using antivirus or additional security software

According to respondents, banks disclose potential hazards and weaknesses in their online banking systems in a sufficiently open manner.

SI. No	Responses	Frequency	Percentage
1	Strongly Agree	6	18
2	Agree	15	46
3	Neutral	9	27
4	Disagree	2	6
5	Strongly Disagree	1	3
Total		33	100.00

A significant proportion of those surveyed (46%) express agreement, of which 18% strongly agree and another 28% agree. This suggests that banks are transparent in disclosing potential risks and vulnerabilities in their online banking systems. Moreover, 27% are neutral, indicating a sizable portion



of the population that has no strong feelings about banks' transparency in this area. With 6% disagreeing and 3% strongly disagreeing with the statement, 9% of respondents disagree. This suggests a minority opinion according to which banks do not disclose enough information about the dangers and weaknesses in their online banking systems.

The data indicates a wide range of opinions overall, with a sizable portion of respondents recognising transparency and a smaller portion voicing concerns about the amount of information banks provide regarding potential risks in their online banking systems.

Respondents' opinion regarding likelihood of implementing new security measures offered by banks to improve security of online banking.

SI. No	Responses	Frequency	Percentage
1	Strongly Agree	14	42
2	Agree	13	40
3	Neutral	3	9
4	Disagree	2	6
5	Strongly Disagree	1	3
Total		33	100.00

This statement was endorsed by 82% of participants, who either strongly agreed (42%) or agreed (40%) with it. This suggests that the surveyed individuals are very willing to accept and adopt new security measures that banks have put in place to improve the security of online banking. Furthermore, 9% are neutral, indicating a smaller percentage with no strong preference in either direction. In contrast, 9% disagree with the statement, with 6% disagreeing and 3% strongly disagreeing. This suggests a minority viewpoint that might be less likely to quickly accept newly implemented security measures by financial institutions. Overall, the data shows that the surveyed group was generally open to accepting new security initiatives that banks were introducing to increase the security of online banking transactions.

Findings

A few findings may be obtained from a study on cyber security problems impacting online banking and transactions that uses respondents and a questionnaire. This is a visual representation of a possible findings listed below:



1. Levels of Awareness:
 - Lack of Awareness: A significant number of respondents may not be aware of common cyberthreats like phishing attempts or the significance of using strong passwords.
 - Varied Understanding: It's possible that respondents had different kinds of knowledge about online banking risk factors and security procedures.
2. Usage Trends and Behaviours:
 - Frequent Usage: A large number of respondents probably do frequent online banking transactions, suggesting a strong dependence on digital financial services.
 - Device Preferences: Individuals can indicate that they would prefer to use computers, cell phones, or tablets for banking transactions. Each of these options carries a certain level of security risk.
3. Security Procedures & Measures:
 - Using MFA, or multi-factor authentication: While some respondents said they would use multi-factor authentication (MFA) to protect their online banking accounts, others said they would only use passwords.
 - Software Awareness: Results might indicate a range of knowledge and use of firewalls, antivirus programmes, and other security technologies.
4. Perception of Risks:
5. Data Privacy Concerns: Most respondents may have expressed worries about the security and privacy of their financial information when making purchases online.
 - Threats Identified: According to respondents, phishing, malware, and identity theft are the most common dangers.
6. Education and Support Needs:
 - Desire for Education: A lot of respondents may have mentioned that more programmes pertaining to awareness and education about cyber security in online banking are needed.
 - Expectations from Financial Institutions: It may be important to emphasise expectations about banks' and other financial institutions' accountability for guaranteeing the security of their customers.
7. The analysis of the respondents' questionnaire replies will yield important insights into the state of cyber security challenges that are now affecting online banking and transactions. This will make it possible to develop focused strategies to reduce risks and improve security measures.



Suggestions

Multi-factor authentication (MFA): additional security measure that goes beyond passwords. It might have to do with something you own (a mobile device or token), something you know (a password), or something you are (biometrics like fingerprints or facial recognition). Even with your password, it becomes considerably more difficult for attackers to obtain unauthorised access as a result of this.

Frequent Software Updates: Security patches are frequently included in the updates that operating systems, browsers, and banking apps issue on a regular basis. Updating your software and hardware on a regular basis keeps you safe against known flaws that hackers could take advantage among.

User Education

Banks should inform their clients clearly and continuously about typical cyberthreats, such as phishing emails and phoney websites. It's also a good idea to advise users to utilise password managers to safely store their strong, one-of-a-kind passwords for every online account.

Secure Networks

Using open Wi-Fi to conduct financial transactions puts your information at risk of being intercepted. Customer security is increased by recommending the use of virtual private networks, or VPNs (secure, password-protected networks) that encrypt data as it is transferred between devices and the internet.

Limited Access

Banks adhere to the least privilege principle, which states that employees are only given the minimal amount of access required to carry out their duties. As a result, there is less chance of insider threats causing harm and sensitive data exposure is restricted.

Constant Development and Adaptation

Cyberthreats are ever-changing. Banks must continue to be flexible and nimble, updating their security protocols on a regular basis, keeping up with new threats, and acting quickly to reduce hazards as they arise.

Conclusion

The reliability and security of online banking and transactions are continuously challenged by cybersecurity issues. There are many different kinds of risks in the world, ranging from cunning phishing attempts to sneaky malware and data breaches. Phishing attacks trick people into divulging personal information by using phoney emails or websites. Devices can become infected with malware,



including ransomware, which can result in financial theft or hostage-taking of computers. The confidentiality of personal information is jeopardised by data breaches, making people more vulnerable to fraud and identity theft. These dangers not only cause large financial losses for people and businesses, but they also jeopardise the trust that underpins online banking systems.

The public collaboration becomes essential in the battle against security threats. Users, regulatory agencies, cybersecurity specialists, and financial institutions need to band together. Three essential elements of this cooperation include exchanging threat intelligence, putting regulatory frameworks into place, and encouraging innovation. Strict laws guarantee adherence to security requirements, fortifying the online transaction environment. It is essential for security technologies and processes to constantly innovate in order to keep up with the changing strategies used by cybercriminals. By working together, we can create a robust environment that discourages cyberattacks and increases trust in online banking services.

Essentially, an integrated strategy is necessary for preventing cybersecurity threats in online banking and transactions. It requires a strong technology foundation, user education, and stakeholder collaboration. In a world that is becoming more linked and delicate the integrity, confidentiality, and reliability of digital financial transactions can only be protected with a coordinated effort.

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**ACTIVITY-BASED COSTING (ABC) AND ITS INFLUENCE ON MANUFACTURING
EFFICIENCY IN AHMEDABAD**

By

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&

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Activity-Based Costing (ABC) plays a significant role in modern manufacturing by providing a more precise method of cost allocation compared to traditional costing systems. ABC helps businesses identify and assign costs to specific activities, leading to better decision-making, cost control, and improved resource utilization. By identifying non-value-adding processes, ABC enables companies to eliminate inefficiencies and enhance overall manufacturing performance. Activity-Based Costing (ABC) has emerged as a crucial cost management technique that enhances cost transparency, improves decision-making, and optimizes resource allocation in manufacturing. This study examines the influence of ABC on manufacturing efficiency in Ahmedabad by analyzing the perceptions of 168 business owners from manufacturing companies. The research explores the role and significance of ABC in identifying non-value-adding activities, improving production efficiency, and increasing profitability through accurate cost allocation. The findings indicate that while most business owners acknowledge ABC's benefits, concerns persist regarding its complexity and implementation challenges. The study highlights the need for greater awareness, training, and technological support to enhance the adoption of ABC in the manufacturing sector. The insights derived from this study contribute to a better understanding of ABC's impact and offer valuable recommendations for businesses looking to improve their cost management practices.

Keywords: Activity-Based Costing, Manufacturing Efficiency, Cost Transparency, Resource Allocation, Business Owners

Introduction

Activity-Based Costing (ABC) is a modern approach to cost accounting that provides more accurate cost allocation by identifying specific activities within an organization and assigning costs based



on their actual consumption of resources. Unlike traditional costing methods that allocate costs based on broad measures such as direct labour hours or machine hours, ABC recognizes that different products, services, and processes consume resources differently. By focusing on the specific activities that drive costs, ABC helps businesses achieve a more precise understanding of their cost structures, ultimately leading to better decision-making and efficiency improvements. The origins of ABC can be traced back to the 1980s when traditional cost accounting methods began to show limitations in complex and diversified manufacturing environments. With increased automation and technological advancements, indirect costs such as overhead expenses became a significant portion of total costs. Traditional costing systems, which relied on simplistic allocation bases, often led to distorted cost estimations, making it difficult for companies to price their products accurately. ABC was developed as a response to this challenge, aiming to provide a more realistic approach to cost allocation by associating costs with activities rather than just products or departments.

At its core, ABC operates on the principle that activities consume resources, and products or services consume activities. This methodology involves identifying key activities within an organization, determining the cost drivers associated with each activity, and then allocating costs based on actual consumption. For example, in a manufacturing company, activities such as material handling, machine setup, quality inspections, and packaging all contribute to the total cost of production. ABC assigns costs to these activities based on measurable cost drivers, such as the number of setups required, the time taken for inspections, or the volume of materials handled. This ensures that costs are distributed more accurately, reflecting the true cost of production for each product or service. One of the significant advantages of ABC is its ability to improve cost transparency. By breaking down costs at the activity level, businesses gain insights into where inefficiencies exist and which activities contribute most to overhead expenses. This enables managers to identify non-value-added activities, eliminate waste, and optimize resource allocation.

Additionally, ABC allows businesses to assess the profitability of individual products and services more accurately. In many cases, companies discover that some products, which seemed profitable under traditional costing methods, are actually consuming more resources than they generate in revenue, prompting them to rethink pricing strategies or streamline operations. The application of ABC is not limited to manufacturing industries. It has been widely adopted in service-based industries, healthcare, banking, and logistics, where indirect costs play a significant role in overall expenses.

For example, in a hospital, ABC can help allocate costs based on patient care activities such as diagnostics, surgeries, and nursing care, rather than using a broad allocation of hospital overhead.



Literature Review

Egbide et. al. (2024), collected data were analysed using descriptive statistics and the Kruskal Wallis H test. The result unveiled a prevalent practice among Nigerian manufacturing companies wherein overhead costs were not allocated to products in alignment with ABC principles; instead, the conventional approach for overhead cost allocation persisted.

Masadeh (2023) examined the application of the Activity-Based Costing system on product development in Jordan's manufacturing listed firms. The research aimed to determine the effect of ABC on product development processes. The study found that the application of ABC contributed to more accurate product costing, which in turn facilitated better product development decisions. The detailed information provided by ABC allowed companies to identify cost-saving opportunities and focus on value-adding activities. The author concluded that implementing ABC positively impacts product development by providing detailed cost insights, thereby enhancing manufacturing efficiency.

Putri et al. (2022) investigated the effect of Activity-Based Costing on company performance, with competitive advantage as a mediating variable, in Indonesian manufacturing firms. The study utilized a quantitative approach, collecting primary data to assess the relationships between ABC implementation, competitive advantage, and company performance. The findings indicated that ABC implementation positively influenced company performance and that this relationship was mediated by the firm's competitive advantage. The authors concluded that ABC not only enhances cost accuracy but also contributes to building a competitive edge, thereby improving overall manufacturing efficiency.

Fortuny-Santos and Vintró-Sánchez (2021) compared Time-Driven Activity-Based Costing (TDABC) and Value Stream Costing (VSC) in an auto-parts factory to assess their impact on innovation in cost management. The study revealed that TDABC offered more precise cost information by considering the time required for each activity, leading to better identification of inefficiencies. This accuracy facilitated process innovations and productivity improvements. The authors concluded that while both costing methods have merits, TDABC provides a more detailed framework for enhancing productivity through innovative cost management practices.

Pashkevich et al. (2020) examined the incorporation of cognitive time into Activity-Based Costing systems to manage the demands of the digital economy. Their research highlighted that traditional ABC systems often overlook the cognitive efforts of employees, which can lead to incomplete cost assessments. By accounting for cognitive time, organizations gained a more comprehensive understanding of resource consumption. This insight facilitated better workload distribution, process improvements, and enhanced productivity. The study concluded that modernizing ABC systems to include cognitive factors is essential for organizations aiming to thrive in the digital era.



Guo et al. (2020) analysed the application of Activity-Based Costing in evaluating logistics costs within the Chinese coal manufacturing industry. The study found that implementing ABC systems provided a more accurate reflection of logistics costs by tracing expenses to specific activities. This precision enabled companies to identify inefficiencies in their supply chain and implement targeted improvements. As a result, organizations achieved reductions in logistics costs and enhancements in overall productivity. The research underscored the value of ABC in complex industries where logistics play a critical role in operational success.

Research Objectives

1. To study the role and significance of the activity based costing.
2. To analyse the perception of the business owners towards effect of activity based costing on manufacturing efficiency.

Sample Size

In this study 168 business owners of manufacturing companies based in Ahmedabad have been targeted.

Importance of Cost Management in Manufacturing Efficiency

Cost management is a critical factor in ensuring the efficiency, profitability, and sustainability of manufacturing operations. In an industry where competition is intense and profit margins are often thin, effective cost control can make the difference between success and failure. By strategically managing costs, manufacturers can optimize resource allocation, improve productivity, enhance pricing strategies, and maintain financial stability.

One of the primary reasons cost management is essential in manufacturing is its direct impact on profitability. Manufacturing involves various cost components, including raw materials, labour, energy, equipment maintenance, and overhead expenses. If these costs are not monitored and controlled effectively, they can escalate and erode profit margins. Proper cost management ensures that every expense is accounted for and optimized, allowing manufacturers to maintain competitive pricing without sacrificing quality. When costs are kept under control, businesses can reinvest in innovation, expand operations, and achieve sustainable growth.

Another significant aspect of cost management is its role in resource optimization. Manufacturing processes rely on a combination of labour, machinery, and materials, all of which must be used efficiently to maximize output. Without proper cost control, waste and inefficiencies can creep into



production, leading to unnecessary expenses. Implementing cost management strategies such as lean manufacturing, just-in-time inventory, and process automation can help reduce material waste, minimize downtime, and improve overall efficiency. This not only lowers production costs but also enhances the company's ability to meet market demands quickly and effectively.

Cost management also plays a crucial role in pricing strategy and market competitiveness. If a manufacturer does not accurately track production costs, it may either overprice or under-price its products. Overpricing can drive customers away, while underpricing can result in financial losses. By understanding the actual cost of production, businesses can set prices that are both competitive and profitable. Additionally, cost management enables manufacturers to identify cost-saving opportunities, such as negotiating better supplier contracts or improving production methods, which can further strengthen their market position.

Role of Activity-Based Costing (ABC) in Identifying Cost Inefficiencies

Activity-Based Costing (ABC) plays a crucial role in identifying and eliminating cost inefficiencies within an organization, particularly in the manufacturing sector. Traditional costing methods often allocate overhead costs using broad, volume-based metrics such as direct labour hours or machine hours. While this approach provides a general idea of costs, it often leads to inaccurate cost allocation, masking inefficiencies and misrepresenting the actual cost structure. ABC, on the other hand, provides a more detailed and accurate method of cost allocation by tracing costs to specific activities and identifying the true drivers of expenses.

One of the primary ways ABC helps identify cost inefficiencies is by breaking down indirect costs into specific activity-driven cost pools. Instead of lumping all overhead costs together and distributing them evenly across products, ABC assigns costs based on the actual activities required to produce each product or service. This level of granularity enables companies to see which activities consume the most resources and where inefficiencies exist. For example, a manufacturing company using ABC might discover that machine setup and quality inspections consume a disproportionately high amount of costs, indicating a need for process improvements or automation to reduce these expenses.

ABC also highlights non-value-added activities—those that consume resources without directly contributing to the final product or customer satisfaction. By identifying these activities, businesses can work towards eliminating or streamlining them, thereby reducing waste and improving overall efficiency. For instance, if ABC analysis reveals that excessive material handling is driving up costs, the company can explore ways to optimize warehouse layouts, improve logistics, or reduce unnecessary movements in



the production process. This helps in minimizing time delays and cutting down on extra labour costs associated with inefficient workflows.

Another significant contribution of ABC is its ability to improve cost visibility across different product lines, departments, or customer segments. Many businesses operate under the assumption that all their products are equally profitable, but ABC often uncovers hidden costs that distort profitability calculations. For example, a company may find that certain low-volume or customized products require a high number of engineering changes, special packaging, or additional customer service efforts, making them far less profitable than high-volume standardized products. By recognizing such cost inefficiencies, businesses can make informed decisions about pricing adjustments, product discontinuation, or process redesigns to improve financial performance.

Furthermore, ABC supports strategic decision-making by providing accurate cost data that helps businesses optimize resource allocation. By identifying cost-heavy activities, managers can prioritize areas for cost reduction without compromising quality or efficiency. This allows companies to invest in automation, workforce training, or process improvements in the areas that will yield the highest return on investment. For example, if ABC shows that a particular department is responsible for excessive overhead costs, management can assess whether outsourcing, restructuring, or implementing lean manufacturing techniques would be a more cost-effective solution.

Data Analysis

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
ABC enhances cost transparency in manufacturing.	12	20	35	55	46	168
ABC improves decision-making in resource allocation.	15	18	40	50	45	168
ABC helps in identifying non-value-adding activities.	10	22	38	60	38	168
ABC implementation leads to better production efficiency.	14	25	33	58	38	168
ABC increases profitability through accurate costing.	11	19	42	57	39	168
The complexity of ABC outweighs its benefits in manufacturing.	20	45	50	33	20	168



The responses of 168 business owners from manufacturing companies in Ahmedabad provide valuable insights into their perception of Activity-Based Costing (ABC) and its impact on manufacturing efficiency. The findings indicate a generally positive attitude towards ABC, with a significant number of respondents agreeing that ABC enhances cost transparency, improves decision-making, and aids in identifying non-value-adding activities. However, concerns remain regarding its complexity and implementation challenges.

A majority of respondents (55 agreeing and 46 strongly agreeing) believe that ABC enhances cost transparency in manufacturing, indicating that business owners recognize the method's ability to provide more accurate cost allocation compared to traditional costing methods. With only 12 respondents strongly disagreeing and 20 disagreeing, it is evident that the perception of ABC as a tool for better cost visibility is widely accepted. This suggests that manufacturers in Ahmedabad acknowledge the importance of ABC in providing detailed cost information, which can lead to better financial planning and resource optimization.

Similarly, ABC's role in improving decision-making for resource allocation is also positively perceived, with 50 agreeing and 45 strongly agreeing. A total of 33 respondents remained neutral, while only a small portion (15 strongly disagreeing and 18 disagreeing) expressed skepticism. This indicates that while ABC is generally seen as a valuable tool for strategic decision-making, some business owners might still be hesitant about its practicality or effectiveness in their specific operational environments.

When considering ABC's role in identifying non-value-adding activities, a strong majority of respondents (60 agreeing and 38 strongly agreeing) believe that it effectively highlights inefficiencies within manufacturing processes. Only 10 respondents strongly disagreed, and 22 disagreed. This suggests that manufacturers recognize ABC as an important cost-management tool that helps eliminate wasteful activities and streamline operations, ultimately improving productivity. The relatively low disagreement further emphasizes that most business owners see the advantages of ABC in driving operational efficiency.

The perception of ABC's impact on production efficiency follows a similar trend. A combined total of 96 respondents (58 agreeing and 38 strongly agreeing) acknowledge that ABC contributes to improved production efficiency, while 33 respondents remained neutral. However, 25 disagreed, and 14 strongly disagreed, indicating that while the majority believe in its effectiveness, there is still a notable proportion of business owners who might struggle with its implementation or have concerns regarding its adaptability to their operations.

The financial benefits of ABC are also well recognized, with 57 respondents agreeing and 39 strongly agreeing that ABC increases profitability through accurate costing. Only 30 respondents



disagreed or strongly disagreed, suggesting that while some manufacturers remain skeptical, the prevailing view is that ABC plays a crucial role in refining cost structures and maximizing profit margins. The relatively high number of neutral responses (42) suggests that some business owners may not have directly observed significant profitability improvements or are uncertain about the financial impact of ABC in the long run.

Despite these largely positive perceptions, concerns over the complexity of ABC persist. When asked whether the complexity of ABC outweighs its benefits, 45 respondents disagreed, and 50 remained neutral, suggesting that many business owners are divided on this issue. However, a significant number (20 strongly agreeing and 33 agreeing) believe that ABC's complexity is a drawback. This indicates that while ABC is viewed as beneficial, its implementation challenges—such as the need for extensive data collection, sophisticated software, and skilled personnel—may act as barriers to adoption for some manufacturing firms.

Conclusion

The study of 168 business owners from manufacturing companies in Ahmedabad highlights a predominantly positive perception of Activity-Based Costing (ABC) and its role in enhancing manufacturing efficiency. The majority of respondents recognize ABC's effectiveness in improving cost transparency, aiding decision-making, and identifying non-value-adding activities, all of which contribute to better financial management and operational efficiency. Many business owners also acknowledge its potential to increase profitability through more accurate cost allocation. However, while ABC is widely seen as beneficial, concerns remain regarding its complexity and implementation challenges. A notable portion of respondents believe that the effort required to adopt and maintain ABC may outweigh its benefits, reflecting the need for greater support in terms of training, resources, and technological infrastructure. The presence of neutral responses in several areas suggests that some business owners are either uncertain about ABC's effectiveness or have yet to fully experience its advantages. Overall, while ABC is generally viewed as a valuable tool in the manufacturing sector, its successful adoption depends on addressing the barriers related to complexity and implementation. To maximize its impact, businesses may need additional guidance and resources to integrate ABC seamlessly into their cost management practices. By overcoming these challenges, manufacturing companies in Ahmedabad can fully leverage ABC's potential to enhance efficiency, optimize resource allocation, and improve profitability.



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**FINTECH INFRASTRUCTURE IN INDIA: REGULATORY ANALYSIS IN COMPARISON
WITH CHINA**

By

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&

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This paper examines the distinct regulatory landscapes governing Fintech in India and China, highlighting the differences in their developmental stages and regulatory approaches. The primary objective is to contextualize and analyze the challenges these countries face in regulating their fintech ecosystems. The study begins with a historical overview of the laws regulating Fintech and economic development in both nations. It then delves into the current regulatory environment and the specific challenges encountered by the fintech sector. The research methodology involves a comparative analysis of legislative frameworks, policy documents, and case studies from both countries. Emphasis is placed on the impact of new technologies and the influence of large foreign tech companies, particularly those from Silicon Valley, necessitating updated laws and procedures to address emerging technological issues. The paper also explores the necessity of delineating judicial investment boundaries to balance innovation and regulation. The outcomes provide critical insights and practical recommendations for policymakers, industry stakeholders, and researchers, aiming to foster a more robust and adaptive regulatory environment for Fintech in India and China. This comparative analysis underscores the global economic implications of fintech regulation and offers valuable lessons for other emerging markets.

Introduction

Fintech (financial technology) refers to technological innovation in the financial sector, which could result in new business models, applications, processes, and products in the banking, insurance, and public financial sectors (Legowo et al. 2020).

The foundational fintech framework enables financial institutions and technological platforms to introduce innovative financial services effectively. A confluence of factors is currently shaping this



critical juncture. These include the establishment of extensive consumer distribution networks, the implementation of well-defined regulatory frameworks, the successful completion of comprehensive public infrastructure initiatives, and the increasing adoption of technology by financial institutions. These elements have created a highly favourable environment that fosters substantial innovation.

Table 1: Fintech Sevises Classification

Category	Services
Internet-based Currency and Banking Services	✓ Internet-based currency exchange
	✓ Cross-border money transfers
	✓ Virtual banking without physical branches
Person-to-Person Transfers and Payments	✓ Person-to-person money transfers and non-traditional financial transfers
	✓ Mobile phone payments at physical stores
	✓ Digital wallets for cryptocurrencies
Financial Planning and Management Tools	✓ Web-based tools for budgeting and financial planning
	✓ Digital tools for managing retirement funds and pensions online
Borrowing and Investment Services	✓ Borrowing through peer-to-peer platforms
	✓ Investing via crowdfunding websites
	✓ Web-based investment guidance and portfolio management

Several countries have embraced Fintech to develop continuously growing sectors to enhance the government's efficiency in financial services (Zeidy, 2022). Consequently, the fintech market in Asia has experienced significant growth in recent years. India has a nascent but rapidly growing fintech sector that is revolutionizing the banking experience for both corporations and individuals (Manish and Sergeeva, 2022). Similarly, with the advent of digital payments, the Chinese fintech landscape is dominated by mobile payments, which have emerged as the primary mode of non-cash transactions in the country. In substantial sectors of the digital world, particularly Fintech, China enjoys a reasonably positive global brand. According to CFTE's co-founders, Yassine and Huy, a notable characteristic of the Chinese fintech ecosystem is the dominance of private companies, which deviate from the conventional financial institution model. According to Yassine, Alibaba, a prominent e-commerce entity, initially introduced



AliPay to facilitate transactions between buyers and sellers. However, AliPay has evolved into a comprehensive mobile payment application over time. Similar observations can be made regarding Tencent, a company that originated in the gaming sector and currently holds a dominant position in financial services.

The COVID-19 pandemic had a favourable effect on the overall fintech market in India (Gupta, S., & Agrawal, A. 2021). The primary cause of this phenomenon can be attributed to the implementation of government-mandated lockdown measures and the subsequent limitations on interregional mobility. An offshoot of this mobile payments revolution has enabled the birth of mobile wallet companies such as Airtel Money, Mpesa, mRupee, Paytm, ItzCash, and so on. The entities mentioned above that feature prominently in the list include Paytm, Pine Labs, PayU, and Faircent. SoftBank has demonstrated a proactive investment strategy in numerous promising fintech startups. The reliance on digital payment systems, electronic commerce, and related technologies experienced a significant surge in growth throughout the years 2020 and 2021. Furthermore, the above trend persisted throughout 2021 and 2022 as individuals increasingly recognized the convenience of managing their finances online instead of utilizing traditional, tangible methods.

Literature Review

The paper by Weber, Carl, and Hinz (2023) discusses the impact of digitalization and artificial intelligence (AI) in the finance sector, emphasizing the need for transparency due to regulatory requirements. The paper highlights the need for XAI for transparent AI judgements, highlights the lack of research in anti-money laundering compared to finance, stresses the need for transparency for trust, legal compliance, and the trend towards post-hoc explainability, and emphasizes that XAI is essential for these goals. The study by Hentzen, Hoffmann, Dolan, and Pala (2022) systematically reviews the use of AI in customer-facing financial services, aiming to identify research trends and gaps and propose a future research agenda. The authors studied 90 journal articles published by the ABDC using the TCCM framework. They found that there is a gap between research that is data-driven and research that is theory-driven, and they emphasized the need for further studies on AI in financial services, both theoretical and empirical.

The article by Buchanan (2019) discusses the transformative impact of AI on the financial services industry, highlighting the potential of AI to disrupt and refine financial operations. With a focus on their respective histories and practical financial uses, this article offers a taxonomy of artificial intelligence (AI), machine learning (ML), and deep learning (DL). Future regulatory hurdles and the



revolutionary power of quantum computing in the financial sector are addressed, as are the algorithmic character of ML and its contrast with conventional econometric methodologies.

Sakirovic, in his paper, follows the meteoric rise of FinTech from its inception during the 2008 financial crisis to the present day, illuminating how it has changed the industry while simultaneously making it more accessible (Sakirovic, B. A. 2023). The article explores the origins, development, and widespread use of FinTech, with a focus on how it has changed banking operations, including payment processing, risk distribution, and capital allocation. India has become the third most significant ecosystem for Fintech, highlighting the country's fast expansion as a market. Technological enablers, regulatory interventions, and the demographic dividend are some of the driving drivers for this expansion, which are discussed in the paper. It also discusses the vast amount of digital transactions that have taken place in India and the potential of the country's digital payment business.

The article by Khurana (2023) highlights the rapid growth of the Indian FinTech sector, with over 2,000 startups and a projected valuation of USD 150 billion by 2025. Tightened RBI restrictions and the ambiguous status of cryptocurrencies are threatening India's FinTech sector, which received USD 8.53 billion in investments last year. In spite of fewer initial public offerings in 2022, the industry is embracing BNPL, AI, and metaverse developments, and the government is supporting UPI transactions.

The paper by Achary (2021) begins by highlighting the role of AI in enhancing banking services in India, emphasizing its ability to mimic human intelligence and make decisions. This paper focuses on the banking industry's fast adoption of AI, highlighting the disruptive potential of the technology and its role in improving client accessibility, convenience, and operational efficiency. It delves into how AI-powered tech developments are changing the game for SMBs and how digitization is reshaping consumer interaction.

The Indian fintech sector has experienced significant expansion in recent years (Goel, P. et al. 2022). India is progressively emerging as a prominent centre for numerous fintech startups (George, G., & Prabhu, G. N. 2003). After the launch of "Pradhan Mantri Jan Dhan Yojna" in August 2014 and its vast acceptability, financial inclusion has been identified as a significant policy agenda (YOJANA, 2022). Realizing the potential of technology in ensuring financial inclusion as a means of achieving social inclusion, societies aimed at promoting a path-breaking innovation in the electronic payments space have been evolving in India. The establishment of an inter-ministerial group (IMG) report on mobile payments in December 2011 laid out directions to promote mobile-based financial payments (Patil et al., 2021). The government's efforts to promote the digitization of financial systems and adopt a cashless economy have redirected consumer attention towards digital alternatives for conducting financial transactions and accessing financial services.



China has been declared as probably one of the most innovative countries in the digital world (Wang et al., 2023), justifying the name "Silicon Dragon" by the "Finnish Education Research Agency", named "Silicon Valley of the East" (Vecchi & Brennan, 2022). Western Fintech companies face limitations imposed by the Chinese government, impeding their entry into the Chinese market (Qin, 2023). Despite these obstacles, international Fintech companies continue to seek opportunities but must manoeuvre through intricate regulations in order to expand. China's firm stance on disruptive technologies is evident in its ban on Bitcoin (Xi, 2022). Global Fintech firms need to comprehend the distinct challenges and adjust their approaches in order to succeed in this ever-changing and tightly controlled business arena. The growth and strength of China in many fields made it the leader of the fourth industrial revolution (Zervoudi, 2020).

Research Methodology

This study combines doctrinal and exploratory research approaches to investigate the regulatory implications of integrating AI and FinTech in financial markets. Regulatory frameworks for AI, FinTech, and the financial markets may be better understood via doctrinal research that examines primary legal sources, including laws and regulations. To further comprehend the intricate dynamics and reactions of regulations, exploratory research also includes a thorough examination of reports from the industry in India and China, scholarly works, regulatory documents, and case studies to make a comparative analysis. In order to get a comprehensive knowledge of these changing interactions, the data will be thematically analyzed to reveal important trends, problems, and the regulatory effect of FinTech and AI on the regulation of financial market governance.

Regulatory Framework of Fintech In India

In order to foster innovation, resolve regulatory concerns, and protect consumers, the regulatory framework governing India's Fintech sector has undergone substantial changes. Various regulatory agencies in India have taken steps to promote innovation, guarantee financial stability, and provide consumer protection. These include the Reserve Bank of India (RBI), the Securities and Exchange Board of India (SEBI), and the Insurance Regulatory and Development Authority of India (IRDAI). There is a complex system of laws, regulations, and policies that controls the Indian Fintech industry. The measures address a wide variety of concerns, including cybersecurity, data protection, licencing, and risk management.



Fintech businesses in India are regulated by the SEBI, which is responsible for protecting investors, ensuring fair trading practices, and maintaining market integrity. Investment advising services, trading platforms, securities offerings, and market intermediaries are all part of the regulatory system. Fintech companies that provide investment advice services are required to register with SEBI in order to protect client interests and maintain compliance with the “SEBI (Investment Advisers) Regulations of 2013”. The “Alternative Investment Funds (AIF) Regulations, 2012”, enacted by SEBI, require registration of all fintech businesses. Following Regulations 4 and 12 of the “SEBI (Issue of money and Disclosure Requirements) Regulations, 2018”, the SEBI regulate compliance for fintech businesses that raise money via securities offerings: eligibility criteria, disclosure rules, and procedural requirements. Further, Regulation 12 of “SEBI's Intermediates Regulations, 2008” governs the registration and compliance requirements for fintech companies that operate as intermediaries in the trading or investing of securities.

The RBI has regulatory power over “non-banking financial companies” (NBFCs), payment networks, and fintech activities according to Sections 45JA (regulation of NBFCs) and 35A (oversight of payment networks). Article 6 grants the RBI the authority to make regulations pertaining to banking and finance, including fintech regulations. The “Payment and Settlement Systems Act of 2007”, which governs payment systems and providers, is one of the most important legislation that pertain to the Fintech business. Online loan providers are also subject to regulation under the RBI's “Guidelines on P2P Lending Platforms” applicable from 2023.

Under the purview of the IRDAI, fintech-operated web aggregators that facilitate online insurance sales are subject to laws such as the “IRDAI (Insurance Web Aggregators) laws, 2017”. The obligations in outsourcing tasks are defined by the “IRDAI (Outsourcing of Activities by Indian Insurers) Regulations, 2017”, which govern fintech-provided tech services to insurers. The “IRDAI Act 1999” establishes a legislative basis for insurance innovations driven by Fintech, enabling the IRDAI to publish standards for new technology.

Financial transactions and client data security in the digital era are ensured by regulatory measures such as the Personal Data Protection Act 2023" and the "Reserve Bank of India's Master Direction on Know Your Customer and Anti-Money Laundering Standards, 2019".

The "Internet and Mobile Association of India v. Reserve Bank of India" case is an example of how judicial interpretations impact fintech regulatory environments. Fintech innovation and regulatory compliance are the goals of new programmes such as the "Innovation Hub" at RBI and the "Sandbox Approach" at SEBI.



The Fintech industry in India is subject to a constantly evolving regulatory landscape. Striking a balance between fostering innovation and guaranteeing regulatory compliance, safeguarding consumer interests, and preserving financial stability is its primary objective. In this section, we will delve deeply into the regulatory frameworks. We want to help policymakers and industry participants in India have a better grasp of the regulatory procedures that impact the Fintech landscape there.

Recent Reforms:

The expansion of FinTech is encouraged by the RBI, which takes steps to protect consumers' interests, promote innovation, and guarantee regulatory compliance. It formed the FinTech Department in January 2022 to investigate new possibilities and lessen dangers, including data privacy and cybersecurity breaches. The department developed more than 75 digital banking units throughout Indian districts in the fiscal year 2023–24, ran events under India's G20 Initiative, and ran trial programs on “central bank digital currencies” (CBDCs). To further its regulatory approach, the RBI published in May 2024 the "Framework for Self-Regulatory Organisations in the FinTech Sector", which outlined the roles of self-regulatory bodies in terms of recognition, governance, and supervision, with the goal of improving openness, accountability, consumer protection, and equitable competition. These steps, along with others driven by technology, demonstrate RBI's resolve to maintain a stable and welcoming financial environment for India's developing FinTech industry by combining technological advancement with strict legal and regulatory requirements.

There is a wide variety of constraints imposed by India's ever-changing FinTech legislation, which are sector-specific. The RBI requires a banking or non-banking license for entities that engage in deposit-taking or lending. For example, the RBI issued rules on digital lending, the issuing of credit and debit cards, and prepaid payment instruments, thereby tightening restrictions despite the emergence of BNPL platforms. Also, BNPL, digital banks, and robo-advisory are all part of FinTech, which has been classified by the “International Financial Services Centres Authority” (IFSCA) in Gujarat as belonging to the banking, capital markets, and insurance sectors. Since the Supreme Court reversed the RBI's 2018 prohibition, cryptocurrency has remained uncontrolled.

Current Challenges for Fintech in India

The fintech industry in India faces significant challenges due to the lack of a well-established regulatory framework. The industry is subject to oversight from various regulatory bodies, leading to potential confusion and uncertainties.

Restricted Access to Financing: Despite the proliferation of the Fintech sector, many startups in India face challenges in obtaining adequate financial backing. The primary reason for this can be



attributed to a lack of understanding about the industry among traditional investors and the scarcity of venture capital firms that focus specifically on fintech ventures.

The proliferation of digital transactions has led to an increased level of apprehension surrounding cybersecurity vulnerabilities. According to the disclosure by India's "Computer Emergency Response Team" (CERT-IN), the nation encountered 674,000 cybersecurity incidents during the initial six months of 2022.

Data Security & Privacy Issue: Integrating AI with FinTech requires careful attention to data protection and governance. The fact that AI algorithms mostly use massive amounts of data to train and improve models raises concerns about data ownership, privacy, and security. Regulators are responsible for enforcing stringent data privacy regulations, including the EU's "General Data Protection Regulation" (GDPR), to safeguard customers' personal and financial information. Furthermore, authorities should ensure that AI algorithms are accountable and transparent in their decision-making processes so that consumers have greater control over their data and have faith in AI-powered FinTech solutions.

Insufficient Awareness: A significant segment of the Indian populace lacks knowledge of the benefits of fintech services. Fintech enterprises should proactively engage in efforts to enhance awareness of their products and services and the benefits they provide to customers.

Competition from Traditional Banks: Traditional banks are also expanding their digital service portfolios, intensifying competition for fintech companies. Fintech startups must maintain a persistent commitment towards innovation and provide unique solutions that differentiate them from conventional banking institutions.

Inadequate Infrastructure: Despite the sector's expansion, India faces challenges regarding insufficient infrastructure to facilitate fintech services effectively. Challenges that may impede the development of the fintech industry include suboptimal internet speeds, a lack of interoperability, and inadequate digital infrastructure.

Difficulty with Regulations: Fintech companies in India must navigate a complex web of rules and regulations in order to meet their compliance requirements.

The acquisition of necessary licences and permits is a common source of frustration for fintech startups.

Stringent Compliance: Strict Know fintech businesses must follow Your Customer (KYC) and Anti-Money Laundering (AML) requirements. Particularly for new businesses with limited funds, the costs associated with compliance might be prohibitive. Further, the Expenses associated with regulatory compliance include hiring legal counsel, submitting paperwork, investing in cybersecurity, and keeping



tabs on everything at all times. Startups have limited funds for innovation and expansion because of these costs.

- Lack of Clarity in Regulations and Regular Updates
- Fintech businesses have challenges in staying updated with ever-changing regulatory standards.
- To minimize compliance expenses and potential backlash and enforcement proceedings, startups may engage in arbitrage, which is made possible by regulatory opacity. Gaps and inconsistencies arise when regulatory frameworks are not kept up with the quick pace of fintech innovation.
- The lack of clarity on this matter causes fintech companies and investors to be uncertain.

Overlapping Regulatory Environment

Digital currencies, P2P lending, crowdfunding, and regulatory sandboxes are just a few of the fintech areas that are impacted by uncertainty. Maintaining a steady economy while simultaneously protecting consumers and innovations is a tricky balancing act for regulators. Fintech companies face more complexity due to the fact that there are several regulatory authorities, which leads to disputes and overlaps. Inefficiency and fragmentation result from a lack of a cohesive regulatory framework.

Comparison with China

China and India, which possess the largest populations globally, have experienced significant urbanization, extensive modernization, and comprehensive digitization of their economies. Over the previous 15 years, they have exhibited a significantly higher per capita GDP growth rate than a substantial portion of the international community. Simultaneously, motivated by the necessity to incorporate a significant population of previously marginalized individuals into the established financial infrastructure, both nations have spearheaded innovative digital payment and money transfer technologies.

The FinTech industry's growth in India, much like that of China, can be attributed to various proactive measures undertaken by the government and regulatory authorities. A flourishing funding environment and the enhancement of the venture capital ecosystem additionally support the expansion. These countries undoubtedly present significant demographic prospects, demonstrate considerable rates of FinTech adoption, and grant entrepreneurs access to technology and skilled individuals as they strive to shape the future of India's financial environment.

Policy Approach in India: The "Unified Payments Interface" (UPI) was introduced by the "National Payments Council of India" (NPCI) in 2016. UPI is an inclusive and compatible platform that facilitates direct bank transfers. It achieves this by efficiently integrating multiple bank accounts into a



single mobile application. In India, the government has become a market disruptor by implementing regulatory measures such as demonetization and actively promoting an open-platform solution. This approach has compelled established players and emerging startups to embrace digital payments.

Policy Approach in China: China has not yet established an independent regulatory body to oversee the fintech sector. However, the “China Securities Regulatory Commission” (CSRC) has expressed its intention to potentially enforce a mandate that requires Futu and Tiger to cease their unauthorized provision of brokerage services for outbound securities investments to investors in China.

Comparison of Market

One notable differentiating aspect between the Indian and Chinese markets lies in their respective levels of diversity. The Indian market is multifaceted and characterized by diverse income groups distributed among three key segments.

- Tier 1 refers to the urban areas in India, which encompass approximately 100-120 million individuals. These areas are characterized by a per capita income of roughly 10,000 million USD.
- Tier 2 refers to a socioeconomic group known as the middle class, which encompasses an estimated population of around 300 million individuals. This group is characterized by a per capita income that falls within the range of 3,000 to 4,000 USD.
- Tier 3 encompasses the residual segment of the population, characterized by a per capita income of approximately 1,000 USD.

Fintech companies must recognize the wide-ranging customer base and significant variations in needs and financial capacity, necessitating the consideration of this diversity during the design of their products and services. Consequently, a transformation has occurred in the value proposition of fintech companies operating in India.

In contrast to China, India's fintech industry has faced various obstacles that have impeded its swift expansion. However, an advantageous factor that sets India apart, as highlighted by Musheer, is the presence of "IndiaStack." The existing technological framework effectively safeguards the biometric information of a substantial population of 1.2 billion individuals, thereby offering significant potential for developing applications that can leverage this robust foundation.

Regulatory

Numerous industries in China have contributed to the rapid development of the country's fintech scene, including internet payment systems, lending, asset management, and the modernization of more conventional financial services via the use of artificial intelligence and big data. Amidst the COVID-19 pandemic and growing “environmental, social, and governance” (ESG) goals, certain important



developments have surfaced in 2023. One of them is the use of “AI-generated content” (AIGC) to improve financial services' product offers and customer support.

Major regulatory disputes with digital companies like Ant Group and Tencent were settled once the “National Financial Regulatory Administration” (NFRA) was established, which simplified monitoring. Rules controlling AIGC applications and offshore services were refined with the introduction of the Interim Measures for the Administration of AIGC Services, a notable regulatory milestone. The “Regulation on the Supervision and Administration of Non-Banking Payment Institutions”, which rewrote the rules for monitoring third-party payments, is one example of the many changes to financial regulations in recent years. The continued prohibition of cryptocurrency operations serves to clarify regulations in the face of changing international norms.

Fintech companies may raise capital via a variety of sources, including stock and loan investments, with the help of government subsidies meant to encourage new ideas. Fintech investments are encouraged by incentive programmes in large cities like Shanghai and Shenzhen, which provide favourable tax treatments and financial assistance.

Conditions for “Initial Public Offerings” (IPOs), which are primarily based on financial performance indicators, differ for high-tech businesses, which have more lenient standards. Ongoing market activity indicates dynamic growth potential, even if 2023 witnessed few significant departures. While the “People's Bank of China” (PBOC), the “National Financial Regulatory Agency” (NFRA), and the “China Securities Regulatory Commission” (CSRC) are not explicitly concerned with Fintech, their regulatory frameworks include a wide range of industries. These structures are in line with more extensive requirements for financial supervision and include topics like asset management and cryptocurrency legislation.

Fintech development activities in special economic zones like Qianhai show the openness of China's regulatory framework to new ideas. Regulatory "sandbox" alternatives encourage the development of experimental fintech applications, which improves industry integration and regulatory alignment.

Compliance with domestic market integrity and investor protection criteria is ensured by cross-border fintech activities that are subject to monitoring under local rules. Cyber Security Law and Personal Information Protection Law are two examples of severe data privacy rules that require careful data handling methods and the flow of data internationally.

The government of China is actively supporting the growth of China's fintech industry via its strong regulatory frameworks. The sector's ability to persevere in the face of global difficulties highlights its critical role in propelling digital transformation and financial innovation in the area.



Way Forward

Because Fintech is at the crossroads of technology and money, the regulatory environment has to change to accommodate it. This involves establishing regulatory sandboxes to foster innovation and strict consumer protection procedures, including “know-your-customer” (KYC) and “anti-money-laundering” (AML) regulations.

As the use of digital technologies increases, the financial industry is being transformed by the fast-growing FinTech business in India. Sustainable development and the prevention of hazards like fraud, data breaches, and financial misbehaviour are made possible by a strong legal and regulatory framework, which is essential in light of this fast expansion. To promote responsible innovation, keep the economy stable, and build consumer trust, a well-structured regulatory framework that strikes a balance between innovation and compliance is necessary. The rise of FinTech in India must adhere to legal protections and ethical financial practices in the country's ever-changing digital economy; therefore, the RBI and other regulatory agencies are often changing laws to deal with new problems.

The FinTech industry in India is expanding quickly, but its potential is limited by regulatory ambiguity and compliance issues. The following changes must be made in order to create a more favourable atmosphere:

Comprehensive Regulatory Framework: To simplify compliance, minimize overlapping rules, and guarantee uniformity in the application of policies, a single governing body should establish a unified regulatory framework.

Industry Consultation & Regulatory Sandboxes: FinTechs will be able to test ideas with little regulatory impact if regulatory sandbox programs are expanded. Increased corporate involvement in policy debates may also guarantee fair, innovative laws.

Data Privacy & Security: Improving customer trust and reducing cybersecurity risks may be achieved by fortifying data protection legislation with precise rules on data processing, storage, and cross-border transfers.

Streamlined Compliance and KYC Processes: Security may be preserved while compliance obligations are reduced by using digital identification solutions such as Aadhaar-based e-KYC and putting risk-based KYC standards into practice.

Adaptive Compliance Models: To assist FinTechs in adjusting to changing regulations without experiencing operational interruptions, regulatory bodies need to provide flexible or phased compliance procedures.



Unified Licensing Regime: To lower administrative barriers and hasten market access for FinTech businesses, a streamlined and uniform licensing procedure had to be implemented. A single-window clearing procedure may enhance the convenience of doing business.

Clarity in Regulation of Emerging Technologies: To maintain compliance and promote innovation, clear rules should be set for blockchain-based services, decentralized finance (DeFi), and AI-driven financial solutions.

Regulations for Fintech in Cross-Borders: In order to promote smooth cross-border transactions and financial cooperation, regulatory frameworks should be in line with global best practices as globalization increases.

Open banking: The promotion of open banking Secure APIs and an organized Open Banking framework will promote financial product innovation while protecting consumer data.

Specialized FinTech Zones: By creating FinTech-specific centres with financing assistance, tax breaks, and regulatory incentives, it is possible to draw in international investors and companies and promote sectoral expansion.

Consumer Protection & Dispute Resolution: Customers' confidence in digital financial services may be increased by a strong grievance redressal system, which includes a FinTech ombudsperson.

Tax Incentives for FinTech Innovation: By providing tax breaks for research and development in FinTech, especially in the areas of artificial intelligence, blockchain, and cybersecurity, companies can spur technical development and draw in top talent from across the world.

By implementing these reforms alongside existing initiatives, India can create a resilient, transparent, and innovation-driven FinTech ecosystem.

Conclusion

The dominance of Big Tech companies in the Chinese market is apparent. When examining the unique attributes of consumer demographics in India and China, it becomes evident that the issue is not a question of one nation supplanting the other but rather the collective impact their respective markets will exert in the forthcoming decade. By the next decade, India and China are projected to witness the emergence of over 500 million additional consumers. From a global standpoint regarding FinTech, it is apparent that nations with youthful populations, such as India, exhibit favourable conditions for expanding this industry. Nevertheless, various additional factors are contributing to the growth and development of the FinTech industry. India is widely recognized as one of the rapidly expanding FinTech markets globally.



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**THE MENACE OF CHEQUE DISHONOUR: EVALUATING THE EFFECTIVENESS OF THE
NEGOTIABLE INSTRUMENTS ACT, 1881 IN CURBING THE PROBLEM**

By

Dr. Anjana Bharat Dave**Principal****Dr. B. R. Ambedkar Law College, Ahmedabad****Abstract**

Cheque dishonour has become a pervasive issue in India, causing financial losses and undermining trust in the banking system. The Negotiable Instruments Act 1881 (NI Act) was enacted to address this problem. This study evaluates the effectiveness of the NI Act in curbing cheque dishonour. A comprehensive analysis of judicial decisions and expert opinions reveals that while the NI Act has provided a framework for addressing cheque dishonour, and its effectiveness is hindered by various challenges. These include inadequate enforcement, lengthy legal procedures, and lack of awareness among stakeholders. This research highlights the need for reforms to strengthen the NI Act and improve its implementation. Recommendations include simplifying legal procedures, increasing awareness, and introducing stricter penalties for offenders. By addressing the limitations of the NI Act, this study aims to contribute to the development of a more effective framework for preventing cheque dishonour in India.

Keywords: Cheque dishonour, Banking system, Effectiveness, Enforcement, Awareness

Introduction

Cheque dishonour has become a persistent problem in India, causing significant financial losses and eroding trust in the banking system. Despite the enactment of the Negotiable Instruments Act 1881 (NI Act), the issue persists, affecting individuals, businesses, and the economy as a whole. The NI Act was intended to provide a legal framework for addressing cheque dishonour, but its effectiveness in curbing the problem is questionable. This research aims to evaluate the effectiveness of the NI Act in preventing cheque dishonour and identify areas for improvement. By examining the strengths and weaknesses of the NI Act, this study seeks to contribute to the development of a more effective framework for addressing cheque dishonour in India.

Review of Literature

Cheque dishonour has been a persistent problem in India, causing significant financial losses and eroding trust in the banking system. The Negotiable Instruments Act 1881 (NI Act) was enacted to



address this issue. This review of literature aims to provide an overview of the existing research on cheque dishonour, the NI Act, and its effectiveness in curbing the problem.

Cheque Dishonour: Definition and Causes

Cheque dishonour refers to the refusal of a bank to honour a cheque due to insufficient funds, stop payment instructions, or other reasons. Research has identified various causes of cheque dishonour, including insufficient funds, fraudulent transactions, and technical errors.

The Negotiable Instruments Act 1881

The NI Act was enacted to provide a legal framework for addressing cheque dishonour (NI Act, 1881). The Act prescribes penalties for cheque dishonour, including imprisonment and fines (Section 138, The Negotiable Instruments Act 1881). Research has shown that the NI Act has been effective in reducing cheque dishonour to some extent.

Effectiveness of the NI Act

However, several studies have highlighted the limitations of the NI Act in curbing cheque dishonour. For instance, research has shown that the Act's provisions are often ineffective in preventing cheque dishonour due to inadequate enforcement and lengthy legal procedures. Additionally, studies have highlighted the need for reforms to strengthen The Negotiable Instruments Act 1881 and improve its implementation.

The review of literature highlights the complexity of the issue of cheque dishonour and the need for effective measures to address it. While The Negotiable Instruments Act 1881 has provided a legal framework for addressing cheque dishonour, its effectiveness is hindered by various challenges. Further research is needed to identify solutions to these challenges and to strengthen the NI Act.

Objectives

Primary Objectives

1. To examine the prevalence and causes of cheque dishonour in India: This objective aims to understand the scope and nature of the problem of cheque dishonour in India.
2. To evaluate the effectiveness of the Negotiable Instruments Act 1881 in curbing cheque dishonour: This objective seeks to assess the impact of the NI Act on reducing cheque dishonour and identify areas for improvement.



Secondary Objectives

1. To analyse the judicial response to cheque dishonour cases in India: This objective aims to examine how Indian courts have interpreted and applied the NI Act in cheque dishonour cases.
2. To identify the challenges and limitations of the NI Act in addressing cheque dishonour: This objective seeks to highlight the gaps and weaknesses in the NI Act that hinder its effectiveness in preventing cheque dishonour.
3. To suggest recommendations for strengthening the NI Act and improving its implementation: This objective aims to provide constructive suggestions for reforming the NI Act and enhancing its enforcement to better address the problem of cheque dishonour.

Methodology

Research design

Since researcher will follow only doctrinal research, the questionnaire, fieldwork and experiment of work will not be applicable.

However, decisions of Supreme Court referred to this study and judgements of Apex Courts and various High Courts are taken. Also amendments of Parliament will be considered during the research work.

Data Source

The study is mainly based on secondary data obtained from the various Law Books, Reports, Law Journals, Periodicals, Magazines, Legislative and Judicial pronouncements, and judgments of Supreme Court and certain Law Commission of India Report, declarations and information available on internet etc.

Research Question

What are the challenges faced by stakeholders (banks, customers, and law enforcement agencies) in implementing the Negotiable Instruments Act 1881, and how can they be addressed?

Hypotheses

Null Hypothesis (H₀) - The Negotiable Instruments Act 1881 has been effective in curbing the problem of cheque dishonour in India.

Alternative Hypothesis (H₁) - The Negotiable Instruments Act 1881 has not been effective in curbing the problem of cheque dishonour in India.

These research questions and hypotheses provide a framework for investigating the effectiveness of the Negotiable Instruments Act 1881 in addressing the problem of cheque dishonour in India.



Scope

Section 138 of Negotiable Instruments Act, reflects the anxiety of the legislature to usher in a new healthy commercial morality through the instrumentality of the penal law. Here is a classic example where, as part of an attempt to evolve a healthy norm of commercial behavior, the principal of social engineering through the instrumentality of penal law is put into operation. What was, prior to the amendment of the Negotiable Instruments Act in 1988 only a moral or civil wrong, has been transformed and exalted to the position of a crime by a deft amendment of the Statute. The essential requirements to attract section 138, Negotiable Instruments Act are:

- The cheque for an amount is issued by the drawer to the payee / complainant on a bank account maintained by him.
- The said cheque is issued for the discharge, in whole or in part of any debt or other liability.
- The cheque is returned by the bank unpaid on account of insufficient amount to honour the cheque or it exceeds the amount arranged to be paid from that account by an agreement made with the bank.
- The cheque is presented within 3 months from the date on which it is drawn or within the period of its validity.
- 30 days demand notice is issued by the payee or the holder in due course on receipt of information by him from the bank regarding the dishonour of the cheque.
- The drawer of said cheque fails to make payment of the said amount of the money to the payee or the holder on due course within 15 days of the said notice.
- The debt or liability against which the cheque was issued is legally enforceable. *Kusum Ingots and Alloys Ltd. Vs Pennar Peterson Securities Ltd.*
- If the drawer does not pay the amount of dishonored cheque within the grace period, a complaint thereafter should be filed within one month in the relevant court of Metropolitan Magistrate/Judicial Magistrate as the case may be, having jurisdiction.
- The remedy available in Civil Court is a long drawn matter and an unscrupulous drawer normally takes various pleasto defeat the genuine claim of the payee. *Goa Plast (P) Ltd. v. Chico Urrsula D'souza* .

Victims' rights

Victims have specific rights to seek redress and compensation for financial loss or damage under the legal framework. Victims' rights generally include :



Right to Compensation- Victims of CHEQUE dishonour have the right to seek compensation for the amount mentioned in the dishonoured Cheque. Compensation may include the principal amount mentioned in the Cheque, along with accrued interest and reasonable legal costs incurred in pursuing the case.

Right to legal recourse- Victims have the right to initiate legal proceedings against the issuer of the dishonoured Cheque. Legal recourse often includes filing a criminal complaint under relevant sections of the Negotiable Instruments Act or other applicable laws in the jurisdiction.

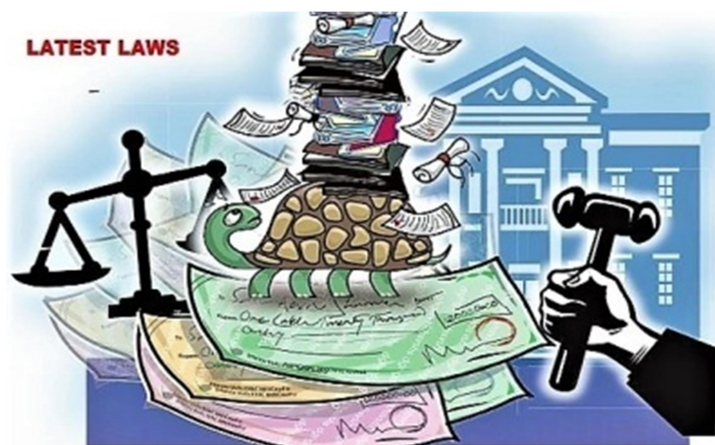
Right to protection from harassment- Victims are entitled to protection from harassment by dishonoured CHEQUE issuers during legal proceedings. Legal mechanisms are in place to prevent the accused from engaging in bullying or harassment of the victim.

Right to Information- Victims have the right to be informed about the progress of legal proceedings related to dishonour Cheques. They are entitled to updates on court hearings, developments in the case and any orders issued by the court.

Right to Recovery- Once the court order is obtained in favour of the victim; they have the right to take necessary steps to recover the due amount. The court may issue orders for attachment of the property or other assets of the drawer to meet the compensation amount.

Right to fair hearing: Victims have the right to a fair trial during legal proceedings. The legal process should provide the victim an opportunity to present evidence and arguments in support of his or her case.

Right to Appeal- If dissatisfied with a court decision, victims generally have the right to appeal to higher courts. The appellate process allows for review of the case and the possibility of a different legal outcome. It is important to note that the specific rights of victims in CHEQUE dishonour cases may vary depending on the jurisdiction and applicable legal provisions. Individuals facing such situations should consult legal professionals to understand their rights and the appropriate legal steps to take in their specific circumstances.





Findings

Here are some potential findings for the study -

Qualitative Findings

1. Lack of awareness- Many respondents reported a lack of awareness about the NI Act and its provisions, which contributed to the problem of cheque dishonour.
2. Inadequate enforcement- The study found that the NI Act was not being effectively enforced, with many cases of cheque dishonour going unpunished.
3. Judicial delays- Respondents reported significant delays in the judicial process, which made it difficult to recover losses due to cheque dishonour.

Case Study Findings

1. Ineffective implementation: The case studies revealed that the NI Act was often not implemented effectively, with banks and other financial institutions failing to follow proper procedures.
2. Lack of coordination: The study found a lack of coordination between different agencies, such as banks, police, and courts, which hindered the effective implementation of the NI Act.

Overall Findings

1. Need for awareness: The study highlights the need for greater awareness about the NI Act and its provisions to prevent cheque dishonour.
2. Strengthening enforcement: The study recommends strengthening the enforcement of the NI Act to prevent cheque dishonour and punish offenders.
3. Judicial reforms: The study suggests judicial reforms to speed up the process of recovering losses due to cheque dishonour.

These findings provide a comprehensive understanding of the problem of cheque dishonour in India and highlight the need for awareness, effective enforcement, and judicial reforms to address the issue.

Delimitation

Here are some potential limitations of the study-

Theoretical Limitations

1. Narrow focus: The study's focus on the Negotiable Instruments Act 1881 may be too narrow, and may not capture the broader context of cheque dishonour in India.



2. Limited theoretical framework: The study's theoretical framework may be limited, and may not fully capture the complexities of cheque dishonour.
3. Lack of comparative analysis: The study may not include a comparative analysis of cheque dishonour laws and regulations in other countries, which could provide valuable insights.

Practical Delimitations

1. Time and resource constraints: The study may be limited by time and resource constraints, which could impact the scope and depth of the research.
2. Respondent fatigue: The study's respondents may experience fatigue, which could impact the quality of the data collected.

Implication

Here are some potential implications of the study -

Theoretical Implications

1. Revaluation of the NI Act- The study's findings highlights the need to reevaluate the effectiveness of the NI Act in addressing cheque dishonour.
2. Alternative approaches- The study suggests exploring alternative approaches, such as alternative dispute resolution mechanisms, to address cheque dishonour.

Practical Implications

1. Strengthening enforcement- The study recommends strengthening the enforcement mechanism of the NI Act to prevent and punish cheque dishonour.
2. Increasing awareness- The study suggests increasing awareness about the NI Act and its provisions to prevent cheque dishonour.
3. Judicial reforms- The study recommends introducing reforms to speed up the judicial process and reduce delays in addressing cheque dishonour cases.

Policy Implications

1. Amendments to the NI Act- The study suggests considering amendments to the NI Act to address its limitations and strengthen its effectiveness.
2. Regulatory reforms- The study recommends introducing regulatory reforms to improve the monitoring and supervision of cheque transactions.
3. Consumer protection- The study highlights the need for stronger consumer protection measures to prevent cheque dishonour and protect consumers' rights.

Social Implications



1. Reducing financial losses- The study's findings suggest that addressing cheque dishonour can help reduce financial losses for individuals and businesses.
2. Improving trust in the banking system- The study highlights the need to improve trust in the banking system by addressing cheque dishonour and promoting transparency and accountability.
3. Promoting financial inclusion- The study suggests that addressing cheque dishonour can help promote financial inclusion by increasing access to banking services and reducing the risk of financial exclusion.

Recommendation

1. Increase imprisonment term: Increase the minimum term of imprisonment for cheque dishonour to 3 years without an option of fine.
2. Extend reporting period: Extend the period for reporting cheque dishonour from 15 days to 20, 30, 60, or 90 days, depending on the amount of the cheque.
3. Amend Section 138: Amend Section 138 of the Negotiable Instruments Act to increase the maximum term of imprisonment to 5 years.
4. Amend Section 139: Amend Section 139 to consider the intention of the drawer while imposing punishment.
5. Enhanced punishment for successive offences: Introduce enhanced punishment for successive commission of cheque dishonour offences.
6. Summary trial for speedy disposal: Implement summary trials for speedy disposal of cheque dishonour cases.
7. Provision for settlement: Introduce a provision for settlement at a certain stage of trial.
8. Interim compensation: Increase interim compensation to 50% instead of 20%.
9. Penalty provision for fraudulent complaints: Introduce a penalty provision for fraudulent complaints.
10. Recovery of compensation: Allow recovery of compensation from the accused's movable and immovable property.
11. Cancellation of chequebook facility: Cancel the chequebook facility of repeat offenders.
12. Increase penalty for banks: Increase the penalty for banks for dishonouring cheques.
13. Strengthen existing courts and open new courts: Strengthen existing courts and open new courts for speedy disposal of cheque bounce cases.
14. Recruit more judicial officers: Recruit more judicial officers to handle the workload of cheque bounce cases.



Conclusion

The judicial approach to dishonour of cheques under the Negotiable Instruments Act, 1881, has evolved through various Supreme Court judgments. The courts have clarified that mens rea is not essential for prosecution under Section 138, and that the burden of proof lies with the complainant. The courts have also established that a complaint can be filed within one month of the cause of action, and that multiple complaints can be tried jointly. These judgments aim to prevent abuse of the law and ensure justice.

The Negotiable Instruments Act, 1881, has undergone significant amendments since 2002 to address the issue of cheque dishonour. The amendments aim to safeguard the interests of creditors, expedite settlement of cases, and punish unscrupulous drawers. Key provisions include increased punishment, summary trials, and interim compensation. Despite these efforts, challenges persist, and further reforms are necessary to effectively tackle cheque dishonour. Strengthening the existing framework and promoting awareness among stakeholders are crucial to preventing cheque dishonour and maintaining trust in the banking system.

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આંગણવાડી કેન્દ્રો અંતર્ગત આંગણવાડી કાર્યકરોની સામાજિક-આર્થિક ભૂમિકા

દેવરિયા હીનાબેન વજુભાઈ

રીસર્ચ સ્કોલર

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સારાંશ

ભારતમાં આંગણવાડી કેન્દ્રએ એક પ્રકારનું ગ્રામીણ બાળસંભાળકેન્દ્ર છે આંગણવાડી કેન્દ્ર ની શરૂઆત ૨જી ઓક્ટોબર ૧૯૭૫ ના રોજ રાષ્ટ્રીય નીતિ અનુસાર કરવામાં આવી હતી. ભારત સરકાર દ્વારા બાળકોની ભૂખ અને કુપોષણ સામે લડવા ICDS ઇન્ટીગ્રેટેડ ચાઇલ્ડ ડેવલોપમેન્ટ સર્વિસીસ સંકલિત બાળવિકાસસેવા કાર્યક્રમની શરૂઆત કરવામાં આવી હતી આમ ભારતનું સૌપ્રથમ આધુનિક આંગણવાડી કેન્દ્ર હરિયાણાના સોનેપતના હસનપુરગામ ખાતે કરવામાં આવ્યું હતું. ભારતમાં આંગણવાડી કેન્દ્ર ગ્રામ્યવિસ્તારમાં પ્રાથમિક આરોગ્ય સંભાળપૂરી પાડે છે જે ભારતીય જાહેર આરોગ્ય પ્રણાલીનો એક ભાગ છે તથા આંગણવાડી કેન્દ્રોમાં મૂળભૂત આરોગ્ય સંભાળ પવૃત્તિઓમાં ગર્ભનિરોધક પરામર્શ અને પુરવઠો તથા પોષણ શિક્ષણ અને પુરવણીઓ તેમજ પૂર્વ શાળાશિક્ષણ ની પ્રવૃત્તિઓનો સમાવેશ થાય છે.

આમ આંગણવાડી કેન્દ્રોમાં ICDS યોજના માત્ર બાળકો સુધીજ સીમિત નથી પરંતુ સગર્ભા સ્ત્રીઓ, સ્તનપાન કરાવતી માતાઓ અને કિશોરીઓને પણ આવરી લેવાય છે તથા ૦ થી ૬ વર્ષ ના બાળકોના પોષણ અને આરોગ્યની સ્થિતિ સુધારવી તથા બાળકોના મનોવૈજ્ઞાનિક, શારીરિક અને સામાજિક વિકાસ માટે પાચો નાખવો તથા મૃત્યુદર, બીમારી અને કુપોષણ ને ઘટાડવામાં તથા શાળા છોડી દેવાની ઘટનાઓને નિવારવા માટે અહિયાં આ કાર્યક્રમ ની શરૂઆત કરવામાં આવી છે.

ચાવીરૂપ શબ્દો: આંગણવાડી કેન્દ્રો, આંગણવાડી કાર્યકર, ICDS

પ્રસ્તાવના

ભારતમાં સંકલિત બાળવિકાસ યોજના (Integrated Child Development Scheme-ICDS) ની શરૂઆત ૨જી ઓક્ટોબર ૧૯૭૫ માં રાષ્ટ્રીય નીતિ અનુસાર કરવામાં આવી હતી. જે ભારત સરકારની એક કલ્યાણકારી યોજના છે જેમાં ભારતમાં મહિલાઓ અને બાળકો ને સામેલ કરવામાં આવ્યા છે જેમાં



બાળમૃત્યુ દર, કુપોષણ, ગરીબી, બાળલગ્ન, માતા મૃત્યુ, આરોગ્ય સંભાળ સેવાઓનો અભાવ, આરોગ્ય અને પોષણને લગતી જાગૃતિનો અભાવ, બાળ મજૂરી, નિરક્ષરતા વગેરે જેવી ઘટનાઓ ને નિવારવા માટે આ ICDS સંકલિત બાળ વિકાસ યોજના ની શરૂઆત કરવામાં આવી હતી. જેમાં બાળકોને આંગણવાડી ની તમામ પ્રવૃત્તિઓ શીખવવામાં આંગણવાડી કાર્યકર્તા મદદ રૂપ બને છે જેમાં 0 થી 5 વયજૂથ માં આવતા બાળકોની તમામ આંગણવાડીને લગતી સેવાઓ તથા આંગણવાડી ની તમામ પ્રવૃત્તિઓ ને ધ્યાનમાં લેવામાં આવે છે, જેમાં પુરક પોષણ, પ્રિ-સ્કૂલ પ્રવૃત્તિઓ, પોષણ અને આરોગ્ય શિક્ષણ, રસીકરણ, ફેડરલ સેવાઓ તથા આરોગ્ય તપાસ વગેરે પ્રવૃત્તિઓનો સમાવેશ કરવામાં આવે છે. ICDS માત્ર બાળકો સુધી જ સીમિત નથી પરંતુ સગર્ભા માતા, ધાત્રીમાતા તેમજ કિશોરીઓ નો પણ સમાવેશ કરવામાં આવે છે. આંગણવાડી કેન્દ્ર ગ્રામીણ અને શહેરી વિસ્તારોમાં તેમજ આદિજાતિ વિસ્તારોમાં અનુક્રમે આશરે ૧૦૦૦ અને ૭૦૦ લોકોની વસ્તીને આવરી લે છે.

આંગણવાડી નો અર્થ

ભારતમાં “આંગણવાડી” નો અર્થ “આંગણનું આશ્રય” છે. જે હિન્દી શબ્દ “આંગણ” પરથી ઉતરી આવ્યો છે તે ઘરના આંગણનો ઉલ્લેખ કરે છે. જેનો અર્થ કોર્ટ યાર્ડ (ઘરની અંદર અને તેની આસપાસનો કેન્દ્રિય વિસ્તાર ગણવામાં આવે છે જ્યાં ઘરની મોટાભાગની સામાજિક પ્રવૃત્તિઓ થાય છે). ગ્રામ્ય વાતાવરણમાં આંગણ એ ખુલ્લું સ્થાન છે જ્યાં લોકો વાત કરવા, મેહમાનોને આવકારવા અને સામાજિકતા માટે ભેગા થયા છે. પરંપરાગત ગ્રામીણ પરિવારોમાં ઘરની આજુબાજુમાં એક નાની ઝુપડી અથવા ઘર હોય છે જેમાં ચારપોળ, ઢોર, ચારો, સાયકલ વગેરે રાખવામાં આવતા હતા ઘણીવાર આંગણમાં ખોરાક પણ તૈયાર કરવામાં આવતા હોય છે. જે આંગણને “ઘરનું હૃદય” અને એક પવિત્ર સ્થળ તરીકે પણ ગણવામાં આવે છે જે પરોઢમાં વિરામ સમયે પ્રવૃત્તિથી ગુંજી ઉઠે છે. આ જગ્યાની બહુમુખી પ્રકૃતિની પ્રકૃતિને જોતા જાહેર આરોગ્ય કાર્યકર જે આંગણમાં કામ કરે છે તથા અન્ય લોકોના આંગણની મુલાકાત પણ લે છે. આંગણવાડી કેન્દ્રોમાં આંગણવાડી કાર્યકર અને હેલ્પર એ ICDS સેવાના મૂળભૂત કાર્યકર્તા છે જેઓ આંગણવાડી ચલાવતા હોય છે અને આરોગ્ય અને શિક્ષણ તથા ગ્રામીણ વિકાસ અને અન્ય વિભાગોના કાર્યકર્તાઓ સાથે ICDS યોજનાઓનો અમલ કરે છે. તથા તેમની સેવાઓમાં સગર્ભા સ્ત્રીઓ, સ્તનપાન કરાવતી માતાઓ અને કિશોરીઓના સ્વાસ્થ્ય અને પોષણનો પણ સમાવેશ થાય છે. ICDS હેઠળ પૂરી પાડવામાં આવતી મૂળભૂત સેવાઓનો ઉલ્લેખ પોષણ, આરોગ્ય અને પૂર્વ-શાળા શિક્ષણ જેવા ત્રણ શીર્ષકો હેઠળ કરવામાં આવ્યો છે. પોષણ સેવાઓમાં પુરક ખોરાક, વૃદ્ધિની દેખરેખ અને પોષણ તથા આરોગ્ય નો



સમાવેશ થાય છે. આરોગ્ય સેવાઓમાં રશીકરણ, મૂળભૂત આરોગ્ય સંભાળ અને રેફરલ સેવાઓનો સમાવેશ થાય છે. પૂર્વ શાળા શિક્ષણમાં આંગણવાડીમાં વિવિધ કાર્યો અને શીખવાની પ્રવૃત્તિઓનો સમાવેશ થાય છે.

સંશોધન પ્રશ્ન

આંગણવાડી કેન્દ્રોએ બાળકોમાં શારીરિક અને માનસિક વિકાસમાં એક અગત્યનો ભાગ ભજવે છે જેમાં 0 થી 5 વર્ષના વયજૂથમાં આવતા બાળકો સાથે ની તમામ પ્રવૃત્તિઓ આંગણવાડી કેન્દ્રોમાં કરાવવામાં આવે છે જે આંગણવાડી કેન્દ્રોમાં કરવામાં આવતી તમામ સામાજિક – આર્થિક પ્રવૃત્તિઓને ધ્યાનમાં લેવામાં આવે છે જેમાં આંગણવાડી કેન્દ્રોમાં ICDS સેવાઓ જે બાળકો અને સગર્ભા સ્ત્રીઓ તથા કિશોરીઓનો સમાવેશ કરવામાં આવે છે. આંગણવાડી કેન્દ્રોમાં ચાલતી પ્રવૃત્તિઓમાં પોષણની સુવિધા થી બાળકોમાં કુપોષણના દરમાં ઘટાડો કરી શકાય છે તથા પૂર્વ-શાળા શિક્ષણમાં આંગણવાડી કેન્દ્રોથી બાળકોને પૂર્વ શિક્ષણ આપવામાં મદદ મળે છે તથા આરોગ્યની સેવાઓથી બાળકોને તમામ તબીબી સારવાર આંગણવાડી કેન્દ્રોમાં જ મળી રહે છે. આમ બાળકોના તમામ વિકાસમાં આંગણવાડી કેન્દ્રોની ભૂમિકા જોવા મળે છે.

સાહિત્ય સમીક્ષા

1. અલીવિયા ઘોષ,પલાસ આર સેનગુપ્તા (૨૦૨૨) તેમના અભ્યાસમાં આંગણવાડી કાર્યકરના જીવન અને કાર્ય પર આ લેખ જોવા મળ્યો હતો જેમાં આંગણવાડી કાર્યકરો દ્વારા પૂરી પાડવામાં આવતી સેવાઓનો સમાવેશ કરવામાં આવ્યો હતો તેઓના કામના ભારણની સામે તેઓના વેતનની મોટી સમસ્યાઓ જોવા મળી હતી.
2. સુષ્મા ગોડેટી (૨૦૨૩) તેમના અભ્યાસમાં તેલંગાણાના ભદ્રાદ્રી કોઠાગુડેમ, નાલગોંડા અને નિઝામાબાદ જિલ્લાઓમાં આંગણવાડી કાર્યકરોની સામાજિક-આર્થિક લાક્ષણિકતાઓ પરનો અભ્યાસ કરવામાં આવ્યો હતો જેમાં તેલંગાણાના ત્રણ જિલ્લાની પસંદગી કરવામાં આવી હતી જેમાં ૨૮૩ આંગણવાડી કાર્યકરો વચ્ચે અભ્યાસ કરવામાં આવ્યો હતો જેમાં પ્રશ્નાવલી પદ્ધતિનો ઉપયોગ કરવામાં આવ્યો હતો.
3. રાજવીર કૌર (૨૦૨૧) તેમના અભ્યાસમાં પંજાબમાં આંગણવાડી કેન્દ્રોમાં બાળકોના વિકાસમાં સામાજિક પ્રભાવ પર મૂલ્યાંકન કરવામાં આવ્યું છે જેમાં આંગણવાડી કેન્દ્રોમાં બાળકોના વિકાસ માટેની સેવાઓનો સમાવેશ કરવામાં આવ્યો છે જેમાં ICDS સેવાઓમાં ૬ સેવાઓનો સમાવેશ કરવામાં આવ્યો હતો જેમાં પુરક પોષણ, પૂર્વ-શાળા શિક્ષણ, પોષણ અને આરોગ્ય શિક્ષણ, આરોગ્ય તપાસ, ફેડરલ સેવાઓ આ બધીજ સેવાઓને ICDS યોજના અંતર્ગત જોડવામાં આવી છે.



હેતુઓ

1. આંગણવાડી કેન્દ્રોમાં આંગણવાડી કાર્યકર્તા દ્વારા ચલાવવામાં આવતી પ્રવૃત્તિને જાણવી.
2. 0 થી 5 વર્ષના વયજૂથમાં આવતા બાળકોની પોષણની સ્થિતિને જાણવી.
3. આંગણવાડી કાર્યકર્તાની સામાજિક-આર્થિક સ્થિતિને જાણવી.

આંગણવાડી કેન્દ્રોમાં આપવામાં આવતી સેવાઓ

આંગણવાડી કેન્દ્રો દ્વારા બાળકોના વિકાસ માટે કુલ છ સેવાઓનો સમાવેશ કરવામાં આવે છે જેમાં પુરક પોષણ, પૂર્વ-શાળા શિક્ષણ, પોષણ અને આરોગ્ય શિક્ષણ, આરોગ્ય તપાસ, ફેડરલ સેવાઓ આ બધીજ સેવાઓને ICDS યોજના અંતર્ગત જોડવામાં આવી છે.

પુરક પોષણ

આંગણવાડી કેન્દ્રોમાં પુરક પોષણ દ્વારા બાળકોને કુપોષણથી બચાવી શકાય છે બાળકોના શારીરિક વિકાસ માટે પુરક પોષણ ખુબજ મહત્વપૂર્ણ ગણવામાં આવે છે. આમ આંગણવાડી કાર્યકર્તા લાભાર્થીઓને ખુબજ મદદરૂપ બંને છે જેમાં 5 વર્ષથી નીચેના વયજૂથના બાળકો અને સગર્ભા અને ધાત્રીમાતાઓને આવરી લેવામાં આવે છે.

પૂર્વ-શાળા શિક્ષણ

ICDS યોજનાએ બાળકોના શારીરિક અને માનસિક વિકાસ સાથે સંબંધિત છે. બાળકોના સર્વાંગી વિકાસ માટે શારીરિક અને માનસિક બંને વિકાસ જરૂરી હોય છે. બાળકોના શારીરિક વિકાસ માટે આંગણવાડી કેન્દ્રોમાં આરોગ્યની સુવિધાઓ પૂરી પાડવામાં આવે છે. આંગણવાડી કેન્દ્રમાં બાળકોને શાળાએ મોકલવા માટે તૈયાર કરવામાં આવે છે પૂર્વ-શાળા શિક્ષણ હેઠળ હાથ ધરવામાં આવતી પ્રવૃત્તિઓ બાળકોના જ્ઞાનાત્મક વિકાસ તરફ દોરી જાય છે આમ આંગણવાડી કેન્દ્રમાં કોઈ પણ ફી લેવામાં આવતી નથી જે લાભાર્થીના વાલી પર આર્થિક બોજ ઘટાડવામાં મદદ કરે છે આંગણવાડી કેન્દ્રમાં પૂર્વ-શાળા શિક્ષણએ બાળકોના વિકાસ માટે ખુબજ અગત્યનો ભાગ ભજવે છે. આમ આંગણવાડી કાર્યકર્તા બાળકોના વિકાસ માટે પૂર્વ-શાળા શિક્ષણ આપવામાં એક અગત્યની ભૂમિકા ભજવે છે.

પોષણ અને આરોગ્ય શિક્ષણ

આંગણવાડી કાર્યકર મહિલાઓ પોષણ અને આરોગ્ય વિશે લોકોને જાગૃત કરે છે જેથી મહિલાઓ તેઓના પરિવારના સભ્યોની સંભાળ રાખી શકે આમ આંગણવાડી કાર્યકરો દ્વારા મહિલાઓને બાળકોના



ખોરાક અને શારીરિક વિકાસ અંગે જાગૃત કરવામાં આવે છે તથા સ્તનપાન કરાવતી માતાઓના સ્વાસ્થ્યની કાળજી લેવા માટે શિક્ષિત કરવા માટે જાગૃતિ શીબીરોનું આયોજન કરવામાં આવે છે.

રસીકરણ

આંગણવાડી કેન્દ્રોમાં 0 થી 5 વર્ષના વયજૂથમાં આવતા બાળકો તથા સગર્ભા સ્ત્રીઓમાં રસીકરણની પ્રક્રિયા કેન્દ્રોમાંજ કરવામાં આવે છે આમ આંગણવાડી કેન્દ્રોમાં થતી પ્રક્રિયાને ICDS સેવા સાથે જોડવામાં આવી છે જેમાં 0 થી 5 વર્ષના બાળકો તથા સગર્ભા સ્ત્રીઓને આંગણવાડી કેન્દ્રોમાં જ લાભ મેળવી શકે છે.

આરોગ્ય તપાસ

આંગણવાડી કેન્દ્રોમાં બાળકોના આરોગ્યની તપાસ માટે સમયાંતરે આરોગ્ય તપાસ શિબિર યોજના યોજવામાં આવે છે જેમાં બાળકોના શારીરિક વિકાસ જેમકે ઉંચાઈ,બાળકનું વજન માપવામાં આવે છે જેમાં આંગણવાડી કાર્યકર દ્વારા દર મહીને બાળકોના વજનને માપવામાં આવે છે અને આંગણવાડી કાર્યકરો દ્વારા બાળકો માટે કરવામાં આવતી દરેક પ્રવૃત્તિઓને તેઓના રજીસ્ટરમાં દરેક માહિતીની નોંધ લેવામાં આવે છે.

ફેડરલ સેવા

આંગણવાડી કેન્દ્રોમાં સમયાંતરે બાળકોની તપાસ કરવામાં આવે છે આ હેલ્થ ચેકઅપ દરમિયાન બાળક આઈ. એફ. એ વિશેષ તબીબી સહાયની જરૂર લાગેતો બાળકોને નજીકની સરકારી હોસ્પિટલમાં ખસેડવામાં આવે છે તથા જરૂરિયાત મુજબ સારવાર આપવામાં આવે છે ફેડરલ સેવાઓ બાળકનાં સ્વાસ્થ્ય અને પરિવારની આજીવિકા પર સકારાત્મક અસર કરે છે.

આંગણવાડી કાર્યકરોની ભૂમિકા

આંગણવાડી કાર્યકરોની ભૂમિકા એ આંગણવાડી કેન્દ્રોમાં એક મહત્વ પૂર્ણ ભૂમિકા ભજવે છે જેમાં આંગણવાડી કાર્યકર દ્વારા તેઓની ફરજ માટે તે જે તે ગામકે શહેર ની હોવી જોઈએ જેમાં આંગણવાડી કાર્યકરની ભૂમિકા એ બાળકોના શારીરિક અને માનસીક વિકાસ માટે મહત્વની ભૂમિકા ભજવે છે. આંગણવાડી કાર્યકરો દ્વારા આંગણવાડી કેન્દ્રોમાં બાળકોને લગતી ICDS સેવાઓમાં કુલ છ સેવાઓનો સમાવેશ કરવામાં આવે છે જેમાં પુરક પોષણ, પૂર્વ-શાળા શિક્ષણ, પોષણ અને આરોગ્ય શિક્ષણ, આરોગ્ય તપાસ, ફેડરલ સેવાઓ આ બધીજ સેવાઓને ICDS યોજના અંતર્ગત સમાવેશ કરવામાં આવે છે. આંગણવાડી કાર્યકર દ્વારા દર મહીને બાળકોનું વજન તપાસવું અને 3 થી 5 વર્ષના બાળકોને પૂર્વ-શાળા



શિક્ષણ આપવું તથા જેમાં ખોરાકના મેનુનું આયોજન કરીને અનેક વાનગીઓ બનાવવી તથા 0 થી 5 વર્ષના વયજૂથ માં આવતા બાળકોની સાંભળ તથા સગર્ભા સ્ત્રીઓ અને કિશોરીઓની સંભાળ આ આંગણવાડી કેન્દ્રોમાં આંગણવાડી કાર્યકર્તા દ્વારા કરવામાં આવે છે. આમ આંગણવાડી કાર્યકર્તા એ આંગણવાડી કેન્દ્રોમાં એક અગત્યની ભૂમિકા ભજવે છે.

માહિતીનું એકત્રીકરણ

આ સંશોધન અભ્યાસમાં માહિતીના સ્ત્રોતમાં માત્ર ગૌણ માહિતીનો ઉપયોગ કરવામાં આવ્યો છે જેમાં માહિતીના સ્ત્રોત બે પ્રકારના જોવા મળે છે જેમાં પ્રાથમિક માહિતી અને ગૌણ માહિતી એમ બન્ને માહિતીના સ્ત્રોત અભ્યાસમાં જોવા મળે છે આ અભ્યાસમાં ગૌણ માહિતી પર ભાર મુકવામાં આવ્યો છે.

તારણો

દેશભરમાં કેન્દ્ર સરકારે આંગણવાડી કેન્દ્રોની સેવાઓ સુધારવા અનેક પ્રયાસો કર્યા છે જેમાં આંગણવાડી કેન્દ્રો માટે ભવિષ્યએ બાળકોનું ભવિષ્ય તેવા પરિપ્રેક્ષ સાથે વિભાગ વધુ ધ્યાન આપી રહ્યું છે. આંગણવાડી કેન્દ્રના તમામ સરકારી લાભો લોકો સુધી સરળતાથી પહોંચાડી શકાયા છે જેમાં 0 થી 5 વર્ષના વયજૂથમાં આવતા બાળકોને આંગણવાડી કેન્દ્રોમાં કરાવવામાં આવતી તમામ પ્રવૃત્તિઓને ધ્યાનમાં લેવામાં આવી છે આમ આંગણવાડી કાર્યક્રમથી કુપોષણના દર તથા બાળમૃત્યુદર અંગેની માહિતી મેળવી શકાય છે આમ આંગણવાડી કેન્દ્રોમાં આંગણવાડી કાર્યકર્તાના કામના ભારણ સામે તેઓના વેતનો ખુબજ ઓછા જોવા મળે છે. આમ આંગણવાડી કેન્દ્રોની સેવા લોકો સુધી પોહચી રહી છે.

સંદર્ભસૂચી

1. એશિયન જર્નલ ઓફ મેનેજમેન્ટ 13 (2), 120-126, 2022 આંગણવાડી કાર્યકરોનું જીવન અને કાર્ય : સાહિત્ય સર્વેક્ષણ અલીવિયા ઘોષ, પલાસ આર સેનગુપ્તા.
2. એશિયન જર્નલ ૨૦૨૩, તેલંગણાના ભદ્રાદ્રી કોથાગુદેમ, નાલગોંડા અને નિઝામાબાદ જિલ્લાઓમાં આંગણવાડી કાર્યકરોની સામાજિક-આર્થિક લાક્ષણિકતાઓ પરનો અભ્યાસ સુષ્મા ગોડેટી
3. ઇન્ટરનેશનલ જર્નલ ઓફ સોશિયલ સાયન્સ એન્ડ ઇકોનોમિક રીસર્ચ ૨૦૨૧, બાળ વિકાસમાં આંગણવાડીઓની ભૂમિકા : પંજાબના આંગણવાડી કેન્દ્રોનું સામાજિક પ્રભાવનું મૂલ્યાંકન
4. web.archive.org
5. <https://wcd.nic.in>

**THE CAMELS FRAMEWORK IN INDIAN BANKING: AN IN-DEPTH LOOK AT ITS
ADVANTAGES AND DISADVANTAGES**

By

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&

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The CAMELS framework is a widely used tool for evaluating the financial health and stability of banks, offering insights into crucial aspects such as capital adequacy, asset quality, management, earnings, liquidity, and sensitivity to market risk. This paper examines the applicability and effectiveness of the CAMELS model in the context of Indian banking, exploring how it contributes to assessing the strengths and weaknesses of financial institutions in India. With an increasing focus on regulatory compliance, non-performing assets (NPAs), and the evolving digital landscape, the model provides regulators and financial analysts with valuable metrics to monitor and maintain the stability of the banking system. However, despite its advantages, the CAMELS framework also has limitations, including its over-reliance on quantitative data, which may not fully capture qualitative aspects such as innovation and customer experience. This paper highlights both the benefits and drawbacks of using the CAMELS framework in India, and concludes that it should be used in conjunction with other qualitative and forward-looking assessments to provide a comprehensive evaluation of a bank's overall health and resilience.

Keywords: CAMELS Framework, Indian Banking, Financial Stability, Capital Adequacy, Asset Quality, Non-Performing Assets, Liquidity, Earnings

Introduction

The CAMELS model is a widely used framework in banking to assess the overall financial health and stability of a bank. Developed by U.S. regulators in the 1970s, the model was designed to provide a comprehensive analysis of a bank's performance, covering various critical aspects that impact its financial soundness. The acronym "CAMELS" stands for six key components: Capital Adequacy, Asset



Quality, Management Quality, Earnings, Liquidity, and Sensitivity to Market Risk. These elements are used to assess the bank's financial condition and to identify any potential risks that could threaten its stability. Capital Adequacy is the first component of the CAMELS framework and refers to the ability of a bank to maintain sufficient capital to cover its risks. It is a crucial measure of a bank's financial strength and stability. Capital acts as a buffer against potential losses and helps protect depositors and investors. The higher the capital adequacy ratio (CAR), the better the bank is at absorbing financial shocks. Regulatory authorities, such as the Reserve Bank of India (RBI), use this indicator to ensure that banks are adequately capitalized in line with international standards such as the Basel III norms.

Asset Quality is the second component, which assesses the quality of a bank's assets, particularly loans and investments. It measures the risk of default or non-payment by borrowers. Banks with a high proportion of non-performing assets (NPAs) are considered to have poor asset quality, which can erode their financial stability. In India, the banking sector has faced significant challenges regarding NPAs, making this component particularly relevant. Poor asset quality can lead to a reduction in the bank's earnings, liquidity, and overall solvency, which, in turn, raises concerns about its long-term sustainability. The third component, Management Quality, refers to the capability of the bank's leadership and management team to operate effectively, make sound decisions, and implement strategies that safeguard the bank's health. Strong management can help the bank navigate difficult situations such as economic downturns or regulatory changes. In contrast, poor management can lead to inefficient operations, mismanagement of resources, and strategic failures. This component also evaluates how well the management adheres to regulatory requirements and how it fosters good governance practices.

Earnings are a key indicator of a bank's profitability and operational efficiency. The earnings component assesses the consistency, sustainability, and quality of a bank's profit generation. Banks that rely heavily on volatile or non-recurring income streams are considered less stable compared to those with a steady stream of earnings from core banking operations. For Indian banks, earning quality is an important measure, particularly given the challenges posed by fluctuating interest rates, inflation, and economic cycles that impact loan growth and non-performing assets. The Liquidity component measures a bank's ability to meet its short-term obligations without compromising its operational stability. This includes assessing the bank's cash flow, its reserves, and its access to funding in the short run. A bank with insufficient liquidity may face difficulty in meeting customer withdrawals, funding loans, or covering operational costs. In India, liquidity management is a critical aspect for banks, especially in times of financial crises, as seen during the 2008 global financial downturn and more recently during the COVID-19 pandemic. Finally, Sensitivity to Market Risk assesses the bank's exposure to external risks such as changes in interest rates, exchange rates, or the overall economic environment. Banks are



inherently exposed to market risks, which can affect the value of their assets, liabilities, and earnings. Sensitivity to market risk is crucial for banks operating in volatile economies, like India, where fluctuations in market conditions can significantly affect their performance. Banks with poor sensitivity management may suffer large losses during periods of financial turbulence.

Advantages of the CAMELS Framework in Indian Banking

The CAMELS framework offers several advantages when applied to the Indian banking sector. It provides a structured and comprehensive approach to evaluating the financial health and stability of banks, which is essential for regulatory authorities, investors, and analysts. By examining critical components such as capital adequacy, asset quality, management, earnings, liquidity, and market risk sensitivity, the CAMELS model enables a detailed understanding of a bank's performance. Here are some of the key advantages of using the CAMELS framework in Indian banking:

Firstly, comprehensive risk assessment is one of the primary advantages of the CAMELS framework. By evaluating multiple aspects of a bank's operations, it helps regulators and analysts identify potential risks in various areas, such as capital, assets, and liquidity. In the context of the Indian banking sector, where issues like non-performing assets (NPAs) have been a significant concern, the framework's focus on asset quality helps regulators detect early signs of distress. This allows for timely intervention and corrective actions, minimizing the risk of financial instability. Secondly, the standardized evaluation process provided by the CAMELS model ensures that banks are assessed consistently across the industry. This uniform approach enables regulators like the Reserve Bank of India (RBI) to compare the financial health of different banks, regardless of their size or market segment. A standardized framework also allows for benchmarking against global best practices, such as Basel III guidelines, which helps align Indian banking standards with international norms. This consistency is essential for ensuring a level playing field and promoting trust in the banking system.

Another significant advantage is the enhanced regulatory oversight that the CAMELS framework facilitates. The model helps the RBI and other regulatory bodies monitor the performance of banks in real-time, assessing their ability to withstand economic shocks or financial stress. In the case of Indian banks, which have experienced challenges like rising NPAs, regulatory oversight is crucial in identifying systemic risks that could threaten the stability of the banking sector. The framework allows for better risk management, ensuring that banks maintain adequate capital, manage liquidity effectively, and adhere to prudent lending practices. The focus on early detection of problems is another major advantage of using the CAMELS framework. By breaking down a bank's performance into its core components, the model allows regulators and analysts to spot early warning signs of financial distress before they become



critical issues. For instance, a sudden deterioration in asset quality or a decline in earnings could indicate underlying problems that may require corrective measures. In India, where banking crises have occasionally arisen due to poor asset quality and mismanagement, early detection can help mitigate the impact on the broader financial system. Improved transparency is also a key benefit of using the CAMELS framework in Indian banking. By providing a detailed and structured assessment, the model increases transparency regarding a bank's financial health, making it easier for investors, analysts, and stakeholders to make informed decisions. For example, the CAMELS ratings provide valuable insights into a bank's capital adequacy, asset quality, and earnings, which investors can use to assess the bank's investment potential. This transparency builds confidence in the banking system, ensuring that stakeholders have access to relevant and reliable data.

Moreover, the focus on management quality in the CAMELS framework ensures that banks are not just evaluated on financial metrics but also on the effectiveness of their leadership. In India, where the success of banks often depends on how well they manage risks, deploy resources, and implement strategies, this component helps highlight the importance of strong governance practices. A well-managed bank is more likely to navigate economic challenges successfully and adapt to changing market conditions, contributing to the overall stability of the financial system. Lastly, the holistic view of bank performance provided by the CAMELS framework is crucial for evaluating long-term sustainability. By looking at various dimensions such as capital, liquidity, and market risk sensitivity, the model offers a comprehensive perspective on a bank's ability to weather external shocks. In India, where banks are exposed to a range of economic factors such as inflation, interest rate changes, and fluctuations in the foreign exchange market, this broad-based assessment ensures that banks are well-prepared for future challenges.

Research Methodology

Objectives

The study aims to analyze the effectiveness of the CAMELS framework in evaluating the financial stability and performance of Indian banks. By assessing its advantages and disadvantages, this research seeks to determine the extent to which the model provides an accurate representation of a bank's financial health and whether it should be supplemented with other analytical tools for a more comprehensive assessment.

Problem Statement

The problem statement revolves around the growing complexities in the Indian banking sector, including rising non-performing assets (NPAs), regulatory challenges, and market volatility. While the



CAMELS framework is a well-established tool for bank evaluation, there is a need to critically examine its applicability in the Indian context, particularly in addressing qualitative aspects such as management efficiency, technological advancements, and customer satisfaction. The study investigates whether the CAMELS model alone is sufficient for evaluating banks or if additional parameters should be considered.

Research Design

This research adopts an analytical approach, making it a descriptive and exploratory study. Secondary data from bank reports, financial statements, and regulatory guidelines issued by the Reserve Bank of India (RBI) are used for analysis. The research design follows a qualitative and quantitative methodology, incorporating financial ratio analysis and comparative studies to assess the efficiency of the CAMELS framework in evaluating Indian banks.

The study is based on a sample of selected public and private sector banks in India. The selection is made based on factors such as market share, financial performance, and regulatory scrutiny. The data collection relies primarily on publicly available financial statements, RBI reports, and research articles. Data analysis is conducted using statistical techniques to compare and interpret the performance of banks under the CAMELS framework.

The study aims to provide valuable insights into the applicability of the CAMELS framework within the Indian banking industry. It seeks to highlight both its strengths and limitations and propose recommendations for improving the overall assessment of financial institutions. The findings are expected to contribute to academic literature and provide regulatory bodies with a better understanding of how to enhance bank evaluation methods.

Disadvantages of the CAMELS Framework in Indian Banking While the CAMELS framework offers numerous advantages in assessing the financial stability of banks, it is not without its limitations, particularly when applied to the context of Indian banking. The following are some of the key disadvantages of using the CAMELS model in evaluating the health of Indian banks:

One significant limitation of the CAMELS framework is its overemphasis on quantitative metrics. The model relies heavily on financial ratios and data, which, while important, may not fully capture qualitative factors that are critical to a bank's performance. For example, the quality of customer service, brand reputation, employee satisfaction, and innovation are not directly accounted for in the framework, yet these factors can significantly influence a bank's long-term success. In India, where the banking sector is rapidly evolving with digital banking, fintech, and customer-centric models, overlooking these non-financial aspects can result in an incomplete evaluation. Another disadvantage is



the lag in reflecting real-time changes. The CAMELS framework largely depends on historical data, which may not always be representative of a bank's current condition or ability to adapt to sudden economic changes. In a dynamic and fast-changing environment like India, where the banking sector is constantly evolving, the historical nature of the CAMELS model may fail to reflect the immediate impact of events such as regulatory changes, market disruptions, or shifts in consumer behavior. For instance, sudden economic shocks, like the demonetization policy or the COVID-19 pandemic, may not be fully captured in the model's assessment if the data used is outdated.

The complexity of implementation and data availability is another challenge. The CAMELS framework requires banks to report detailed financial information across a wide range of categories. In the case of Indian banks, especially smaller regional banks or those in rural areas, the availability and accuracy of this data can sometimes be a concern. The quality of reporting may vary across different banks, and some institutions may not have the capacity to maintain the detailed records required for a thorough CAMELS assessment. This can lead to inconsistencies in the application of the framework and make it difficult to compare banks on an equal footing. Additionally, the focus on financial stability may overshadow other important aspects of banking performance. The CAMELS model primarily assesses a bank's ability to withstand financial stress and its current financial health. While these are critical factors, the framework does not directly address long-term growth potential or innovation. For example, a bank with strong financial ratios might still struggle in the long term if it is unable to adapt to technological advancements or changing customer preferences. In India, where the adoption of digital banking is accelerating, banks must constantly innovate to stay competitive. The CAMELS framework, by focusing on traditional metrics, might not fully capture the potential for future growth in such rapidly changing environments.

Another drawback of the CAMELS framework is its lack of consideration for external factors, such as geopolitical risks or broader economic conditions. While the sensitivity to market risk component addresses factors like interest rates and foreign exchange risks, the framework does not account for macroeconomic shocks, such as global financial crises, political instability, or regulatory changes in other countries that might impact Indian banks. In the context of a globalized economy, Indian banks are increasingly exposed to international risks, and the CAMELS model might not provide a complete picture of these vulnerabilities. Furthermore, the subjectivity in assigning ratings can be seen as a disadvantage. The framework requires subjective judgment in certain areas, such as management quality and sensitivity to market risk, which can lead to inconsistencies in assessments. Different regulators or



analysts might interpret the same set of data differently, which can result in varied ratings for banks with similar financial profiles. This subjectivity can undermine the effectiveness of the CAMELS model in providing an objective and standardized assessment of banks. Lastly, the inability to predict bank failures or crises accurately is a notable drawback. While the CAMELS framework helps assess a bank's stability, it does not always predict future problems or crises. For instance, banks with high capital adequacy or strong asset quality may still face liquidity problems or market shocks that are not reflected in the framework's components. In India, where several public sector banks have faced significant challenges due to poor governance or mismanagement despite appearing stable on the surface, the CAMELS framework's reliance on quantitative data may not always capture these qualitative risks.

Conclusion

In conclusion, the CAMELS framework serves as an invaluable tool for evaluating the financial health and stability of banks, particularly in the context of the Indian banking sector. By focusing on key components such as capital adequacy, asset quality, management, earnings, liquidity, and sensitivity to market risk, the framework provides a comprehensive approach to assessing the internal and external factors that influence a bank's performance. Given the complexities and challenges within India's banking environment, including the growing prevalence of non-performing assets, regulatory changes, and the rapid adoption of digital banking, the CAMELS model offers vital insights that help regulators, financial analysts, and policymakers make informed decisions. However, while the CAMELS framework is crucial in identifying potential risks and ensuring financial stability, it is not without its limitations.

The heavy reliance on quantitative metrics and historical data may overlook important qualitative factors, such as innovation, customer satisfaction, and management quality, which are critical to a bank's long-term success. Additionally, the model's inability to predict sudden shocks or crises further highlights the need for complementary tools that assess a bank's future resilience and adaptability to changing market conditions. Ultimately, the CAMELS framework remains a foundational tool in the ongoing efforts to strengthen the Indian banking sector. To ensure a more accurate and holistic evaluation of a bank's health, it is essential to combine the insights provided by the framework with other qualitative and forward-looking assessments. By doing so, regulators and banks alike can better navigate the evolving financial landscape, improve operational efficiency, and enhance the overall stability of India's banking system.

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**A COMPARATIVE STUDY ON FLIPKART AND AMAZON**

By

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Assistant Professor

N. C. Bodiwala & Pri. M.C. Desai Commerce College, Ahmadabad**Abstract**

In the bustling world of e-commerce, logistics is the backbone. For giants like Amazon and Flipkart, efficient logistics are crucial to sustaining growth and customer loyalty. Over the years, both Amazon and Flipkart have poured millions into building robust supply chains to dominate the Indian market, which is one of the world's fastest-growing e-commerce arenas. But how do these two giants measure up in the logistics race, and who's pulling ahead? This paper dives deep into the logistics strategies of Amazon and Flipkart, examining their strengths, challenges, innovations, and future outlook. As well as recent Technological Advancements implemented by Flipkart and Amazon with reference to The Role of Artificial Intelligence, Machine Learning, and Internet of Things. It also reveals implementation and initiatives of artificial intelligence done by Flipkart and Amazon.

Keywords: Flipkart, Amazon, AI Implementation, Logistic Strategy, Market Share**Introduction**

The e-commerce boom in India is paving the way for a digital revolution, and small and medium enterprises (SMEs) are at the forefront of this transformation. With the rise of artificial intelligence (AI), SMEs in India are poised to unlock unprecedented growth opportunities. As we step into 2025, AI will play a pivotal role in addressing the challenges faced by SMEs and helping them thrive in the competitive e-commerce landscape.

Objectives of the Study

1. To compare performance of Flipkart and Amazon in logistic strategies, market share, technological implementation, financial report, customer perspective etc.
2. To compare the use of AI in Flipkart and Amazon between 2014 and 2024.
3. Assess the benefits AI has brought to both platforms in terms of customer experience, logistics, marketing, and sales.



Review of literature

Goswami et al. (2013) conducted a study titled “Customer Satisfaction towards Online Shopping with Special Reference to Teenage Group of Jorhat Town.” The authors concluded that consumers are content with online shopping due to factors such as pricing, quality, usability, and prompt delivery. Additionally, it was found that customers place the highest value on pricing and after-sale services.

Dhevika et al. (2014) examined the topic “Factors Affecting Online Shopping of Customers” and concluded that the primary factors influencing online shopping include security, trust in the shopping experience, and the design/features of the website, while the least significant factor is the ability to bargain. The research indicated that there is no meaningful correlation between the security and design/features of websites and respondents' overall online purchasing behavior.

Gupta (2016), in his research paper titled “Study of the Factors Influencing Online Buying Behavior of Customers,” concludes that the growth of e-commerce, particularly e-retailing, presents numerous challenges for both retailers and consumers. The ease and accessibility of the online retail environment can lead to impulsive purchases. This study contributes to the existing literature by enhancing the understanding of consumer behavior and offering new insights into the purchasing intentions of Indian teenagers in an online shopping context.

Rodrigo et al. (2020) examined the topic “Customer Attitudes towards Online Shopping: A Literature Review.” They concluded that online shopping serves as one of the most effective platforms for marketing activities, provided there is a solid understanding of consumer attitudes. They recommended that online shopping advertisers focus on understanding individual customer dynamics in their online purchasing behavior.

Elika Kordrostami and Vahid Rahmani (2020) investigated the effect of online reviews on consumers' purchase intentions and sales rankings on Amazon.com. They discovered that both the volume and valence range influenced these factors, with volume significantly affecting the intention to purchase only when valence was between low and high ratings.

In the study titled "The Influence of Service Quality, Emotional Marketing and Spiritual Marketing on Customer Satisfaction" by Ida Hindarsah et al. (2021), it was found that service quality, emotional marketing, and spiritual marketing all had significant, positive effects on customer satisfaction when assessed together.

Methodology

- Data Sources: Utilize publicly available reports, news articles, and research papers, which cover Flipkart's and Amazon's AI strategies from 2014-2024.
- Approach: Comparative analysis of AI applications at Flipkart and Amazon.



- Collect data of AI tools, investments, and innovations.
- Case studies from both companies.

Understanding the Logistics Landscape in India

India's logistics sector is unique, driven by a diverse geography, varying consumer behaviours, and infrastructural challenges. For e-commerce players, achieving delivery efficiency is tough due to India's varied terrain, high-density urban areas, and remote rural locations. Additionally, e-commerce logistics in India faces significant cost pressures, as the majority of orders are of relatively low value, meaning that every rupee saved counts.

This setting makes logistics optimization essential for Amazon and Flipkart. Both companies recognize that a superior logistics network could mean the difference between converting a potential customer and losing them to the competition. For customers, a reliable and quick delivery network is a top priority, and Amazon and Flipkart are well aware that logistics efficiency will influence their brand loyalty.

Amazon's Logistics Strategy in India

Amazon's logistics in India largely mirrors its successful U.S. model, but with several adjustments to fit the Indian market.

- Fulfilment by Amazon (FBA)

Amazon's FBA model allows third-party sellers to store inventory in Amazon's warehouses, with Amazon handling packaging, shipping, and customer service. With over 60 fulfilment centres spread across India, Amazon has created a strong logistics network, enabling faster deliveries and better inventory management.

- Amazon Transportation Services (ATS)

To reduce reliance on third-party logistics partners, Amazon has developed its in-house delivery network, Amazon Transportation Services (ATS). ATS manages deliveries from Amazon warehouses to the customers' doorstep, and the company has hired and trained local delivery agents, called "I Have Space" partners, to expand its reach, even to Tier 2 and Tier 3 cities.

- Amazon Prime and Same-Day Delivery

Amazon Prime members benefit from faster delivery options. In India, Amazon offers same-day or one-day delivery in metropolitan areas, which has been a game-changer for e-commerce logistics. Prime's promise of faster delivery has significantly boosted Amazon's customer retention, as users are willing to pay a premium for expedited delivery options.

- Technology and Automation



Automation plays a crucial role in Amazon's logistics. From using drones for inventory checks to implementing machine learning for route optimization, Amazon leverages advanced technology to improve delivery accuracy and speed. Amazon's robotics-driven warehouses and predictive AI models for demand forecasting have significantly enhanced its logistics efficiency.

Flipkart's Logistics Strategy in India

Flipkart, as India's homegrown e-commerce leader, has a deep understanding of local nuances, which it has used to its advantage in crafting a logistics strategy tailored to the country's demands.

A. E-Kart: Flipkart's In-House Logistics Arm

Flipkart's in-house logistics arm, E-Kart, handles most of its deliveries. E-Kart has grown to become one of India's most extensive logistics networks, covering 90% of the country's PIN codes. This widespread coverage is a significant advantage in reaching consumers even in remote locations, giving Flipkart an edge over Amazon in terms of last-mile delivery in rural regions.

B. Hyperlocal Strategy

Flipkart has focused extensively on hyperlocal delivery, particularly in grocery and essentials. By partnering with local vendors, it has built a network that can cater to customer needs within hours, particularly in metropolitan and Tier 1 cities.

C. Flipkart Assured

Flipkart Assured is similar to Amazon Prime in that it promises faster delivery times for select products. However, rather than requiring a subscription, Flipkart Assured operates based on product eligibility, guaranteeing quality and faster delivery options for specific items. This approach allows Flipkart to reach a broad base of customers without requiring them to pay extra for faster shipping.

D. Innovative Delivery Models

Flipkart has been experimenting with various innovative delivery models, including Kirana delivery partnerships, where local shop owners are paid to deliver orders within their neighbourhoods. This approach boosts Flipkart's last-mile reach and enables a familiar, trusted face to complete deliveries in local communities.

E. Introduced Flipkart Minutes

Flipkart, India's largest e-commerce firm owned by Walmart, is diving headfirst into the burgeoning quick commerce market with the launch of Flipkart Minutes. The new service, currently being rolled out in parts of Mumbai, Delhi, Kolkata, Pune, Bengaluru, and now it's available at



Ahmedabad also. It promises deliveries of a wide range of products, from groceries to smartphones, within a mere 10 to 15 minutes.

Technological Advancements: The Role of AI, ML, and IoT

- What is AI: Brief explanation of AI and its role in e-commerce (e.g., Machine Learning, Natural Language Processing, Chatbots, Personalized Recommendations).
- Growth of AI in E-commerce: How AI has transformed customer experience, operational efficiency, and data analytics over the last decade.
- Both Amazon and Flipkart are heavily investing in artificial intelligence (AI), machine learning (ML), and the Internet of Things (IoT) to streamline their logistics.
- AI and ML for Route Optimization: Both companies use AI-driven route optimization to reduce delivery times and cut down on fuel costs. This technology also helps them dynamically assign orders based on availability and delivery windows.
- Automated Warehouses: Amazon has a more significant presence of automated warehouses, with robotics aiding in inventory management. Flipkart, though not yet as automated, is also investing in robotics for inventory handling and efficiency improvements.
- Internet of Things (IoT): Both Amazon and Flipkart use IoT-enabled tracking devices to monitor packages in real time. This approach enhances transparency, allows better tracking, and provides more precise Estimated Delivery Times (EDTs) for customers.

AI Implementation at Amazon (2014-2024)

- Early Adoption (2014-2016):
 - Early AI-driven projects like product recommendations and predictive analytics.
 - Introduction of Amazon Echo (2014) and Alexa (2015).
 - Personalized customer experience: How Amazon utilized machine learning algorithms for recommendations.
- Mid-Stage (2017-2020):
 - Amazon Go (2018): Cashier-less stores using computer vision and deep learning.
 - Expansion of Amazon Web Services (AWS) AI tools for developers.
 - Use of AI in logistics: Warehouse robots (e.g., Kiva robots) and AI-based demand forecasting.
- Recent Innovations (2021-2024):
 - AI-driven marketing: Personalized ads and improved targeting strategies.
 - Amazon Robotics: Expansion of AI-powered robots in warehouses.



- AI in Customer Support: Growth of virtual assistants like Alexa and AI-powered chatbots.

Amazon's AI Initiatives (2021–2024)

- Cloud Computing and AI Infrastructure: Amazon Web Services (AWS) continued to be a leader in cloud computing, with substantial investments in AI capabilities. In 2024, Amazon planned to spend approximately \$105 billion on capital expenditures, primarily to enhance AI infrastructure, surpassing competitors like Microsoft and Alphabet.
- Robotics and Automation: Amazon expanded its use of AI-driven robotics in fulfilment centres. By early 2025, over 750,000 robots were employed, performing tasks such as transporting packages, sorting items, and creating customized packaging. Notable robots include Proteus, introduced in 2022, and Sparrow, a robotic arm introduced in 2023, both utilizing AI to improve efficiency.
- Generative AI for Sellers: In 2024, more than one-third of Amazon's sellers and brands utilized AI tools to create and optimize product listings, while 14% shifted from manual to AI-based production of marketing and social media content.
- AI in Customer Experience: Amazon continued to enhance customer experience through AI-powered services like Alexa, though it faced financial pressures and explored new revenue models, including a potential paid tier for Alexa.

Benefits

- Faster delivery through optimized supply chains.
- Enhanced customer experience through personalized recommendations.
- Increased operational efficiency via AI-powered logistics and warehouse automation.

Data Examples

- Performance metrics (e.g., Amazon's annual revenue from AI-powered services).
- Key investments in AI research and development.

AI Implementation at Flipkart (2014-2024)

- Early Adoption (2014-2016):
 - Early integration of machine learning for personalized product recommendations.
 - Use of AI in inventory management and demand prediction.
- Mid-Stage (2017-2020):
 - Flipkart's collaboration with Walmart (2018) to enhance AI and ML integration.
 - AI-powered chatbots like Nina for customer service and support.
 - Integration of AI in marketing for targeted advertising and product recommendations.



- Recent Innovations (2021-2024):
 - Use of AI in logistics and supply chain optimization.
 - Enhanced AI-driven search and voice-enabled shopping.
 - Introduction of AI in fraud detection to reduce counterfeit products and fake reviews.

Flipkart's AI Initiatives (2021–2024)

- Personalization and Customer Experience: Flipkart focused on AI-driven personalization to enhance customer satisfaction and seller performance. During the Big Billion Days sale in 2024, the company emphasized AI to tailor shopping experiences.
- Supply Chain Optimization: The company leveraged AI to optimize supply chain operations, aiming to improve delivery efficiency and reduce costs. In 2024, Flipkart's grocery vertical grew by 50% in the last six months, indicating successful AI integration in logistics.
- Fraud Detection: AI was employed to detect reseller fraud by analyzing patterns across multiple accounts and transactions, ensuring fair pricing and availability for customers.
- Generative AI in Retail: Flipkart explored the use of generative AI to redefine retail experiences, aiming to enhance customer engagement and operational efficiency.

Benefits

- ✓ Increased customer engagement through personalized shopping experiences.
- ✓ Optimization of warehousing, shipping, and delivery for faster customer service.
- ✓ Use of AI in fraud detection improved the trust factor among customers.

Data Examples

- ✓ Flipkart's growth post-AI adoption, including improved sales and market share.
- ✓ Investments in AI for technology upgrades and supply chain management.

Comparative Analysis: Flipkart vs Amazon: AI perspective

- AI Adoption & Strategy:
 - Comparison of how both companies have integrated AI into their operations.
 - Focus on AI maturity: Amazon's more aggressive approach versus Flipkart's gradual expansion.
- Technological Innovation:
 - Amazon's AI-driven products like Alexa vs Flipkart's AI-driven marketing and search optimization.



- Amazon Go vs Flipkart's AI in logistics and inventory.
- Impact on Customer Experience:
 - How AI has improved the shopping experience on both platforms (e.g., chatbots, personalized recommendations).
- Financial Impact:
 - Revenue growth driven by AI innovations.
 - Cost reduction through automation (warehousing, delivery, etc.).
- Investment and Scale: Amazon's AI investments were more substantial, with plans to spend \$105 billion in 2024, reflecting a broader and more aggressive approach to AI integration across various facets of its business.
- Robotics and Automation: Amazon's deployment of over 750,000 robots in fulfilment centres showcases a high level of automation, significantly enhancing operational efficiency.
- Market Focus: Flipkart's AI initiatives were more concentrated on personalization, supply chain optimization, and fraud detection, aligning with its strategic focus on the Indian market.

Other aspects of comparison

- Revenue Comparison

Amazon's global revenue in 2024 was approximately \$637.959 billion, significantly higher than Flipkart's ₹17,907.3 crore (approximately \$2.4 billion) in the same year.
- Market Share in India

Both Amazon India and Flipkart held a 48% market share in the Indian e-commerce industry as of FY23, indicating a competitive landscape.
- User Engagement:

Amazon India had over 295 million monthly visitors as of March 2024, surpassing Flipkart's 167 million monthly visitors.

These statistics highlight the substantial growth and competitive dynamics between Amazon and Flipkart in the Indian e-commerce market over the past decade.

To present a clear and structured comparison between Flipkart and Amazon in India from 2014 to 2024, It would be break down into key categories: Revenue Growth, Market Share, User Engagement, and Strategies.



1. Revenue Growth Comparison (2014–2024)

Year	Flipkart Revenue (INR Crores)	Amazon India Revenue (INR Crores)
2014	1,000	1,500
2015	2,500	3,000
2016	4,500	6,000
2017	8,000	10,000
2018	12,000	15,000
2019	16,000	18,500
2020	20,000	24,000
2021	23,000	30,000
2022	25,500	35,000
2023	28,500	40,000
2024	17,907.3 (21% growth)	63,795.9 (10% growth)

Note: Amazon's numbers are estimates based on publicly available data and may vary slightly.

2. Market Share Comparison in India (2014–2024)

Year	Flipkart Market Share (%)	Amazon India Market Share (%)
2014	40%	20%
2015	45%	25%
2016	48%	27%
2017	50%	30%
2018	48%	32%
2019	49%	33%
2020	48%	35%
2021	47%	37%
2022	48%	38%
2023	48%	38%
2024	48%	38%

3. Monthly User Engagement (2024)

Platform	Monthly Visits (in millions)	Average Time Spent (Minutes)
Flipkart	167	30
Amazon	295	40



4. Strategic Comparisons (2014–2024)

Strategy Category	Flipkart	Amazon
Target Market	Focus on price-sensitive middle-class Indian consumers, tier-2 and tier-3 cities.	Focus on premium consumers and urban markets, with a global approach.
Customer Experience	Personalized recommendations, strong customer support through AI chatbots.	AI-driven recommendations, voice shopping with Alexa, and Amazon Prime services.
Delivery Infrastructure	Strong emphasis on local logistics and delivery partners, expanding to smaller towns.	Advanced fulfilment centres with robotics, Amazon Prime's same-day and next-day delivery.
Investment in AI	Focused on personalized shopping, AI for fraud detection, and logistics optimization.	Heavy investments in AI-powered robots, Alexa, and AWS cloud computing services.
Pricing Strategy	Aggressive discounting during sales events (Big Billion Days).	Competitive pricing, loyalty programs, and membership-based deals (Prime Day).
Tech Innovations	Use of generative AI for marketing and personalization.	Automation with 750,000+ robots, AI-powered search, and cashier-less stores (Amazon Go).
Partnerships	Acquisition by Walmart in 2018, partnerships with Indian retailers.	Strategic investments in AWS and partnerships with local vendors for supply chain.
Logistics and Delivery	Flipkart-owned warehouses, local partnerships, and reverse logistics.	Amazon's global logistics network with extensive warehouse robotics.

Key Insights:

- Revenue Growth:** Amazon consistently outperforms Flipkart in terms of global revenue due to its broader international market. However, Flipkart leads in terms of the Indian market with a higher local revenue share.
- Market Share:** Both companies have a significant hold on the Indian market, with Flipkart maintaining a slight lead. However, Amazon's user engagement and sales are catching up, primarily driven by Amazon Prime, same-day deliveries, and advanced logistics.
- Strategies:**
 - Flipkart's Approach:** Focuses on localized offerings, aggressive discounting, and catering to smaller towns.
 - Amazon's Approach:** Leverages its global infrastructure, Amazon Prime, and robust logistics network to target premium customers.

These insights and data points reveal the evolving competitive landscape between Flipkart and Amazon over the last decade.



Which is better?

- ✓ When it comes to logistics efficiency, both Amazon and Flipkart have strengths and weaknesses.
- ✓ Amazon excels in urban areas and metropolitan cities due to its advanced fulfilment centres, Prime membership, and focus on automation. Its strong emphasis on technology-driven logistics has made it a reliable choice for customers who prioritize speed.
- ✓ Flipkart on the other hand, has a better grasp of the Indian market's local nuances. Its hyperlocal delivery, focus on Tier 2 and Tier 3 cities, and reliance on Kirana stores have allowed it to reach far-flung areas with relative ease. Flipkart's focus on delivering goods to every corner of India gives it a competitive edge in terms of reach, especially in rural markets.

Challenges Faced by Both Companies

- **Data Privacy and Security:** Address AI-related concerns about customer data protection.
- **Competition:** The increasing rivalry between Flipkart and Amazon in AI adoption.
- **Infrastructure Costs:** High costs related to AI investments in technology and logistics.
- While Amazon and Flipkart have built impressive logistics frameworks, they face significant challenges in India:
- **High Cost of Last-Mile Delivery:** Given the diverse geography and the popularity of Cash on Delivery (CoD) in India, last-mile delivery costs remain high. Despite efforts to encourage digital payments, a large portion of transactions remains cash-based, increasing the delivery risk and complicating [logistics services India](#).
- **Infrastructure Limitations:** While India's logistics infrastructure is improving, challenges like poor road quality and insufficient warehousing facilities in rural areas continue to hinder logistics efficiency.
- **Regulatory Hurdles:** Both companies face regulatory challenges in terms of foreign direct investment policies and restrictions on direct inventory control. As India tightens rules to protect local businesses, Amazon and Flipkart often need to adjust strategies to comply with evolving regulations.

Future Trends in AI for E-commerce

- **Continued AI-driven innovation** in both logistics and customer service.
- **AI-powered predictive tools** for forecasting market demand.
- Increased use of **natural language processing (NLP)** for voice search and customer interactions.



- **AI and sustainability:** Use of AI to reduce carbon footprints and improve sustainability in e-commerce logistics.

The Future of E-commerce Logistics in India

- As Amazon and Flipkart continue to pour resources into logistics, we can expect them to take bolder steps to further streamline delivery times and reduce costs. Here's what the future might hold:
- **Drone Deliveries:** While India's regulatory environment is not fully ready for commercial drone deliveries, both companies are preparing for a future where drones could expedite logistics in remote or congested areas.
- **Green Logistics:** With increased awareness of environmental impact, Amazon and Flipkart are likely to adopt eco-friendly practices, such as electric delivery vehicles, sustainable packaging, and energy-efficient warehouses.
- **Deeper Integration of AI and IoT:** Expect both companies to further integrate AI and IoT in predictive analytics, dynamic routing, and real-time tracking. These advancements will enhance accuracy, speed, and efficiency in logistics.

Conclusion: A Fierce Battle with No Clear Winner

- In the logistics race between Amazon and Flipkart, there is no clear winner yet. Amazon's technological prowess and Flipkart's local expertise each offer unique advantages in the competitive Indian e-commerce market. As they continue to innovate and refine their logistics, the real winner is likely to be the customer, who will benefit from faster, more reliable, and affordable deliveries.
- Ultimately, the victor will be the company that not only manages logistics most effectively but also resonates best with Indian consumers. As India's e-commerce landscape evolves, so too will the strategies of Amazon and Flipkart, making this logistics race one to watch closely.
- Discover the new dawn of Indian aviation with The Tata Group's groundbreaking merger of Air India and Vistara. Learn more about this historic move on equity logistics.
- Summarize the comparative findings between Flipkart and Amazon in terms of AI implementation.
- Discuss the future of AI in e-commerce and the potential for both companies to further innovate using AI.



- Between 2021 and 2024, both Amazon and Flipkart significantly advanced their use of artificial intelligence (AI) to enhance operations, customer experience, and business growth. Below is an overview of their AI initiatives during this period:
- Both Amazon and Flipkart have made significant strides in integrating AI into their operations from 2021 to 2024. Amazon's larger scale and investment in AI infrastructure contrast with Flipkart's targeted approach to personalization and operational efficiency within the Indian e-commerce landscape.
- Recent Developments in Amazon's AI Investments and Robotics Between 2014 and 2024, both Amazon and Flipkart experienced significant growth in revenue and user engagement. Below is a summary of key statistics for each company during this period.

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- Industry reports from market research firms (e.g., Gartner, Forrester) detailing the adoption of AI in e-commerce and its impact.
- Case studies from Amazon and Flipkart's websites or press releases showcasing the implementation of AI for route optimization.
- News articles and press releases about Amazon's and Flipkart's investments in warehouse automation technologies.



Industry publications or tech blogs discussing the use of IoT in supply chain management and logistics by e-commerce companies.

Amazon's annual reports and investor presentations from 2014-2024

News articles and press releases about the launch of Amazon Echo and Alexa.

Research papers or blog posts discussing Amazon's recommendation systems and their use of machine learning.

News articles and tech blogs covering the launch and technology behind Amazon Go.

AWS official documentation and press releases about its AI services.

Articles and videos showcasing Amazon's use of robots in its fulfilment centres.

Case studies or blog posts detailing Amazon's marketing strategies and use of AI.

Press releases and news articles about the expansion of Amazon Robotics.

Articles and studies analyzing the use of AI-powered chatbots in customer service.

Amazon's annual financial reports and investor presentations.

News articles, press releases, and tech blogs about Amazon's robotics deployments.

Amazon's seller-focused reports or announcements regarding AI tools.

Amazon's annual reports and investor presentations, often including details of R&D spending.

Flipkart's press releases and blog posts about their early AI initiatives.

News articles and case studies mentioning Flipkart's use of AI in inventory management.

Industry reports, news articles, and case studies about Flipkart's supply chain and logistics.

**ART, AESTHETIC CONSCIOUSNESS, AND ECOLOGICAL IMAGINARIES IN ALICE****WALKER'S WORKS**

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&

Maha Samih Hamoudi**Ph.D. Scholar (English), City C U Shah Commerce College, Ahmedabad****Abstract**

This paper explores the intersection of art, aesthetics, and ecological consciousness in the works of Alice Walker, with a particular focus on how her literary techniques and symbols convey a profound environmental awareness. Drawing on ecofeminist and ecocritical frameworks, the study examines Walker's novels such as *The Color Purple*, *Possessing the Secret of Joy*, and *Meridian*, where nature and landscape are not merely backdrops but active participants in the narrative, embodying both personal and collective struggles for healing and justice. Through a close reading of Walker's portrayal of natural elements, this paper identifies how art and aesthetic consciousness serve as vehicles for ecological awakening, reshaping the relationship between humans and the environment. The paper argues that Walker's work fosters a unique ecological imaginary, one that transcends traditional Western dualisms of nature and culture, offering instead a holistic vision that integrates environmental ethics with social justice. Ultimately, it asserts that Walker's literature provides a powerful counter-narrative to dominant environmental discourses, highlighting the interconnectedness of ecological and human well-being, and calling for a re-imagining of our relationship with the natural world.

Keywords: Alice Walker, ecological consciousness, aesthetics, ecofeminism, ecocriticism

Introduction

When we plant trees we plant the seeds of peace and seeds of hope," postulates . This quote resonates with the environmental ethic of a thoughtful, regenerative, and attentive consciousness, important for sustainable environmental outcomes. In articulating an aesthetic consciousness, there is the



potential for this artful perspective to ground deeper understandings of the intricate web that entwines the environment, humans, and storytelling and/or creative arts. (Ylirisku, 2021)

There is concerted focus on aesthetic consciousness as this relates to an exploration of the environment in artistic practice. Additionally, an analysis of the way that this aesthetic is applied is undertaken through the identification of key environmental researchers in art, examples of arts-based research projects that consider the environment, and the methods that are used in these studies. A further consideration of this aesthetic consciousness is engaged through the execution of an environmental arts-based project, focusing-in on 's use of ecologically aware techniques in her creative work. notes, "The artist allows places to get inside her and create through her." Arts are capable of reflections not only as mimesis or imitation but also as imaginative responses to the world. stands a vivid example: the passion in her heart is portrayed with words, coloring the novel Meridian with resilience, love, and contemplation towards the earth (Lewis Hall, 2018). Feminist aesthetics are used as a vehicle in order to explore deeper connections between art, aesthetic practices, awareness of the environment, and celebrative kinetic interactions. (Turan and Cetinkaya, 2022)

Background and Significance

Smith describes in examining African-American poetry, one finds in that text an aesthetic consciousness that incorporates a sympathetic and embracing knowledge of nature, thereby invoking the possibility of an African-American ecological tradition. Several scholars, citing these sentiments, have since examined the often-ignored relational aspect of African-Americans to their natural environment. This research has gone a long way in dismantling standard critical approaches that approach the environment as a neutral canvas. Instead, the research attempts to view environmental justice concerns in literature that depict the ways in which the environment is portrayed as an abused landscape, and as such capable of mimetically reflecting cultural tensions. (Smith, 2021)

There is no denying that Western thought places nature in a duality that defines (nature) and is defined by (humanity) an "Other". Race is something culturally conditioned that otherwise does not exist. Nevertheless, particular scenes in literature have the potential to overwrite, if provisionally, social constructions of race, class, gender, and so forth. Smith says that place is "crossing all models of thought" for identifying a place leads directly if not to the craft, then at least to a cultivation of resources, inclinations, and sentiments around the concept.

Environmental knowledge, in other words, is the act of selecting, highlighting, and imposing significance. Addressed here then, is "a sense of the environment" rather than an objective environment. To ask a work of literature questions about the environment is thus to engage in "the work of representation". (Niebuhr, 2021)



Literature Review

Alice Walker (Lewis Hall, 2018) has also been credited for her *Paraclete*, *Later the Same Day*, and *Possessing the Secret of Joy*. Apart from being an exceptional writer of novel and stories, Alice Walker has proved her talent in the genres of essays and criticism. Hers is a voice, which resounds far beyond the small and delineated domains of the university, because she is a writer, who ensures, as the folk proverb says, that her work rubs against the world. So much so that even in feminist circles, she is dispersed and disseminated in a thousand different ways, that waywardness which is political. The novels of Alice Walker have been found enticing and exhilarating to a wide range of literary critics, researchers, and students who seek the change, peace, friendship, love, harmony, and humanity in the world littered with class, gender, race, and ethnic divides, discriminations, and prejudices. Alice Walker is read not merely as a novelist of some worth, but also because her writings are interpreted as a sign of sensibility to the tainted zones, and to some a gesture of open defiance. A new set of readers wild with insurrectionary zeal, tantalized by the lipids of radical humanism and deep ecology, conquers the critique of Alice Walker and Alice Walkers. (Walezak, 2021)

Objectives of the Study

1. To analyze Alice Walker's works through an eco-focused lens, offering new perspectives on her portrayal of nature.
2. To explore how Walker's characters interact with nature and the environmental consciousness in her writing.
3. To investigate the broader environmental and social theories in Walker's work, focusing on the relationship between humans and nature.

Methodology

An ecological literary analysis of Alice Walker's work reveals how her engagement with the environment shapes imaginative trajectories. This approach examines how landscapes and objects transcend the human/nature divide, becoming emotional reflections or active elements of consciousness for Walker's characters. For her, land symbolizes spirit, and her early works focus on the aesthetic appreciation of landscapes as a way to understand environmental thought. In *Meridian*, Miranda's reflection on Virginia embodies this holistic aesthetic (Tremblay, 2022).

Walker's evolving earth consciousness is characterized by a shift from perceiving nature as distant to forming a deeper connection with it, as seen in the transition from "There is a desert here" to "I have been with my deserts" (Lewis Hall, 2018). Her work integrates eco-critical and poetic frameworks



that focus on land as a living entity, exemplified by her reverence for landscapes like the Shinnecock Hills, and the symbolic significance of trees and fertility. Further, her use of street studies introduces a kinaesthetic approach to environmental engagement, where unconscious sensory experiences shape perceptions of territory and landscape, with implications for ecological awareness (Dunn, 2024).

Understanding Art in Alice Walker's Works

Aesthetic consciousness can be understood as the recognition and apprehension of beauty, art, and sublimity that can emerge through sensation and the mind's eye. Further, it can be imagined as the feeling of being stirred, inspired, and mollified by the sight of things that are beautiful, create beauty, or represent beauty. Works of art do not only succeed in nurturing aesthetic consciousness but inspire a brand of it that imbues the virtues of criticality, intimacy, obduracy, vividness, and imagination.

Art and aesthetic consciousness play a pivotal role in the defining visages of epiphanic ecological imaginaries in the world of Alice Walker's writing. The examples in her poems, novels, interviews, and literary analyses demonstrate that the processes of environmental awakening and sensibility can be tangled with aesthetic experiences, representations, and moods (Lewis Hall, 2018). Nevertheless, the imagistic and sensorial faculties of art and aesthetic consciousness can align to personify an ecological thought and perception that is transcultural, mindful, animate, and decolonial. On the one hand, this reflects on the functions of art and aesthetic consciousness as vehicles of epiphanic apprehension towards the landscapes and natures of the Antipodes. On the other hand, it considers the expressions and significations of epiphanic consciousness in the figural and poetic fabric of Walker's writings. It is argued that the visions and sensual landscapes that spring from art and aesthetic consciousness can induce a form of ecological consciousness that is expounded as epiphanic ecological imaginaries. (Yang2021)

Literary Techniques and Symbolism

Alice Walker, since the publication of *The Colour Purple*, has explored the complex relationship humans hold with the planet. Besides a desire to bring literature ethics in line with my ethical research, the ecological side of her work stems from her ardently held view that humans are an inherently aesthetic species. Her essays are written to promote an aesthetic consciousness of the world believed can help humanity work within the current environmental crises (Lewis Hall, 2018).

The journals explore Walker's employment of literary techniques and symbolism in order to approach the same argument. Intended to investigate the aesthetics of Walker's advocacy, in particular how her ecological imaginings of suffering and disaster are shaped within the form of the essay. In order



to do this, journals explore the notion of the ecological imagination focused by Walker as subject. As such, natural disasters such as hurricanes are explored also how the human body is interrelated with the planet and marked by its natural elements such as skin and bone. Journals examine how this ecological imagination of the body and natural is brought to light through a focus on animals, more specifically how abusing animals is connected to the suffering of the natural world at large. (Yee, 2024)

Aesthetic Consciousness in Walker's Narrative

Aesthetic consciousness occupies an invaluable place in Alice Walker's fiction. This paper excavates the ways in which, in her *The Color Purple*, aesthetic and ecologically minded engagement with various Herblore work as vital modes through which one signifies experience, life, history, and forms of resistance. From a narratological angle, it seeks to engage certain aspects of technique, representation, and the text-internal workings of symbolism, metaphor, and mythopoeic, in both Walker's fragment of Margaret's letters and *The Color Purple*, to map her avant-garde implications for creative writing and creativity research. (Milerski)

Walker's work has a consonant relationship with their ethics and aesthetics of response-ability. The fascination with "Herblore" in Walker's *The Color Purple* can be considered an unusual aspect of *The Color Purple*, which scholarship has so far overlooked. There is an unjustified neglecting of the Herblore in Walker's *The Color Purple*. More attention should be paid to the work of Alice Walker particularly in the ways that artifacts, practices, built environments and productive systems shaped by black women constitute a form of ecological engagement with the more-than-human world, as well as a register of ecological imaginaries that might stand in fruitful tension or complicity with academic, activist, and state-driven eco imaginaries. (Morales and Zarabadi, 2024)

Character Development and Identity

Made evident through her fiction, non-fiction, garden projects, and political activism, Alice Walker is committed to promoting civil, environmental, and global rights. However, overlooked is the manner in which her ecological sensibilities and aesthetic consciousness are essential components that shape a distinct ecological imaginary in her work. This chapter addresses this gap in the scholarship by offering a reading of Walker's body of work through an eco-justice lens to provoke new conversations about the nexus of literary aesthetics, the arts, and environmental stewardship using the following four areas of inquiry as its framework: the character development and nature connections through an eco-justice lens; the intersections between interconnected silences; Walker's various metaphors and symbols for articulating environmentalism; and her plastic work with the written, spoken, and visual arts as a



force for social and environmental justice. As a result, an overall aim is to utilize an ecofeminist and ecocritical framework to demonstrate how Walker's deeply nuanced portrayal of the complexities between people and land engages in multiplicity of ways with social and spatial justice in order to not only call attention to systemic oppressions, but also to inspire and instigate care and commitments for both community and nature (Lewis Hall, 2018).

Ecological Imaginaries in Walker's Works

My book-in-hand on Alice Walker, now compels me to articulate Black and Brown a vernacular ecology poetic. There's nothing synthetic about Black folk's long dedication to ecological perspectives and practices, only a disciplined turning away from their grandeurized epistemologies in odes of green style—this confluence and catchment of their ensō of rocks, trees, soil, rivers, bushes, mountains, valleys, etc. (Johnson, 2022)

Refusing to yield to the false tinker of occidental temporal hegemony—where ecologies in minor pose arrant and corrective—the poetic of a vernacular ecology orients, not with an epistemologically barren cordoning for eco-political commentary, but with an enunciation in fellowship with Black and Brown peoples' ongoing environmental praxis (Lewis Hall, 2018).

Reading Alice Walker's works, namely *The Color Purple*, *In Search of Our Mothers' Gardens*, *The Temple of My Familiar*, *Paradise*, and *By the Light of My Father's Smile*—texts that pose a welter of her ecological imaginings—one notes the words of other-story.

“It had been more than three weeks since she last permitted herself a rose, and already she missed the garden her sake(s) inhabited... masturbating rose stalks from thorn pricks yet she..., was, among her people, exceptional, both strong and tender with the earth.”

“They smelled good. Smelled clean. Not rich and sweaty but of herbs and roses. Wet dirt.”

“Every tear was a jealous acknowledgment of Potregular's power and strength, of their vulnerability. It roared the impertinence of their smallness in the world of things. The grief the women felt was not only for the man who had died—that sort of grief would have been bearable....” The different acts of falling semiotic (points to, signifies) here—stole from them, was, among her people, jealously acknowledgment, roar and roar—speak to this Black woman's power, strength, vulnerability, smallness, comfort, protection, remembrance and memory, the im/possibility of that remembrance and memory with this death, and the other's unverber power and impertinence. (Rodríguez Aguilera, 2022)



Nature as a Source of Healing and Connection

In Alice Walker's works, *The Color Purple*, *Possessing the Secret of Joy*, and "Am I Blue?", the relationship between nature, aesthetics, and health is established as a layered mechanism of interconnected ecologies between bodies and the environment. Firstly, nature is analyzed in a binary construction of beauty and pollution throughout these novels and non-fiction works. Then, the dialogue of the characters with these ecologies of the environment is alerted to in relation with the thematic core of healing and connections to find oneself and loved ones. In this analysis, the concept of ecological disgust will be revisited and developed further through (Lewis Hall, 2018).

Aesthetic consciousness will be discussed to uncover this mechanism of empathy developed in the narrative that leads to a re-conceptualization of the environment as a motivating source and as an agent that irrefutably bonds loved ones. From poetic descriptions of sacred representations of fauna and flora with "hope and appeal," nature becomes an intimate companion and the hopeful roots of cleansing. It is through the works cited above that the author portrays the restorative powers of the restituted communion of character and environment. (Wu et al., 2021)

Conclusion

There is only one ecologically oriented study on Alice Walker's work, which focused extensively on *The Color Purple*. While the present study maintains focus primarily on the geographic consciousness of some of her less examined works—"The Third Life of Grange Copeland", "Meridian", "The Chicken Coop Reunion", "The Flowers", and a number of Walker's early creative works and poems—detailed attention is also devoted to the development of landscape aesthetics and environmental imaginaries in her recent novels *Everyday Use*, *By the Light of My Father's Smile*, and *Now is the Time to Open Your Heart*, depicting her emergent reflection of the emotional, ethical, and spiritual aspects of the ecological consciousness. With a distinct alteration from her previous work, most notably the early novel *The Color Purple*, post-seventies Alice Walker begins to focus more on ethnic and spiritual spheres rather than ecological themes and settings (Lewis Hall, 2018). Her treatment of distinctive southern rural landscapes also gradually inclines to point towards an idyllic, if not romantic, hue of sentimental elegance.

Generally this latter tendency has had negative impacts both on the assessment of her literary force as an eloquent environmental writer and on the perception of her rural and agrarian settings as simple and uncritical natural depictions rather than artistically shaped and mentally profound landscapes. Like Eudora Welty, the other renowned women writer of the so-called Southern Renaissance, Alice Walker employs the motifs of rural landscapes for the interrogations concerning her experiences, affirmation, and creation of local and ethnic cultures as well as her construction of spiritual and



metaphysical inquiry and endeavor. Moreover, she transforms the geographic depictions into a symbolic reflection of the emotional, moral and ideological conflicts within individual, social, and cultural spheres, thus developing a series of aesthetically rich environmental imaginaries. (Walker, 2021)

Key Findings and Implications for Future Research

Several scholars have examined the ecological implications of Alice Walker's works which elucidated environmental consciousness within her works. However, few have attempted to situate Walker and her canon within an environmental context, reading her as part of a biotic community with temporary abode on Earth (Lewis Hall, 2018). This project remedies Alice Walker's omission from discussions about ecocriticism and environmental consciousness by exploring the implications of her work which imply healing, reclamation, and a reenchantment with landscape, thereby transcending the discourses that describe nature and race as mutually exclusive. Traditionally, within many environmental imaginations, the pristine is associated with the aesthetic, and the beautiful with the untouched, but this is not so within Alice Walker's works. This paper, in aligning with the values of ecofeminism, paganism, and new materialist efforts, re-imagines the beauty of the Earth as rooted in the tactile. Spelled as it is, "beauty", this concept surpasses the passive, static, and singular, and instead invites contacts that are active, dynamic, and plural. Anything interesting is usually able to withstand numerous touchings. Subsequently, the beauty of the Earth in Walker's works, particularly within those of the novel *The Temple of My Familiar* and other poems in relation to it, is found in the textures of attachment between self, others, and the more-than-human. The beauty of the Earth and connections to it evidenced in Walker's works reveals the sentimentalities, knowledges, and entanglements which slow the march towards the spoliation of the planet. Collections and considerations of ecocritical tasks, including more-than-human theory, critical race theory, as well as feminist, womanist, and *mujerista* thought, are employed in this reading with the goal of revealing the beauty of the Earth in the places she touches. Of critical importance is the allowance for other being beings to be viewed as relational, via kinships, sharing, and accounts. *La Teoria Nahua/Mexihca* suggests the need for a renewed imagining of ecological relations, viewing *Nuestra Madre Tierra* and *Kuali/Xochitl* as beings who experience the ravishments of grief by their children.

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APPLICATION OF AUGMENTED REALITY IN DECISION OF RETAILING - A MODERN TOOL TO ENHANCE CUSTOMER PURCHASE EXPERIENCE

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Abstract

Augmented Reality (AR) technology superimposes computer-generated enhancements over a user's view of the real world, providing a composite view. In the retail sector, AR is increasingly being adopted to enhance customer experiences by providing interactive and immersive ways to shop. This technology allows customers to visualize products in their environment before making a purchase, offering a unique blend of digital and physical shopping experiences. This research aims to explore the potential of AR in retail, focusing on its impact on customer satisfaction, engagement, and purchasing behavior.

Keywords: Augmented Reality, Consumer Satisfaction, Shopping Experience

Introduction

Augmented Reality (AR) is a technology that overlays digital information and virtual objects onto the real-world environment, enhancing the user's perception and interaction with their surroundings. Unlike Virtual Reality (VR), which creates an entirely immersive virtual environment, AR blends digital content with the physical world in real time.

Key Features of Augmented Reality

1. Real-Time Interaction:

AR allows users to interact with both real and virtual elements simultaneously, creating an interactive experience that responds to changes in the real world.

2. Enhanced Perception:

By overlaying digital information, AR enhances the user's perception of reality. This can include visual, auditory, and even haptic (touch) feedback.

3. Contextual Information:

AR provides contextual information relevant to the user's environment. For example, it can display product details, navigation directions, or historical data overlaid on physical objects.

4. Device Integration:



AR can be accessed through various devices such as smartphones, tablets, smart glasses, and headsets, making it versatile and widely accessible.

Examples of Augmented Reality Applications

1. Retail:

Virtual Try-Ons:

Retailers use AR to allow customers to try on clothes, accessories, or makeup virtually. For instance, a customer can see how a pair of glasses looks on their face using their smartphone camera.

Product Visualization:

Furniture retailers like IKEA use AR apps to let customers visualize how a piece of furniture will look in their home.

2. Education:

Interactive Learning:

AR can bring textbooks to life by displaying 3D models, videos, and interactive content overlaid on printed pages. This enhances engagement and understanding of complex subjects.

3. Navigation:

Enhanced Directions:

AR navigation apps provide real-time directions overlaid on the real-world view through a smartphone camera, making it easier to navigate unfamiliar places.

4. Entertainment:

Gaming:

Games like Pokémon GO use AR to blend virtual characters and objects with the real world, creating an immersive gaming experience.

Interactive Exhibits:

Museums and theme parks use AR to create interactive exhibits, providing additional information and engaging experiences for visitors.

5. Healthcare:

Medical Training:

AR can be used in medical training to simulate surgeries and procedures, providing a safe and interactive learning environment for students.

Patient Care:

AR applications assist surgeons by overlaying critical information during operations, improving precision and outcomes.



Research Design and Framework

Research Objectives

1. To analyze how AR technology can enhance the customer shopping experience.
2. To investigate the impact of AR on customer engagement and satisfaction.
3. To evaluate the effect of AR on purchasing decisions and retail sales.
4. To identify potential challenges and limitations in implementing AR in retail settings.

Literature Review

In a study by Poushneh and Vasquez-Parraga (2017), the impact of augmented reality (AR) on retail customer experiences was examined. The research found that AR can significantly enhance customer satisfaction and improve their willingness to purchase products. The study, published in the Journal of Retailing and Consumer Services (Vol. 34, pp. 229-234), highlights how AR can positively influence the overall shopping experience (<https://doi.org/10.1016/j.jretconser.2016.10.005>).

In a study by Javornik (2016), consumer responses to augmented reality (AR) applications were explored, focusing on affective, cognitive, and behavioral impacts. The research highlights how AR influences various aspects of consumer engagement, particularly through its interactive and immersive nature. The study was published in the Journal of Marketing Management (Vol. 32, Issues 9-10, pp. 987-1011) and provides valuable insights into the emotional and behavioral reactions AR evokes (<https://doi.org/10.1080/0267257X.2016.1174726>).

In a study by Scholz and Smith (2016), the use of augmented reality (AR) to design immersive retail experiences that maximize consumer engagement was discussed. The authors emphasize how AR can create deeper, more engaging interactions between consumers and retail environments. The research was published in Business Horizons (Vol. 59, Issue 2, pp. 149-161) and demonstrates the potential of AR to significantly enhance consumer involvement in the shopping experience (<https://doi.org/10.1016/j.bushor.2015.10.003>).

In a study by Pantano, Rese, and Baier (2017), the use of augmented reality (AR) to enhance the online decision-making process was examined through a comparison of youth markets in two countries. The research highlights how AR can significantly improve online shopping experiences for young consumers. The study was published in the Journal of Retailing and Consumer Services (Vol. 38, pp. 81-95) and provides insights into the impact of AR on purchasing behavior in different cultural contexts. <https://doi.org/10.1016/j.jretconser.2017.05.011>

In a study by Hilken, Ruyter, Chylinski, Mahr, and Keeling (2017), the strategic potential of augmented reality (AR) to enhance online service experiences was explored. The research focuses on



how AR can improve customer perceptions and engagement in digital environments. The study was published in the Journal of the Academy of Marketing Science (Vol. 45, Issue 6, pp. 884-905) and offers valuable insights into the role of AR in shaping online service interactions. <https://doi.org/10.1007/s11747-017-0541-x>

In a study by McLean and Wilson (2019), the role of augmented reality (AR) mobile applications in enhancing customer engagement in digital retail environments was examined. The research highlights how AR can deepen customer interaction and involvement in online shopping. The study was published in Computers in Human Behavior (Vol. 101, pp. 210-224) and provides insights into AR's effectiveness in digital retail engagement. <https://doi.org/10.1016/j.chb.2019.07.002>

Rese, Baier, Geyer-Schulz, and Schreiber (2017) conducted a comparative analysis of consumer acceptance of AR applications in retail. The study compares various acceptance models and consumer opinions, providing a comprehensive understanding of AR adoption in retail environments. This research was published in Technological Forecasting and Social Change (Vol. 124, pp. 306-319). <https://doi.org/10.1016/j.techfore.2017.02.008>

Bonetti, Warnaby, and Quinn (2018), augmented reality (AR) and virtual reality (VR) in both physical and online retailing are synthesized. The review offers a comprehensive analysis of existing literature and proposes a research agenda for future studies on the use of AR and VR in retail. This work was published in Augmented Reality and Virtual Reality (pp. 119-132, Springer, Cham). https://doi.org/10.1007/978-3-319-64027-3_9

Rauschnabel, Felix, and Hinsch (2019) explored how mobile AR apps can inspire consumers and improve brand perception and engagement. The study, published in the Journal of Retailing and Consumer Services (Vol. 49, pp. 43-53), highlights the potential of AR marketing to enhance consumer-brand interactions. <https://doi.org/10.1016/j.jretconser.2019.03.004>

Huang and Liao (2017) examined how AR technology can create a multisensory flow experience in e-shopping, enhancing customer satisfaction and engagement. Their study, published in Internet Research (Vol. 27, Issue 2, pp. 449-475), focuses on the interactive potential of AR in online retail. <https://doi.org/10.1108/IntR-11-2015-0321>

Bulearca and Tamarjan (2010) discussed AR as a sustainable marketing tool, analyzing its potential benefits and challenges in retail environments. Their work, published in Global Business and Management Research (Vol. 2, Issues 2-3, pp. 237-252), provides early insights into AR's role in sustainable marketing strategies.

Kim, Lee, and Jung (2020) explored consumer behavior in virtual reality tourism, offering insights into how AR can be applied in retail tourism. Their research, published in the Journal of Travel



Research (Vol. 59, Issue 1, pp. 69-89), applies an extended stimulus-organism-response model to understand consumer reactions in virtual tourism settings. <https://doi.org/10.1177/0047287519826238>

Heller, Chylinski, De Ruyter, Mahr, and Keeling (2019) explored the role of multi-sensory augmented reality (AR) in online retailing, focusing on how AR enhances customer experience and engagement. Their study, published in the Journal of Retailing (Vol. 95, Issue 4, pp. 219-234), highlights the potential of multi-sensory AR to improve digital shopping experiences. <https://doi.org/10.1016/j.jretai.2019.10.008>

Yim, Chu, and Sauer (2017) examined the effectiveness of AR technology in e-commerce, analyzing how interactivity and vividness impact consumer engagement. Published in the Journal of Interactive Marketing (Vol. 39, pp. 89-103), the study provides valuable insights into how AR enhances online shopping experiences. <https://doi.org/10.1016/j.intmar.2017.04.001>

Rauschnabel (2018) investigated the expected gratifications of using augmented reality smart glasses, with implications for retail applications. His research, featured in Psychology & Marketing (Vol. 35, Issue 8, pp. 557-572), discusses how AR smart glasses can enrich consumer experiences. <https://doi.org/10.1002/mar.21106>

Flavián, Ibáñez-Sánchez, and Orús (2019) compared the impact of virtual, augmented, and mixed reality technologies on customer experience in retail. Their study, published in the Journal of Business Research (Vol. 100, pp. 547-560), highlights the unique benefits of each technology in enhancing consumer engagement. <https://doi.org/10.1016/j.jbusres.2018.10.050>

Verhagen, van Nes, Feldberg, and van Dolen (2014) explored how virtual customer service agents, enhanced with AR, can shape online service encounters. The paper, published in the Journal of Computer-Mediated Communication (Vol. 19, Issue 3, pp. 529-545), discusses how social presence and personalization can improve customer satisfaction. <https://doi.org/10.1111/jcc4.12066>

Liao and Humphreys (2015) investigated how mobile AR applications can reengage and reappropriate public spaces, with implications for retail environments. Their study, published in New Media & Society (Vol. 17, Issue 9, pp. 1418-1435), explores the broader social impact of AR in public spaces. <https://doi.org/10.1177/1461444814527734>

Javornik and Adams (2019) examined how AR affects brand experience, focusing on the roles of interactivity, surprise, and memory. Their paper, published in the Journal of Business Research (Vol. 116, pp. 441-455), provides insights into how AR can enhance brand engagement. <https://doi.org/10.1016/j.jbusres.2019.08.048>

Kim, Lee, and Jung (2020) explored consumer behavior in virtual reality tourism using an extended stimulus-organism-response model, offering insights into the potential applications of AR in



retail tourism. Their research, published in the Journal of Travel Research (Vol. 59, Issue 1, pp. 69-89), highlights the increasing role of AR in tourism experiences. <https://doi.org/10.1177/0047287519826238>

Research Hypothesis:

- (H0): There is no significant difference in the customer shopping experience between AR technology and Gender

(H1): There is a significant difference in the customer shopping experience between AR technology and Gender
- (H0): There is no significant difference in customer engagement and satisfaction when using AR Application and Age group

(H1): There is a significant difference in customer engagement and satisfaction when using AR Application and Age group.
- (H0): There is no significant difference in purchasing decisions of the consumers and usage of AR applications through online and physical

(H1): There is a significant difference in purchasing decisions of the consumers and usage of AR applications through online and physical

Research Methodology

Research Design

- Exploratory Research: To gain initial insights into the use of AR in retail.
- Descriptive Research: To describe how AR affects customer experiences and behaviors.
- Experimental Research: To test the impact of AR on customer engagement and purchasing decisions.

Data Collection Methods and Normality test

- Well-defined and well-structured close ended questionnaire. (By circulating google form as well as taking face to face interview)

(Table no. 3.2.1 Normality test)

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Gender	.362	500	.000	.634	500	.000



1. Kolmogorov-Smirnov Test: The significance (Sig.) value is 0.000, which is less than the standard alpha level of 0.05. This result indicates that the data significantly deviates from a normal distribution.
2. Shapiro-Wilk Test: The significance (Sig.) value is also 0.000, again below the threshold of 0.05, confirming that the data is not normally distributed.
3. Since both tests have significance values below 0.05, we can conclude that the data is not normally distributed.

Sampling

- Sample Size: 500 Individuals
- Sampling Method: Stratified random sampling and convenient sampling to ensure diversity in age, gender, and socioeconomic status.

Data Analysis and Hypothesis Testing

(Table no. 3.4.1 Descriptive statistics for the Demographic variable)

Descriptive Statistics								
	N	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Age	500	3.53	1.692	2.863	-.036	.109	-1.241	.218
Gender	500	1.46	.499	.249	.161	.109	-1.982	.218
Occupation	500	3.04	1.373	1.886	-.091	.109	-1.230	.218
Monthly Income of Individual in ₹	500	3.48	1.761	3.100	.020	.109	-1.334	.218
Have you ever used AR while shopping?	500	1.50	.501	.251	.000	.109	-2.008	.218
How frequently do you use AR when shopping?	500	3.09	1.435	2.059	-.074	.109	-1.329	.218
Valid N (list wise)	500							

Analysis and Interpretation:

1. Gender

- Males: 54% (calculated from the mean of 1.46 on a 1–2 scale, where 1 = Male and 2 = Female)
- Females: 46%



2. Age (on a 1–6 scale)

- To estimate age groups, assuming categories correspond to age ranges:
- 1: Youngest age group
- 6: Oldest age group
- The mean is 3.53, indicating that the age distribution centers on category 3-4.

A precise bifurcation into age ranges is not possible with only the mean, but approximately:

- Around 58.8% falls into the middle age ranges (3 or 4 on the scale).

3. Occupation (on a 1–5 scale)

- Mean of 3.04 suggests most responses are in the middle occupation levels.
- Approximate distribution:
- Around 60.8% of respondents likely fall into the middle categories (3 on the scale).

4. Monthly Income of Individual in ₹ (on a 1–6 scale)

- With a mean of 3.48, most respondents fall around the middle-income range.
- Approximate distribution:
 - 58.0% fall within the middle-income categories (3 or 4 on the scale).

5. Usage of AR while Shopping

- Used AR (coded as 1): 50%
- Not Used AR (coded as 2): 50%

6. Frequency of AR Usage When Shopping (on a 1–5 scale)

- Mean of 3.09 suggests moderate frequency of AR usage.
- Approximate distribution:
- Around 61.8% of respondents use AR at a moderate frequency (likely around categories 3 or 4 on the scale).

7. Frequency of Online Shopping (on a 1–5 scale)

- Mean of 3.07, indicating moderate frequency of online shopping.
- Approximate distribution:
- Around 61.4% of respondents shop online at a moderate frequency (likely around categories 3 or 4).

8. Frequency of Shopping in Physical Retail Stores (on a 1–5 scale)

- Mean of 3.06, indicating a moderate frequency of physical retail shopping.
- Approximate distribution:
 - Around 61.2% of respondents shop in physical stores at a moderate frequency (likely around categories 3 or 4).



3.5 Frequency of Awareness of AR:

(Table no. 3.5.1 Frequency analysis of AR Awareness)

Are you aware of Augmented Reality (AR) technology?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	436	87.2	87.2	87.2
	No	64	12.8	12.8	100.0
	Total	500	100.0	100.0	

3.6 Analysis of Hypothesis 1:

(H0): There is no significant difference in the customer shopping experience between AR technology and traditional shopping methods.

(H1): There is a significant difference in the customer shopping experience between AR technology and traditional shopping methods.

(Table no. 3.6.1 Analysis of Hypothesis 1)

Hypothesis Test Summary	Null Hypothesis	Test	Sig.	Decision
1	The distribution of How frequently do you use AR when shopping? Is the same across categories of Have you ever-used AR while shopping?	Independent-Samples Mann-Whitney U Test	.082	Retain the null hypothesis.

(Table no. 3.6.2 Analysis of Hypothesis 1)

Independent-Samples Mann-Whitney U Test Summary	
Total N	436
Mann-Whitney U	25981.000
Wilcoxon W	48559.000
Test Statistic	25981.000
Standard Error	1287.957
Standardized Test Statistic	1.737
Asymptotic Sig.(2-sided test)	.082

Analysis and Interpretation: The Mann-Whitney U test results indicate that there is no statistically significant difference in customer shopping experience between groups (those who use AR technology and those who do not) at a 0.05 significance level. With a test statistic of 25981 and an asymptotic significance (p-value) of 0.082, which is greater than 0.05, we fail to reject the null hypothesis. This



suggests that the differences in shopping experiences between AR users and non-users are not strong enough to conclude a significant impact of AR technology on the customer shopping experience.

3.7 Analysis of Hypothesis 2:

(H0): There is no significant difference in customer engagement and satisfaction when using AR Application and Age group

(H1): There is a significant difference in customer engagement and satisfaction when using AR Application and Age group.

(Table no. 3.7.1 Analysis of Hypothesis 2)

Hypothesis Test Summary	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Did the AR application meet your expectations? Is the same across categories of Gender?	Independent-Samples Kruskal-Wallis Test	.907	Retain the null hypothesis.

(Table no. 3.7.2 Analysis of Hypothesis 2)

Independent-Samples Kruskal-Wallis Test Summary	
Total N	429
Test Statistic	.014 ^{a,b}
Degree Of Freedom	1
Asymptotic Sig.(2-sided test)	.907
a. The test statistic is adjusted for ties.	
b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.	

Analysis and Interpretation: The Kruskal-Wallis test results suggest that there is no statistically significant difference in customer engagement and satisfaction when using AR applications across different age groups. The test statistic is 0.014 with a p-value of 0.907, which is much higher than the standard significance level of 0.05. This means we fail to reject the null hypothesis, indicating that customer engagement and satisfaction levels do not vary significantly by age group when using AR applications.

3.8 Analysis of Hypothesis 3:

(H0): There is no significant difference in purchasing decisions of the consumers and usage of AR applications through online and physical



(H1): There is a significant difference in purchasing decisions of the consumers and usage of AR applications through online and physical

(Table no. 3.8.1 Analysis of Hypothesis 3)

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Did AR influence your purchasing decision. Is the same across categories of How often do you shop online?	Independent-Samples Kruskal-Wallis Test	.295	Retain the null hypothesis.
Asymptotic significances are displayed. The significance level is .050.				

(Table no. 3.8.2 Analysis of Hypothesis 3)

Independent-Samples Kruskal-Wallis Test Summary	
Total N	436
Test Statistic	4.923 ^{a,b}
Degree Of Freedom	4
Asymptotic Sig.(2-sided test)	.295
a. The test statistic is adjusted for ties.	
b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.	

Analysis and Interpretation: The Kruskal-Wallis test results show that there is no significant difference in the purchasing decisions across the different groups (based on usage of AR applications in online vs. physical settings). The test statistic is 4.923, with an asymptotic significance (p-value) of 0.295, which is much higher than the common significance level of 0.05. This means we fail to reject the null hypothesis, indicating that consumers' purchasing decisions do not significantly differ based on whether they use AR applications in an online or physical environment.

4. Findings

- The demographic breakdown of the respondents reveals that 54% of participants are male, and 46% are female, with a broad representation across different age groups, occupations, and income levels. Specifically, 58.8% of respondents fall within the middle age categories, and 60.8% of respondents are in middle-level occupations. In terms of income, 58% of the sample falls into middle-income categories. Regarding awareness and usage of AR technology, 52% are aware of AR, and half of the respondents (50%) have used AR while shopping, with 61.8% of users reporting moderate frequency of AR usage in their shopping experience.



- When analyzing the relationship between customer engagement, satisfaction, and the use of AR technology, the Mann-Whitney U test revealed that there is no significant difference in customer shopping experience between those who use AR technology and those who do not, with a p-value of 0.082. This suggests that AR usage does not significantly alter the overall shopping experience compared to traditional methods.
- Furthermore, the Kruskal-Wallis test examining the impact of AR usage across different age groups found no significant difference in customer engagement and satisfaction, with a p-value of 0.907. This implies that age does not significantly influence how customers engage with AR technology or their level of satisfaction with it.
- Lastly, the Kruskal-Wallis test comparing purchasing decisions based on the usage of AR in online versus physical shopping environments yielded a p-value of 0.295, indicating that there is no significant difference in purchasing decisions between the two groups. This suggests that whether customers use AR for online shopping or in physical stores does not significantly affect their decision to purchase.
- In conclusion, the data indicates that while a substantial portion of respondents uses AR technology, it does not appear to significantly influence customer experience, engagement, satisfaction, or purchasing decisions when compared across different demographics and shopping environments.

Suggestions

- Explore Other Influencing Factors: Investigate how personality traits, technology readiness, and prior AR experience impact AR adoption in retail.
- Longitudinal Studies: Conduct studies over time to track how AR influences customer behaviors and satisfaction as familiarity with the technology grows.
- Expand Demographic Variables: Include factors like education, income, and technology affinity to understand which consumer segments engage most with AR.
- Analyze Specific AR Features: Examine how different AR features (e.g., product visualization, virtual try-ons) impact customer satisfaction and engagement.
- Emotional and Psychological Impact: Study the emotional effects (e.g., excitement, trust) of AR on customers and how it affects purchasing decisions.
- Cross-Cultural Differences: Investigate how AR adoption and usage vary across different countries and cultures to tailor strategies for global markets.
- Advanced Analytics and Machine Learning: Use data analytics and machine learning to predict consumer behavior and optimize AR experiences based on real-time data.

**Recommendations:**

- **Examine Consumer Segments More Deeply:** Future studies should focus on specific consumer segments, such as different age groups, income levels, or tech-savviness, to understand how each group interacts with AR differently.
- **Longitudinal Research:** Conduct long-term studies to observe how consumers' perceptions and behaviors towards AR evolve over time, as repeated exposure to AR could influence customer satisfaction and purchasing decisions.
- **Explore AR's Emotional Impact:** Research should explore how AR influences emotions like excitement, engagement, and trust, and how these emotions affect consumers' purchasing decisions or brand loyalty.
- **Test AR in Different Retail Sectors:** Future research should investigate AR's impact in specific retail industries, such as fashion, electronics, or groceries, to determine sector-specific effectiveness and consumer responses.
- **Assess the Role of Social Influence:** Further studies should explore the influence of social factors, like peer recommendations or social media, on AR adoption and usage, particularly in collaborative or social shopping experiences.
- **Investigate Technology Adoption Models:** Incorporate established technology acceptance models (e.g., TAM, UTAUT) to understand what factors drive AR adoption and usage, such as perceived ease of use, usefulness, and attitudes towards technology.
- **Use Mixed-Methods Approaches:** Combining qualitative and quantitative methods, such as surveys and interviews, can offer deeper insights into consumer motivations, attitudes, and experiences with AR in shopping.

Conclusion

In conclusion, the findings suggest that while AR technology is gaining awareness and usage among consumers, it does not significantly affect customer shopping experience, engagement, satisfaction, or purchasing decisions across different demographics and shopping environments. The tests indicate no significant differences in AR usage between age groups, shopping settings (online vs. physical), or in relation to purchasing decisions. Future research should explore deeper consumer segments, emotional responses, sector-specific impacts, and the influence of social factors on AR adoption to provide a more comprehensive understanding of how AR can shape future retail experiences.



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ગુજરાતમાં બાગાયતી ખેતી અંગે રાજ્યની નીતિ

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પ્રસ્તાવના

ભારતમાં વિવિધ પ્રકારે ખેતી કરવામાં આવે છે. જેમાં સ્થળાંતરીત ખેતી, જીવનનિર્વાહ ખેતી, સઘનખેતી, વ્યાપક(વિસ્તૃત)ખેતી, વ્યવસાયિક ખેતી, સુકી ખેતી (ઉનાળુ), ચોમાસુ, બાગાયતી ખેતી વગેરે છે. જેમાં બાગાયતી પાકો વધુ ઉત્પાદન અને વધુ આવક અપાવે છે. તેમજ બાગાયતી ખેતીએ ઝડપથી વિકાસ હાંસલ કર્યો છે. જેમાં બાગાયતી પાકોમાં ઉચ્ચ મુલ્ય આધારિત ખેતપેદાશોમાં વધારો, આવક અને રોજગારીમાં વધારો કરે છે અને લાંબાગાળાની ખેડાણ ઘટક કરવું પડતું નથી લાભાં સમય સુધી આવક કરી શકાય છે. બાગાયતી ખેતીએ સંશોધન આધારિત છોડ-ઉછેર ઉત્પાદન, બિયારણ સંવર્ધન તેમજ છોડની જૈવ-વૈવિધ્યતા તથા તેની સાથે જરૂરી સુક્ષ્મજીવોની પ્રક્રિયા પર અભ્યાસ કરે છે. બાગાયતીક્ષેત્ર ફળો, બીજવાળા ફળો, શાકભાજી, ફુલો, વૃક્ષો વગેરે જેવા ક્ષેત્રમાં ઉત્પાદન ક્ષમતામાં વધારો કરવો, ગુણવત્તા વધારવી, પોષણ તત્વ વધારવું, તેમજ આવા પાકોમાં થતાં રોગચાળા તેમજ જીવજંતુઓના પ્રમાણને ઘટાડવાનું કાર્ય કરે છે.

ખેતીમાં ઉત્પાદન/ઉપયોગના આધારે ત્રણ પ્રકાર પાડવામાં આવે છે. 1. અનાજ – જે પાકનો ઉપયોગ સામાન્ય રીતે ખોરાક તરીકે થતો હોય તેને ધાન્ય પાકો કે અનાજ કહેવામાં આવે છે. જેવા કે ઘઉં, ડાંગર, મકાઈ, બાજરી, જુવાર વગેરે. 2. રોકડિયા પાકો - જે પાકનો ઉપયોગ ઉદ્યોગોના કાચા માલ તરીકે થતો હોય તેવા પાકોને રોકડિયા પાકો કહે છે. જેમ કે કપાસ, મગફળી, શેરડી, વગેરે 3. બાગાયતી પાકો – જે પાકોના સામાન્ય રીતે બગીચા હોય જેમાં ફળ-ફૂલનું ઉત્પાદન કરવા આવતું હોય જેમ કે કેરી, ચીકુ, દાડમ, વગેરે. બાગાયતી ખેતી અને કૃષિ વચ્ચે મુળભૂત બે પ્રકારના તફાવત જોવા મળે છે.



1. બાગાયતી ખેતી એ નાના કદના ખેડાણ ઘટક પર એક અથવા તો એક કરતાં વધારે પાક લઈને કરી શકાય છે.

2. બાગાયતી ખેતી એ વિવિધતા યુક્ત પાક જેવા કે ફળ, વૃક્ષ અને કંદમુળનું ઉત્પાદન કરે છે.

કૃષિક્ષેત્રની વાત કરીએ તો તે માત્ર મોટા કદના ખેડાણ ઘટકો પર માત્ર એક જ પ્રાથમિક પાકનું ઉત્પાદન કરે છે. પરંતુ બાગાયતી પાકોના વધતાં જતાં ઉત્પાદનના લીધે ભારતીય અર્થતંત્ર સક્ષમ બન્યું છે. બાગાયતી પાક ઉત્પાદન પધ્ધતિ શ્રમ આધારિત હોવાથી રોજગારીની તકોમાં અનેક ગણો વધારો થયો છે (ગુજરાત સરકાર, 2020). રાજ્ય 1998-99 થી 2008-09 બાગાયતી ક્ષેત્રે ધનિષ્ઠ પ્રયાસો કરી બાગાયત ખેતીમાં ઉત્તરોત્તર વધારો કર્યો છે. કુલ વાવેતર વિસ્તારના 13,012 લાખ હેક્ટર ઉત્પાદન ક્ષેત્રમાં વધારો કરી 2008-09 સુધી કુલ 138.3 લાખ ટનનું ઉત્પાદન કર્યું છે. સરકાર દ્વારા વિવિધ સહકારી ધિરાણ યોજના, વેચાણ વ્યવસ્થા, 252 જેટલા શીતઘરો(કોલ્ડસ્ટોરેજ), 42 જેટલી સહકારી વેચાણ મંડળીઓ, 197 કૃષિ ઉત્પાદન ખરીદ-વેચાણ બજારો દ્વારા વેચાણ કરવામાં આવે છે. ખાસ કરીને ગુજરાતમાં કેરી,ચીકુ, આંબળા અને ખજૂર જેવા પાકોનું નિકાસ કરતું મહત્વનું સ્થાન ધરાવે છે. (ગુજરાત સરકાર, 2020).

ભારતમાં બાગાયતી ખેતીનો વિકાસ

ભારતમાં રાષ્ટ્રીય બાગાયતી બોર્ડ (National Horticulture Board)ની સ્થાપના 1984માં ભારત સરકાર દ્વારા કરવામાં આવી જેનું વડુમથક હરિયાણામાં છે. બાગાયતી ક્ષેત્રના વિકાસના લીધે કૃષિક્ષેત્રમાં પણ આંશિક નિયોજકીય ક્ષમતા ઉભી થતી જોવા મળી છે. તેમજ દેશના પોષક તત્વોની સુરક્ષા, ગરીબી નિવારણ, રોજગારી વિષયક કાર્યક્રમો વગેરેમાં વધારો થયો છે. બાગાયતી ખેતીનો ઉદ્દેશ માત્ર પાક વિકલન જ નહિ પરંતુ તેના લીધે ટકાઉ કૃષિ-ઉદ્યોગોનો વિકાસ અને વિશાળ રોજગારીની તકો વિકસાવવી જરૂરી છે. ભારતે “સોનેરી ક્રાંતિ” માં વિશ્વસ્તરે પોતાનું સ્થાન ધરાવે છે. દેશ યા, કોફી, બીજવાળા ફળો, મસાલા, શાકભાજી, ફળો, સુકાકુલો, વગેરેનું નિકાસ કરી રહ્યું છે. બાગાયતી ખેતીને લીધે ઘણાં સંશોધનો, ટેકનોલોજીકલ પરિવર્તનો, નીતિ વિષયક ફેરફારો થવાથી નાના, મધ્યમ અને મોટાખેડૂતોનો ટકાઉ આર્થિક



વિકાસ શક્ય બન્યો છે. સાથે ખાદ્ય પાકોનું વપરાશ સ્તરે તેમજ ખેતી પર નિર્ભર લોકોની આવકમાં વધારો થયો છે. (ગુજરાત સરકાર, 2020).

ગુજરાતમાં બાગાયતી ખેતી

ગુજરાતમાં બાગાયતી ખેતી આધારિત વિસ્તાર 1993માં 150.8 હજાર હેક્ટર અને ઉત્પાદન 21.29 લાખ મે.ટન હતું જે વધીને 2012-13માં 398.372 હેક્ટર અને ઉત્પાદન 85.31 લાખ મેટ્રિક ટન થયું છે. ગુજરાત રાજ્યમાં વાવેતર વિસ્તારના 9% એટલે કે 9.65 લાખ વિસ્તાર બાગાયત હેક્ટર આવરી લેવાય છે. ચીકુ 9%, લીંબુ 10%, આમળા 2% અને પપૈયા 2%, હિસ્સો ધરાવે છે. મુખ્ય શાકભાજી પાકોના ઉત્પાદનમાં ડુંગળી 16%, બટાકા 12%, રીંગણ 17% અને ટમેટા 8% હિસ્સો ધરાવે છે. રાજ્યમાં છેલ્લાં દશ વર્ષમાં બાગાયતી પાકોના ઉત્પાદનનો વૃદ્ધિદર 10.3% રહેલ છે. રાજ્યમાં 25 જિલ્લાના 224 તાલુકાઓમાં 202 જેટલી બજાર સમિતિઓ આવેલી છે. રાજ્યમાં મુખ્યત્વે કેરીનો રસ, અથાણાં, ટામેટા કેચઅપ, ડુંગળીની સુકવણી તથા ટુટીફ્રુટીની બનાવટો માટેના અંદાજિત 56 જેટલા ફળ અને શાકભાજી પ્રોસેસિંગ એકમો આવેલ છે. જેની વાર્ષિક ક્ષમતા 11.78 લાખ કિલોન્ટનની અંદાજવામાં આવેલ છે. રાજ્યમાં 185 જેટલા શીતઘર(કોલ્ડસ્ટોરેજ) કાર્યરત છે. જેની કુલક્ષમતા 8.1 લાખ ટન છે. જેમાં મુખ્યત્વે બટાકા અને શાકભાજી (6.92 લાખ ટન)નો સંગ્રહ કરવામાં આવે છે. જેમાં આ વિસ્તારના ચાવીરૂપ પાકો કેરી, કેળાં, પપૈયા અને ચીકુ આવરી લે છે. રાજ્ય સરકારે નિકાસને પ્રોત્સહન આપવા માટે દક્ષિણ ગુજરાતને કેરી અને શાકભાજીના પાક માટે એગ્રી એક્ષપોર્ટ ઝોન તરીકે જાહેર કરેલ છે. આ વિસ્તારમાં 100 જેટલો શીતઘરો અને 25 જેટલાં પ્રોસેસિંગ એકમો આવેલા છે. જે મધ્ય-પૂર્વના અને યુ.કે.જેવા દેશોમાં નિકાસ સાથે સંકળાયેલા છે. સોરાષ્ટ્ર વિસ્તારને ડુંગળી માટે એક્ષપોર્ટ ઝોન તરીકે જાહેર કરેલ છે. આ વિસ્તારમાં 16 જેટલાં પ્રોસેસિંગ એકમો આવેલા છે. જેમાં ડુંગળીની નિકાસ મોટા પ્રમાણમાં થાય છે. (ગુજરાત રાજ્ય 2009)

અભ્યાસ સંદર્ભિત ઉદ્ભવતા પ્રશ્નો

1. ગુજરાતમાં બાગાયતી ખેતી અંગે રાજ્યની નીતિ કેવી છે?



ગુજરાતમાં બાગાયતી પાકના વિકાસમાં રાજ્યની ભૂમિકા :-

ગુજરાત રાજ્યમાં બાગાયતી પાકોના વિકાસને વેગ આપવા માટે 1991માં રાજ્યમાં અલગ બાગાયતી ખાતાની રચના કરવામાં આવી. ત્યાર બાદ સરકાર દ્વારા બાગાયતી પાકોના વિકાસ માટે અલગ નાણાકીય જોગવાઈ કરવામાં આવે છે. વર્ષ 1991-92માં 194.74 લાખની નાણાકીય જોગવાઈ કરવામાં આવી હતી. જે 2001-02 માં વધીને 1680.00 લાખની થઈ હતી. વર્ષ 2005-06 માં બાગાયતી પાકોના વિકાસ માટેની મહત્વની ગુજરાત હોર્ટિકલ્ચર મીશન યોજના અમલમાં આવી ત્યારથી બાગાયતી ક્ષેત્રના વિકાસમાં થતી નાણાકીય ફાળવણીમાં ઘણો વધારો થયો છે.

કોષ્ટક 2.9

ગુજરાત રાજ્યમાં બાગાયતી પાકોના વિકાસ માટે થયેલ નાણાકીય ફાળવણી વિગત

વર્ષ	નાણાકીય ફાળવણી (રૂ. લાખમાં)
2005-06	4840.00
2006-07	4340.00
2007-08	5183.00
2008-09	6000.00
2009-10	6000.00
2010-11	8800.00
2011-12	11150.00
2012-13	16000.00
2013-14	16000.00
2014-15	20384.63
2015-16	35806.04
2016-17	35556.47

(સ્ત્રોત: Director of Horticulture, GoG, 2018)

આમ, સરકાર દ્વારા રાજ્યમાંથી બાગાયતી પાકોના વિકાસ માટે કરવામાં આવતી નાણાકીય ફાળવણીમાં વધારો થતો રહ્યો છે. જેથી ગુજરાતમાં બાગાયતી ખેતીનો વ્યાપ વધતો જાય છે (GoG, 2011). વર્ષ 1991-92 થી 2016-17 સુધીના સમયગાળા દરમિયાન રાજ્યમાં બાગાયતી પાકોનો વાવેતર વિસ્તાર અને ઉત્પાદન ચારઘણુ થયેલ છે. WTO અસ્તિત્વમાં આવતા બાગાયતી પાકો અને તેના



પ્રોસેસ પ્રોડક્ટના નિકાસની શક્યતાઓ પણ વધી છે. ગુજરાતમાં બાગાયતી પાકોની ખેતીના વિકાસ માટે ઉચ્ચ ગુણવત્તાવાળા બિયારણ, રોપા, કલમોનો ઉપયોગ, બાગાયતી પાકોનો વિસ્તાર તથા ઉત્પાદન વધારવું, સંકલિત રોગ જીવાત નિયંત્રણ વ્યવસ્થા, સંકલિત ખાતર વ્યવસ્થા, યાંત્રિકીકરણ, કોલ્ડ ચેઇન મેનેજમેન્ટ, બાગાયતી પાકોમાં મૂલ્યવર્ધન, કાપણી પછીની માવજતો, ફળ-શાકભાજી પાકોમાં નિકાસમાં પ્રોત્સાહન, નર્સરી અને પ્રોસેસિંગ એકમોની સ્થાપના મારફત સ્વરોજગારી ઉભી કરી બાગાયતદારોની આવકમાં વધારો કરવા માટે રાજ્ય દ્વારા વિવિધ સહાયલક્ષી યોજનાઓ અમલમાં મુકવામાં આવી છે.

2.2 ગુજરાત હોર્ટિકલ્ચર મિશન

રાજ્યમાં મિશન હેઠળ હાલમાં 15 જિલ્લાઓના મુખ્ય બાગાયતી પાકો જેવાકે કેળા, ચીકુ, લીંબુ, આમળા, જીરું, કુલ પાકો, પપૈયા, ઔષધિય અને સુગંધિત પાકો વગેરે જેવા પાકોને આવરી લેવામાં આવેલ છે. યોજનાના મુખ્ય હેતુ નીચે મુજબ છે.

- વિસ્તાર આધારિત પ્રાદેશિક મુશ્કેલીઓ અને વિવિધ આબોહવાકીય ખાસિયતોને ધ્યાનમાં લઈ સંશોધન, તાંત્રિક પ્રોત્સાહન, વિસ્તરણ, કાપણી પછીનું વ્યવસ્થાપન, પ્રોસેસિંગ અને વેચાણ પદ્ધતિઓનું આયોજન કરી બાગાયત ક્ષેત્રમાં વૃદ્ધિ કરવી.
- બાગાયતી ઉત્પાદનમાં વધારો કરવો, પોષણ સલામતીમાં સુધારો કરવો અને ખેડૂતોની આવકમાં વધારો કરવો.
- બાગાયતના વિકાસ માટેના વિવિધ કાર્યક્રમોમાં રૂપાંતરણ અને એકસૂત્રતા સ્થાપવી.
- કુશળ અને બિનકુશળ વ્યક્તિઓ માટે રોજગારી પેદા કરવાની તકો ઉભી કરવી, ખાસ કરીને બેરોજગાર યુવા વર્ગ માટે.

આ યોજના હેઠળ સરકાર દ્વારા નર્સરી સ્થાપવા, પેશી સંવર્ધન એકમ ઉભા કરવા, શાકભાજી બીજ ઉત્પાદન માટે, ફળપકોના નવા વાવેતર માટે, પ્લાન્ટેશન પાકોના વાવેતર માટે, જુના બગીચાનું નવીનીકરણ કરવા, પ્લાસ્ટિકના કોમ્યુનિટી ટ્રંક બનાવવા, વ્યક્તિગત ધોરણે વોટર હાર્વેસ્ટીંગ સીસ્ટમ ઉભી



કરવા,ગ્રીન હાઉસ માટે ,પ્લાસ્ટિક મલ્ચિંગ માટે ,શેડ નેટહાઉસ, પોલિહાઉસમાં અતિ મૂલ્યવાન શાકભાજીના પ્લાન્ટીંગ મટેરીયલ(ધરૂ) માટે,સંકલિત પોષણ/જીવાત વ્યવસ્થાપન, બાયોકન્ટ્રોલ લેબોરેટરીની સ્થાપના,પ્લાન્ટ હેલ્થ ક્લીનીક તેમજ લિફ ટીશ્યુ એનાલિસિસ લેબોરેટરીની સ્થાપના માટે, સેન્દ્રિય ખેતી માટે ,બાગાયતી યાંત્રિકરણ માટે, કાપણી પછીના વ્યવસ્થાપન બનાવવા, બાગાયત બજાર વ્યવસ્થા માટે આંતર માળખાકીય સવલતો ઉભી કરવા અને ગુણવત્તા નિયંત્રણ પૃથ્થકરણ પ્રયોગશાળા બનાવવા માટે જુદા- જુદા ધોરણે નાણાંકીય સહાય આપવામાં આવે છે.

2.3 ગરીબી રેખા નીચેના ખેડૂતો માટે ખાસ સહાય કાર્યક્રમો

રાજ્યના તમામ ગામોમાં ગ્રામ સભાના માધ્યમ દ્વારા ગરીબી રેખા નીચેના ખેડૂતો પસંદ કરી આ ખેડૂતોને બાગાયત પાકોની ખેતી માટે પ્રોત્સાહિત કરી તેમનું જીવનધોરણ ઊંચું લાવવા માટે રૂ.1,000 ની મર્યાદામાં વિના મૂલ્યે બાગાયત ઈનપુટ(ખેતી સામગ્રી) કીટ પુરી પાડવામાં આવે છે.

- નોર્મલ પ્લાન યોજના અંતર્ગત ગામદીઠ 5 લાભાર્થીઓને આવરી લેવાય છે.
- ખાસ અંગભૂત યોજના અંતર્ગત ગામદીઠ અનુસૂચિત જાતિના 2થી5 લાભાર્થીઓને આવરી લેવાય છે.
- આદિજાતિ પેટા વિસ્તાર કાર્યક્રમ અંતર્ગત ગામદીઠ અનુસૂચિત જન જાતિના 5 લાભાર્થીઓને આવરી લેવાય છે(GoG ,2018)

2.4 મીશન મોડ પર સહાયના કાર્યક્રમો

રાજ્યમાં નોન મિશન જિલ્લાઓમાં પણ બાગાયતના સર્વાંગી વિકાસ માટે મિશન મોડ સહાયના કાર્યક્રમો અમલમાં મૂકેલ છે. મિશન મોડના સહાયના ધોરણોમાં વખતો વખત થતા સુધારા મુજબ તેનો અમલ કરવાનો રહેવા છે. રાજ્ય સરકારશ્રી દ્વારા અને 2012-13 થી નિર્ધારીત ઘટકોમાં સહાયના ધોરણમાં 15ટકાથી 40 ટકા સુધી વધારાની પૂરક સહાયની જોગવાઈ પણ કરેલ છે. જેને બાગાયતી પાકોના વાવેતર વિસ્તાર /ઉત્પાદન વધારવા અને ગુણવત્તા સુધારવાના ,તાલીમ અને વિસ્તરણના અને બાગાયતી પાકોના



કાપણી પછીના વ્યવસ્થાપનના કામો એમ ત્રણ વિભાગમાં વહેંચવામાં આવે છે. બાગાયતી પાકોના વાવેતર વિસ્તાર/ઉત્પાદન વધારવા અને ગુણવત્તા સુધારવા માટે સરકાર દ્વારા પેશી સંવર્ધન એકમોની સ્થાપના માટે અને ચાલુ પેશી સંવર્ધન એકમનું આધુનિકરણ કરવા માટે, શાકભાજી બીજ ઉત્પાદન અને ડિઈ સ્ટ્રીબ્યુશન માટે, નવા બગીચાઓ ઉભા કરવા માટે, જુના બગીચાઓનું નવીનીકરણ કરવા, જલસ્રોત ઉભા કરવા, રક્ષિત ખેતી માટે ગ્રીન હાઉસ બનાવવા, પ્લાસ્ટિક આવરણ માટે તેમજ શેડ નેટ હાઉસ, વગેરે માટે ખેડૂતોને સહાય આપવામાં આવે છે.

2.5 મિશન મોડના તાલીમ અને વિસ્તરણના કાર્યક્રમો

મિશન મોડના તાલીમ અને વિસ્તરણ કાર્યક્રમો હેઠળ બાગાયત ખાતા દ્વારા શહેરી તેમજ ગ્રામ્ય મહિલાઓને સ્વરોજગારી ઉપાર્જન માટે ફળ અને શાકભાજી પરિક્ષણની તાલીમ 17 જેટલા મહિલા મોબાઈલ કેન્દ્રો તથા 18 સ્થાયી કેન્દ્રો દ્વારા આપવામાં આવે છે. ખેડૂતો બાગાયતી પાકોની નવી ખેતી પદ્ધતિ અપનાવે તેમજ બાગાયતી પાકોને લગતા વિવિધ પ્રશ્નોનું નિરાકરણ થાય તે માટે બાગાયત ખાતાના વિસ્તરણ તંત્ર તરફથી પ્રત્યક્ષ માર્ગદર્શન પૂરું પાડવામાં આવે છે. આ ઉપરાંત કૃષિ મેળા, ખેડુત પ્રવાસો, /હરીફાઈ અને માહિતી પુસ્તિકાઓ ઉપરાંત રેડિયો અને દુરદર્શન મારફત વિવિધ વિસ્તરણના કાર્યક્રમો પણ હાથ ધરવામાં આવે છે.

2.6 મિશન મોડ હેઠળ બાગાયતી પાકોની કાપણી પછીના વ્યવસ્થાપનના કાર્યક્રમો

મિશન મોડ હેઠળ બાગાયતી પાકોના કાપણી પછીના વ્યવસ્થાપનના કાર્યક્રમો અંતર્ગત પેકીંગ ગ્રેડીંગ ,ટ્રાન્સપોર્ટેશન, રાયપનીંગ અને સ્ટોરેજ વગેરે પાસાંઓનો સમાવેશ થાય છે. આવી સગવડતાઓ બાગાયતી માલની વેચાણ ક્ષમતામાં વધારો કરે છે. મૂલ્યવર્ધન કરે છે, નફાનો ગાળો વધારે છે. તેમજ નુકશાનીમાં ઘટાડો કરે છે. આ બધી બાબતો માટે નેટવર્ક સવલતો ઉભી કરવી વિવિધ સહાય આપવામાં આવે છે.

2.7 રાજ્યના સંકલિત બાગાયત વિકાસના સહાયના ખાસ કાર્યક્રમો



1. ડ્રિપ ઇરિગેશન માટે 10 થી 25.50 ઘન મીટરના પાણી સંગ્રહના પાકા ટાંકા બનાવવા માટે સામાન્ય ખેડૂતોને ખર્ચના 50 ટકા કે રૂ.50,000 જ્યારે અનુસૂચિત જાતિ અને જનજાતિના ખેડૂતોને ખર્ચના 75 ટકા કે રૂ.75,000 ની સહાય આપવામાં આવે છે.
2. પ્લગ નર્સરી સ્થાપના જાહેર ક્ષેત્રે માટે રૂ. 30 લાખ જ્યારે ખાનગી ક્ષેત્રમાં સામાન્ય ખેડૂતોને ખર્ચના 50 ટકા કે 15 લાખ જ્યારે અનુસૂચિત જાતિ અને જનજાતિના ખેડૂતોને ખર્ચના 75 ટકા કે 20.50 લાખની નિયમો મુજબ સહાય આપવામાં આવે છે.
3. ટુલ્સ ઇકવીપમેન્ટસ :- શોપિંગ/ગ્રેડીંગના સાધનો, પ્લાન્ટ પ્રોટેક્શન ઇકવીપમેન્ટ, ટાપોલીન સીટ વગેરે. સરકારી/સહકારી સંસ્થા મારફતે વિતરણ કરેલ સાધનોમાં સામાન્ય ખેડૂતોને 50 ટકા કે રૂ. 2500 જ્યારે અનુસૂચિત જાતિ અને જનજાતિના ખેડૂતોને ખર્ચના 75 ટકા કે રૂ. 3750 ની સહાય તેમજ બાગાયતી ખેતી કરતાં ખેડૂત-જૂથો, સરકારી સંસ્થાઓને કાપણી પછીની પ્રક્રિયા માટેના વજનકાંટા ,પેકિંગ મટેરીયલ્સ, શોપિંગ/ગ્રેડીંગ મશીનરી જેવા સાધનો સાથે પ્લાસ્ટિક કેરેટ્સ વસાવવા માટે સામાન્ય ખેડૂતોને ખર્ચના 60 ટકા કે 5.00 લાખ જ્યારે અનુસૂચિત જાતિ અને જનજાતિના ખેડૂતોને ખર્ચના 90 ટકા કે રૂ. 7.50 લાખ સુધીની સહાય આપવામાં આવે છે.
4. રાજ્યના અનુસૂચિત જાતિ અને જનજાતિના ખેડૂતોને બાગાયતી પેદાશોના નિયત થયેલ પેકિંગ મટેરીયલ્સ માટે ખર્ચના 75 ટકા કે રૂ. 7500 હેક્ટર મુજબ ચાર હેક્ટર સુધી સહાય આપવામાં આવે છે.

2.8 રાજ્યના હાઇટેક હોર્ટિકલ્ચરના ખાસ કાર્યક્રમો

રાજ્ય દ્વારા હાઇટેક હોર્ટિકલ્ચરના પ્રોત્સાહન માટે હોર્ટિ મિશન / નોન મિશન જિલ્લાઓમાં પૂરક સહાય આપવામાં આવે છે. પોલી હાઉસ/ નેટ હાઉસ માટે સહાય આપવામાં આવે છે. રક્ષિત ખેતીમાં આધુનિક મશીનરી માટે સહાય આપવામાં આવે છે આ ઉપરાંત કોલ્ડ ચેઇન મેનેજમેન્ટ માટે, હાઇટેક ગ્રીન



હાઉસ માટે, ક્ષારિય વિસ્તારમાં (દરિયા કિનારે) પોલીસ હાઉસ / શેડ નેટ હાઉસ માટે પણ સહાય આપવામાં આવે છે.

2.9 રાષ્ટ્રીય કૃષિ વિકાસ યોજના

રાજ્યમાં બાગાયતી પાકો અને તેને સંલગ્ન વિવિધ પ્રવૃત્તિઓના વિકાસ માટેના વિવિધ ઘટકો જેવા કે ફળ, શાકભાજી પાકના વાવેતર, ઉત્પાદન વધારવા અને ગુણવત્તા સુધારવાની આધુનિક ખેત પદ્ધતિઓનો વ્યાપ વધારી, બાગાયતી ખેતીમાં યાંત્રિકીકરણ ,તેમજ કાપણી પછીના વ્યવસ્થાપનમાં ,મૂલ્યવર્ધનની પ્રક્રિયા માટે, સંગ્રહ અને વેચાણની બજાર વ્યવસ્થા માટેની વિવિધ માળખાકીય સુવિધાઓમાં સુધારો અને વધારો કરી પોષણ સલામતીમાં સુધારો લાવી ખેડૂતોની આવકમાં વધારો કરવાના હેતુથી કેન્દ્ર સરકાર વિભાગ હેઠળના બાગાયત ખાતા મારફતે રાજ્યકક્ષાએ તેમજ જિલ્લા કક્ષાએ મંજૂરી મળેલ પ્રોજેક્ટ આધારિત સહાયના વિવિધ ઘટકોમાં ખેડૂતોને સહાય આપવાના કાર્યક્રમો હાથ ધરવામાં આવે છે.

2.10 ગુજરાતમાં બાગાયત ખાતાની સહાયક યોજનાઓ

1. એ.જી.આર-23 – ગુજરાત સંકલિત બાગાયતી વિકાસ કાર્યક્રમો
2. એ.જી.આર-24 – આદિજાતી વિસ્તારોમાં બાગાયતી વિકાસ કાર્યક્રમો
3. એ.જી.આર-25 – અનુસુચિત જાતિના ખેડૂતો માટે ખાસ અંગભૂત યોજનાઓ
4. એ.જી.આર-26 – ફળ અને શાકભાજીની જાળવણી અને તાલીમ યોજના
5. એ.જી.આર-27 – ગુજરાત રાજ્યમાં બાગાયત વિકાસ અંગેની કેન્દ્ર પુરસ્કૃત કાર્યક્રમની યોજના
6. એ.જી.આર-28 – લણણી પછીની પૂર્વ જરૂરિયાતો અને બાગાયતી પેદાશોની પ્રક્રિયાની યોજના

સંદર્ભ

Government India (2014) National Horticultural Board, Ministry Of Agriculture New Delhi .

ગુજરાત રાજ્ય બાગાયત ખાતું ગાંધીનગર.

**BIG DATA ANALYTICS FOR SUSTAINABLE BUSINESS PRACTICES**

By

Anjaniben R. Vyas & Ilaben K. Patel**P.G.D.C.A. Study Center, Viramgam****Abstract**

This study explores the impact of big data analytics on sustainable business practices, highlighting its transformative role in enhancing operational efficiency, improving decision-making, and fostering innovation. As organizations increasingly face pressure to adopt sustainable practices, the integration of big data offers valuable insights that drive resource optimization and waste reduction. This paper examines various big data analytics techniques, including descriptive, predictive, and prescriptive analytics, and their application in promoting sustainability across different sectors. Through case studies of leading organizations, the research illustrates successful implementations of big data analytics that have led to measurable sustainability outcomes. Additionally, the study addresses the challenges organizations encounter when adopting these technologies, such as data privacy concerns and the skills gap. Finally, it discusses future trends in big data and sustainable business practices, emphasizing the need for ongoing research and development in this critical area. The findings underscore the potential of big data analytics as a key driver of sustainable development in the modern business landscape.

Introduction**Definition of Big Data Analytics**

Big Data Analytics refers to the process of examining large and varied datasets—often referred to as big data—to uncover hidden patterns, correlations, and insights. This analysis can involve statistical analysis, machine learning, data mining, and predictive modeling. The key characteristics of big data include its volume (the vast amounts of data generated), variety (the different forms of data, such as structured and unstructured), velocity (the speed at which data is generated and processed), and veracity (the reliability and accuracy of the data). By leveraging advanced analytical techniques, organizations can transform raw data into actionable insights that inform strategic decision-making.

Overview of Sustainable Business

Practices Sustainable business practices are strategies and actions that organizations adopt to minimize their environmental impact and promote social responsibility while maintaining economic viability. These practices encompass a wide range of activities, including efficient resource utilization,



waste reduction, sustainable sourcing, and ethical labor practices. The concept of sustainability in business emphasizes the importance of meeting present needs without compromising the ability of future generations to meet their own needs. In an era where consumers increasingly demand corporate accountability, adopting sustainable practices is not just beneficial but essential for long-term success.

Importance of the Topic

The intersection of big data analytics and sustainable business practices is increasingly critical as organizations face mounting pressure from stakeholders, regulators, and consumers to adopt more sustainable operations. The integration of big data analytics can significantly enhance an organization's ability to identify inefficiencies, optimize resource usage, and innovate sustainable solutions. This research aims to highlight how big data analytics can serve as a catalyst for sustainability, providing organizations with the tools necessary to navigate complex environmental challenges while achieving their business goals.

Objectives of the Study

The primary objectives of this study are to:

1. Analyze the impact of big data analytics on enhancing sustainability in business operations.
2. Identify specific techniques and applications of big data analytics that drive sustainable business practices.
3. Provide insights and recommendations for organizations seeking to integrate big data analytics into their sustainability initiatives, thereby fostering a culture of continuous improvement and innovation.

Literature Review and Theoretical Framework

During the past couple of years, data analytics and sustainability became closely intertwined subjects. Indeed, many academic works identified Big Data, predictive models, and IoT technologies as key emerging trends that shape the way companies approach sustainability. This section sets out the critical contributions within academic literature on the use of data analytics in measuring and growing sustainable impact. In an ever-changing world, adapting and renewing organizations when circumstances require is a very important strategy that may be implemented by future enterprises (Wójcik, 2015). Companies may achieve this capability by borrowing from past experiences in developing the capability of drawing from tacit knowledge. Business analytics is core in business transformation and integral to raising businesses' performance quantum-wise (Ramanathan et al. 2017). These subsections discuss how BA adoption influences the organizational performance at DMP,



OPP, and FIP levels Data Analytics and Sustainability Metrics Data analytics play a significant role in monitoring and optimizing all of the above-mentioned sustainability metrics, whether carbon emissions, water usage, or waste.

According to Smith et al. (2021), companies that applied predictive analytics outperformed others and had significant reductions in their carbon footprint for five consecutive years. In the provided context, research by authors focuses on the use of real-time monitoring and historical data analysis for the forecast of future challenges regarding sustainability.

The Concept of Sustainability in Business

Sustainability in business refers to the practice of conducting operations in a manner that is environmentally friendly, socially responsible, and economically viable. This involves balancing economic growth with ecological preservation and social equity.

Key principles of sustainability include reducing carbon footprints, promoting fair labor practices, and engaging in corporate social responsibility (CSR). By adopting sustainable practices, businesses can enhance their reputation, mitigate risks, and create long-term value for stakeholders.

Role of Big Data in Modern Business Operations

In today's data-driven landscape, big data plays a pivotal role in shaping business operations. Organizations harness vast amounts of data generated from various sources, including customer interactions, supply chain activities, and market trends. This data can provide insights into consumer behavior, operational efficiency, and market dynamics.

By utilizing big data analytics, businesses can make informed decisions, identify new opportunities, and respond proactively to challenges, thereby enhancing their overall agility and competitiveness.

Relationship between Big Data and Sustainability

The relationship between big data and sustainability is multifaceted. Big data analytics enables organizations to measure and analyze their environmental impact, optimize resource management, and improve compliance with sustainability regulations.

By leveraging datadriven insights, companies can develop strategies that align with sustainability goals, such as reducing energy consumption, minimizing waste, and enhancing product life cycles. This synergy between big data and sustainability not only supports organizational objectives but also contributes to broader societal goals of environmental preservation and social equity.



Big Data Analytics Techniques

Data Collection Methods

1. Sources of Big Data Organizations can source big data from various channels, including transactional data from customer interactions, social media platforms, IoT devices, and environmental sensors. These diverse data sources provide a comprehensive view of operations, customer preferences, and market conditions.
2. Data Quality and Integrity Ensuring data quality and integrity is crucial for effective big data analytics. Organizations must implement processes for data cleansing, validation, and verification to maintain accuracy and reliability. High-quality data is essential for drawing meaningful insights and making informed decisions.

Data Processing and Analysis Techniques

1. Descriptive Analytics Descriptive analytics focuses on summarizing historical data to identify trends and patterns. It provides insights into past performance, helping organizations understand their sustainability efforts' effectiveness and areas for improvement.
2. Predictive Analytics Predictive analytics uses statistical models and machine learning techniques to forecast future outcomes based on historical data. This approach can help organizations anticipate demand, optimize resource allocation, and identify potential risks related to sustainability.
3. Prescriptive Analytics Prescriptive analytics goes a step further by recommending actions based on predictive insights. It enables organizations to evaluate different scenarios and choose the most effective strategies for achieving sustainability goals, such as optimizing supply chains or reducing energy consumption.

Impact of Big Data Analytics on Sustainable Business Practices

Enhancing Operational Efficiency

Resource Optimization

Big data analytics allows organizations to track and analyze their resource consumption patterns in real-time. By utilizing data from sensors, IoT devices, and historical usage patterns, companies can identify inefficiencies in resource allocation. For instance, manufacturing firms can monitor energy usage across different machines and processes to pinpoint areas for improvement, leading to significant cost savings and reduced environmental impact. Optimizing resources not only enhances operational efficiency but also contributes to sustainability goals by minimizing unnecessary consumption.



Waste Reduction

Analytics can help businesses understand waste generation patterns and identify opportunities for reduction. By analyzing production data, companies can optimize processes to minimize scrap and defects. For example, retailers can use customer purchase data to adjust inventory levels, reducing excess stock and minimizing waste. Additionally, organizations can implement predictive maintenance strategies that utilize data to foresee equipment failures, allowing for timely interventions that prevent waste and extend the lifespan of assets.

Improving Decision-Making

Data-Driven Strategies

The integration of big data analytics enables organizations to make informed decisions based on empirical evidence rather than intuition. By analyzing customer data, market trends, and operational metrics, businesses can develop strategies that align with sustainability objectives. For instance, companies can identify the most sustainable suppliers or determine which products have the least environmental impact, facilitating better purchasing and production decisions.

Risk Management

Big data analytics enhances an organization's ability to manage risks associated with sustainability. By analyzing various data points, companies can identify potential risks related to supply chain disruptions, regulatory changes, or environmental impacts. Predictive analytics can help anticipate these risks and enable organizations to devise contingency plans, thus ensuring continuity and minimizing negative impacts on sustainability initiatives.

Promoting Innovation

Sustainable Product Development

Big data analytics can drive innovation in product development by providing insights into consumer preferences and trends. Organizations can analyze customer feedback, social media interactions, and purchasing behavior to develop products that meet sustainability criteria. For instance, companies can use analytics to design eco-friendly products that consume fewer resources or utilize sustainable materials, thereby appealing to environmentally conscious consumers.

New Business Models

The insights derived from big data can inspire new business models focused on sustainability. For example, organizations can explore circular economy models that emphasize recycling, reuse, and refurbishment based on data analysis of product life cycles. Subscription-based models for products,



rather than traditional ownership, can also emerge as a sustainable alternative, allowing companies to maintain control over the product lifecycle and reduce waste.

Engaging Stakeholders

Customer Insights

Big data analytics provides organizations with deep insights into customer behaviors and preferences, allowing them to tailor their sustainability efforts accordingly. Understanding what sustainability means to their customers enables businesses to create targeted marketing strategies and develop products that resonate with consumer values. Engaging customers through transparency about sustainability initiatives can also enhance brand loyalty and trust.

Supplier Collaboration

Collaboration with suppliers is essential for achieving sustainability goals, and big data analytics can facilitate this process. By sharing data insights related to sustainability metrics, organizations can work with suppliers to identify areas for improvement, such as reducing carbon footprints or improving resource efficiency. Collaborative efforts based on data-driven insights can lead to more sustainable supply chains and bolster overall corporate sustainability initiatives.

Challenges in Implementing Big Data Analytics for Sustainability

Data Privacy and Security Concerns

Implementing big data analytics raises significant data privacy and security issues. Organizations must ensure that they comply with regulations regarding data protection while handling vast amounts of sensitive information. The risk of data breaches can deter companies from fully utilizing big data analytics for sustainability initiatives, as they may fear the repercussions of compromised data security.

Integration with Existing Systems

Integrating big data analytics into existing systems can be a complex challenge. Many organizations operate with legacy systems that may not be compatible with new analytics technologies. This integration requires substantial time and resources, and failure to achieve seamless integration can lead to inefficiencies and hinder the effectiveness of sustainability efforts.

Skills Gap and Training Needs

There is often a significant skills gap in the workforce when it comes to big data analytics. Many employees may lack the necessary training and expertise to effectively analyze and interpret big data. Organizations must invest in training programs to equip their teams with the skills needed to leverage analytics for sustainability, which can be a resource-intensive process.



High Costs of Implementation

The costs associated with implementing big data analytics can be prohibitive for many organizations. This includes not only the financial investment in technology and infrastructure but also the ongoing costs related to data management and analytics personnel. Smaller companies, in particular, may struggle to allocate sufficient resources to adopt big data analytics for sustainability purposes.

Future Trends

Emerging Technologies in Big Data

The landscape of big data analytics is continuously evolving, with emerging technologies such as blockchain and advanced data visualization tools gaining traction. These technologies can enhance data integrity and provide clearer insights into sustainability metrics, making it easier for organizations to track their progress.

The Role of Artificial Intelligence

Artificial intelligence (AI) is expected to play a crucial role in the future of big data analytics. AI can automate data processing and analysis, allowing organizations to derive insights more quickly and accurately. This capability can significantly enhance decision-making processes related to sustainability initiatives.

Increasing Regulatory Pressures

As concerns about data privacy and environmental sustainability grow, regulatory pressures are likely to increase. Organizations will need to adapt to new regulations that govern data usage and sustainability reporting, which may require additional investments in compliance and reporting systems.

Future of Sustainable Business Practices

The integration of big data analytics into sustainable business practices is expected to deepen. Companies will increasingly rely on data-driven insights to inform their sustainability strategies, leading to more effective and measurable outcomes. This trend will likely foster greater collaboration among stakeholders, including suppliers and customers, to achieve shared sustainability goals.

Conclusion

Summary of Key Findings

The implementation of big data analytics for sustainability presents both challenges and opportunities. While organizations face hurdles such as data privacy concerns, integration issues, skills gaps, and high costs, the potential benefits in terms of operational efficiency and informed decision-making are significant.



Implications for Businesses

Businesses that successfully navigate these challenges can gain a competitive advantage by leveraging big data analytics to enhance their sustainability efforts. This can lead to improved resource management, reduced waste, and stronger stakeholder engagement.

Recommendations for Future Research

Future research should focus on developing frameworks for integrating big data analytics into existing systems, addressing the skills gap through targeted training programs, and exploring the impact of emerging technologies on sustainability practices. Additionally, studies on the long-term effects of regulatory changes on big data implementation would be beneficial.

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ટકાઉપણું અને કૌશલ્યમાં કર્મચારીની સંલગ્નતામાં વિસંગતતાની વર્તમાન પરિસ્થિતિ નો આર્થિક અભ્યાસ
(આણંદ જિલ્લાના સંદર્ભમાં)

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સારાંશ

વિશ્વના કોઈ પણ દેશના આર્થિક વિકાસનો આધાર તેની પાસે રહેલ કુદરતી સાધન સંપત્તિ પર રહેલો છે. આજનો માનવી વિકાસનો લક્ષ્ય હાંસલ કરવામાં આ જ સંપદાને નુકશાન પહોંચાડે છે. જેના કારણે અર્થશાસ્ત્રીઓ ધ્વારા આર્થિક વિકાસ ની સાથે સાથે ટકાઉ વિકાસનો ખ્યાલ પણ વિકસાવવામાં આવ્યો છે. ભાવિ પેઢીની જરૂરિયાતોને નુકશાન પહોંચાડ્યા વિના વર્તમાન પેઢીની જરૂરિયાતો પૂરી કરતો વિકાસ એટલે ‘ટકાઉ વિકાસ’. પર્યાવરણીય,સામાજિક અને આર્થિક પરિમાણ એ ટકાઉ વિકાસ ના મુખ્ય ૩ આધાર સ્તંભ ગણવામાં આવે છે. ભારત દેશે ટકાઉપણા ના ખ્યાલ ને સિદ્ધ કરવા માટે કુદરતી સંશોધનોની જાળવણી કરે,તેવી ટેકનોલોજી અપનાવવાની જરૂરિયાત છે. વિશ્વનાં દરેક દેશ વૃદ્ધિ-વિકાસદર હાંસલ કરવાનાં પ્રયત્નોની સાથે શ્રમબજારનું જટિલ માળખું સમજવામાં અસફળ થયાં છે, માટે જ આજના વિકસિત અને વિકાસશીલ દેશોની મુખ્ય સમસ્યા એ રોજગારીની માંગ અને કૌશલ્યની માંગ વચ્ચે સુમેળનો અભાવ છે.શિક્ષિત શ્રમિકો જેને ‘રોજગારવાન્છું’ કેહવાય છે,તેના વધતા પુરવઠા સામે રોજગારી પૂરી પાડવી એ એક મોટી સમસ્યા છે.વર્તમાન સમયમાં બેરોજગારી એ પણ એક વિકટ પ્રશ્ન છે,તેના માટે જવાબદાર પરિબળ ‘કૌશલ્યનો અભાવ’ છે. આ કૌશલ્ય અભાવ એટલે જ રોજગારવાંછું છે, તેઓમાં બજારમાં ઉપલબ્ધ રોજગાર મુજબનું કૌશલ્ય નથી.આમ,રોજગારીની માંગ અને કૌશલ્યની માંગ વચ્ચેની વિસંગતતા ને લઈને સરકાર ધ્વારા કયા પ્રકરના પગલા લેવામાં આવ્યા અને તેની આર્થિક અસરો શું હોઈ શકે તે જાણવું અનિવાર્ય છે.

ચાવીરૂપ શબ્દો: ટકાઉ વિકાસ,ટકાઉપણું,આર્થિક વિકાસ,રોજગારીની માંગ,કૌશલ્યની માંગ,અસંગતતા



પ્રસ્તાવના

વિશ્વના કોઈ પણ દેશના આર્થિક વિકાસનો આધાર તેની પાસે રહેલ કુદરતી સાધન સંપત્તિ પર રહેલો છે.આજે માનવી વિકાસનો ઉચ્ચ દર પ્રાપ્ત કરવાની દોડમાં કુદરતી સંપદાને નુકશાન પોહ્યાડે છે.જેથી અર્થશાસ્ત્રીઓ આર્થિક વિકાસ ના ખ્યાલ સાથે ટકાઉ વિકાસના ખ્યાલ ને પણ મહત્વ આપી રહ્યા છે.ટકાઉ વિકાસ ને સામાન્ય શબ્દમાં સમજીએ તો,ભાવિ પેઢીની જરૂરિયાતોને નુકશાન પહોચાડ્યા વિના વર્તમાન પેઢીની જરૂરિયાતો પૂરી કરતો વિકાસ.પ્રો.જોસેફ શુમ્પીટરે પણ આર્થિક વિકાસનો ખ્યાલ આપતા જણાવ્યું છે કે: “આર્થિક વિકાસ પ્રાપ્ત કરવા અર્થતંત્રમાં સતત નવપ્રવર્તન કરતા રહેવું જરૂરી છે.” આજ નવપ્રવર્તન નો ઉપયોગ ટકાઉ વિકાસ હાંસલ કરવા માટે નવી પર્યાવરણીય ટેકનોલોજીના ઉપયોગ દ્વારા કુદરતી સંપત્તિનો કરકસર પૂર્વકનો ઉપયોગ કરીને આર્થિક વિકાસ સાધવા માટે કરી શકાય છે.આમ,ટકાઉ વિકાસ ના ખ્યાલ ને સિદ્ધ કરવા માટે પર્યાવરણ મિત્ર ટેકનોલોજી કે જે કુદરતી સંશાધનોની જાળવણી કરે,તેવી ટેકનોલોજી અપનાવવાની જરૂરિયાત છે.

ટકાઉપણું એ એક સામાજિક ધ્યેય છે.તેમાં પર્યાવરણીય, સામાજિક અને આર્થિક પરિમાણોનો સમાવેશ થાય છે, જેને ઘણીવાર ટકાઉપણાના “ત્રણ સ્તંભ” તરીકે ઓળખવામાં આવે છે.સંયુક્ત રાષ્ટ્ર શૈક્ષણિક,વૈજ્ઞાનિક અને સંસ્કૃતિક સંગઠન(યુનેસ્કો) ટકાઉ વિકાસ અને ટકાઉપણું ને અલગ પડતા સમજાવે છે કે: “ટકાઉપણું ઘણીવાર લાંબા ગાળાના ધ્યેય (એટલે કે વધુ ટકાઉ વિશ્વ) તરીકે માનવામાં આવે છે, જ્યારે ટકાઉ વિકાસ તેને પ્રાપ્ત કરવા માટે ઘણી પ્રક્રિયાઓ અને માર્ગોનો ઉલ્લેખ કરે છે.” આમ,ટકાઉ વિકાસ અને ટકાઉપણા ના ખ્યાલ ને સિદ્ધ કરવા માટે પર્યાવરણ મિત્ર ટેકનોલોજી કે જે કુદરતી સંશાધનોની જાળવણી કરે,તેવી ટેકનોલોજી અપનાવવાની જરૂરિયાત છે.

વર્તમાન સમયમાં ભારતીય અર્થવ્યવસ્થા એ વિશ્વની પમી મોટી અર્થવ્યવસ્થા છે. વિશ્વનાં દરેક દેશ વૃદ્ધિ-વિકાસદર હાંસલ કરવાનાં પ્રયત્નોની સાથે અર્થતંત્રની બદલાતી જતી પરિસ્થિતિ અને તેની સામે ઝડપથી પરિવર્તન થઈ શકે તેવું શ્રમબજારનું જટિલ માળખું સમજવામાં અસફળ થયાં છે, માટે જ આજના



વિકસિત અને વિકાસશીલ દેશોની મુખ્ય સમસ્યા એ રોજગારીની માંગ અને કૌશલ્યની માંગ વચ્ચે સુમેળનો અભાવ છે. આ સમસ્યાને નાથવાં માટે દરેક દેશની સરકારો કટિબદ્ધ થઈ છે પરંતુ, વર્તમાન સ્થિતિમાં જે રોજગારી અને કૌશલ્યની માંગ વચ્ચે ખાઈ ઉભી થઈ છે તેને નાથી શક્યાં નથી.

ભારતમાં જેમ-જેમ શિક્ષણનું પ્રમાણ વધી રહ્યું છે, તેમ-તેમ શિક્ષિત શ્રમિકોનો પુરવઠો ભારતીય અર્થતંત્રમાં ઠલવાઈ રહ્યો છે. જેને આપણે "રોજગારવાંછું" તરીકે ઓળખીએ છીએ. પરંતુ આટલી મોટી સંખ્યાના પુરવઠાને રોજગારી પુરી પાડવી એ વર્તમાન સમયની સૌથી મોટી સમસ્યા છે. જેમ-જેમ સમય જાય છે, તેમ-તેમ આ સમસ્યા વિસ્તૃત થતી જાય છે અને તેના માટે જવાબદાર પરિબળમાંનું એક મહત્વનું પરિબળ "વ્યાવસાયિક શિક્ષણ" નો અભાવ હોઈ શકે. કારણ કે, બજારમાં જે રીતનો રોજગાર ઉપલબ્ધ છે, તે રીતની કુશળતા ધરાવતા શ્રમિકોની અછત જોવા મળે છે.

વર્તમાન સમયમાં બેરોજગારીના અસ્તિત્વ માટે જવાબદાર પરિબળ જોઈએ તો કૌશલ્ય શ્રમની માંગ અને બિનકુશળ શ્રમિકોનો પુરવઠો છે. ભારત દેશમાં વર્તમાન બેરોજગારી દર 6.57 ટકા છે. વર્તમાન સમયમાં રોજગારીની તકો ઉપલબ્ધ હોવા છતાં બેરોજગારી દરની વૃદ્ધિએ એક વિકટ પ્રશ્ન છે અને તેને માટે જવાબદાર છે કૌશલ્યનો અભાવ. આ કૌશલ્ય અભાવ એટલે જે રોજગારવાંછું છે, તેઓમાં બજારમાં ઉપલબ્ધ રોજગાર મુજબનું કૌશલ્ય નથી. છેલ્લાં એક દાયકાથી ભારત સરકારે આ સંદર્ભમાં પ્રયત્નો હાથ ધર્યાં પરંતુ, રોજગારીની માંગ અને કૌશલ્યની માંગ વચ્ચે સુમેળ સાધી શકાયો નથી. પ્રસ્તુત પેપર માં આ સમસ્યા, પ્રશ્નને ધ્યાનમાં રાખીને વર્તમાન પરિસ્થિતિ મૂલાવવાનો એક પ્રયાસ હાથ ધરવામાં આવ્યો છે.

પ્રદેશ	શ્રમ દળની ભાગીદારી	કાર્ય દળની ભાગીદારી	રોજગારની ટકાવારી		
			પ્રાથમિક ક્ષેત્રો	સેકન્ડરી ક્ષેત્રો	તૃતીય ક્ષેત્રો
આણંદ	૫૭.૦૧%	૪૨.૨૬%	૭૦.૪૩%	૯.૧૯%	૨૦.૩૭%

કોષ્ટક નં. ૧.૧ આણંદ તાલુકામાં રોજગારી માંગ વિતરણ દૃશ્યની સરખામણી

સ્ત્રોત: NSDC (National Skill Development corporation), ૨૦૨૨+



	૨૦૧૨-૨૦૧૭				૨૦૧૭-૨૦૨૨			
	કુશળ	અર્ધ-કુશળ	ન્યૂનતમ-કુશળ	કુલ	કુશળ	અર્ધ-કુશળ	ન્યૂનતમ-કુશળ	કુલ
આણંદ	૧૧,૦૩૪	૮,૫૫૪	૫૫,૭૭૪	૭૫,૩૬૨	૧૨,૨૨૧	૧૦,૬૦૧	૩૫,૬૮૧	૫૮,૫૦૩

કોષ્ટક નં.૧.૨ આણંદ માં કૌશલ્ય મુજબ વધતો માનવબળ પુરવઠો (૨૦૧૨-૨૦૨૨)

સ્ત્રોત: NSDC (National Skill Development corporation), ૨૦૨૨

સંશોધન પ્રશ્ન

પ્રવર્તમાન સમયમાં રોજગારીએ સળગતો પ્રશ્ન છે. દેશમાં ઠેર-ઠેર રોજગારવાંછુંઓ દ્વારા આંદોલન-ધરણાઓ કરવામાં આવી રહ્યાં છે. યુવાન શિક્ષિત વર્ગની હાલની મોટી મુંઝવણ શિક્ષણ મેળવ્યાં પછી પોતે જેનું શિક્ષણ મેળવ્યું છે તે ક્ષેત્રે સુરક્ષિત નોકરી-રોજગાર મળશે કે નહીં તે જોવા મળે છે. સરકારો દ્વારા પણ આ સંદર્ભમાં સમયાંતરે વિવિધ પ્રયોજન હાથ ધરવામાં આવે છે, તેમ છતાં સરકારનાં રોજગારીસર્જનનાં પ્રયત્નો અને સામે બેરોજગારીના દરમાં વધારો આ બંને વચ્ચેનું અંતર સમય જતાં વધતું જ જાય છે. આ માટે કયા કારણો જવાબદાર હશે? રોજગારીની માંગ અને કૌશલ્યની માંગ વચ્ચે સુમેળ કેમ સાધી શકાતો નથી? આ અસમતુલા દૂર કરવા માટે સરકાર દ્વારા કયા પગલાંઓ લેવામાં આવ્યા? આ પગલાંઓ દ્વારા સરકાર તેનાં હેતુઓ સિદ્ધ કરી શકી છે? આ સમસ્યાની આર્થિક અસરો શું છે? વિકસિત અને ભારત દેશ માટે મોડેલ ગણાતાં ગુજરાત રાજ્યમાં પણ આ સમસ્યા છે તો તેના કારણો કયાં છે? શું રોજગારવાંછુંઓમાં કૌશલ્યની ઉણપ છે? સરકારે આ કૌશલ્ય ઉણપને દૂર કરવા માટે શું કર્યું? ક્યારે કર્યું? અને તેનું પરીણામ શું આવ્યું? આ પ્રશ્નો હલ કરવામાં કેન્દ્ર અને રાજ્ય સરકારની ભૂમિકા શું રહી છે?

આવા બહુહેતુક પ્રશ્નોનાં ઉત્તર મેળવવાં માટે આ વિષયમાં સંશોધન કરવું અનિવાર્ય છે, માટે જ પ્રસ્તુત અભ્યાસ અંતર્ગત રોજગારીની માંગ અને કૌશલ્યની માંગ વચ્ચે સ્થાનિક અસંગતતાની આર્થિક અસરો ઉપર અભ્યાસ કરવાનો નિર્ધાર કરવામાં આવેલ છે.

સંશોધન પેપર નાં હેતુઓ:

૧. રોજગારીની માંગ અને કૌશલ્યની માંગની આર્થિક અસરો જાણવી.



૨. સરકાર દ્વારા રોજગારીની માંગ અને કૌશલ્યની માંગ સંદર્ભે લેવાયેલા પગલાંઓ કયા છે અને તેનાં પરિણામો શું આવ્યાં તે જાણવા.

સંશોધન પદ્ધતિ

આ સંશોધન માટે અભ્યાસ વિસ્તાર તરીકે ગુજરાત રાજ્યના આણંદ જિલ્લાની પસંદગી કરવામાં આવી છે. માહિતી એકત્રીકરણ માટે પ્રાથમિક તેમજ ગૌણ એમ બંને સ્ત્રોત નો ઉપયોગ કરવામાં આવેલ છે. પ્રાથમિક માહિતી અંતર્ગત નમુના પસંદગી માટે સરળ યદ્યચ્છ નિર્દેશન પદ્ધતિનો ઉપયોગ કરવામાં આવ્યો છે અને ૨૫ જેટલા નમૂનાની પસંદગી કરવામાં આવેલ છે.

કોષ્ટક નં.૧.૩ ઉત્તરદાતાનું જાતિશિક્ષણ અને ઉંમર આધારિત વર્ગીકરણ

ક્રમ	વિગત		ઉત્તરદાતાની સખ્યા
૧	ઉત્તરદાતાની જાતિ	સ્ત્રી	૦૯
		પુરુષ	૧૬
	કુલ		૨૫
૨	ઉત્તરદાતાનું શિક્ષણ	નિરક્ષર	૦
		પ્રાથમિક	૦
		માધ્યમિક	૩
		ઉચ્ચ માધ્યમિક	૫
		સ્નાતક- ઉચ્ચ અભ્યાસ	૬
		સ્કીલ કોર્સ	૯
		ટેકનીકલ-વ્યવસાયિક	૨
	કુલ		૨૫
૩	ઉત્તરદાતાની ઉંમર	૧૫ થી ૨૫ વર્ષ	૧૧
		૨૬ થી ૩૫ વર્ષ	૦૭
		૩૬ થી ૪૫	૩
		૪૬ થી ૫૫	૨
		૫૫ થી વધુ	૧
	કુલ		૨૫



માહિતીની રજૂઆત

- ઉપરોક્ત ટેબલ માં ઉત્તરદાતાની જાતી,શિક્ષણ અને ઉંમર ની માહિતી આપવામાં આવેલ છે.
- સૌ પ્રથમ જોઈ શકાય છે કે,જાતી માં સ્ત્રી અને પુરુષ ના વર્ગીકરણમાં સ્ત્રી ઉત્તરદાતાની સંખ્યા ૦૮ અને પુરુષ ઉત્તરદાતાની સંખ્યા ૧૬ છે.
- ત્યારબાદ શિક્ષણ ની માહિતીને ૦૭ ભાગમાં વિભાજીત કરેલ છે જેમાં નિરક્ષર, પ્રાથમિક, માધ્યમિક, ઉચ્ચ માધ્યમિક, સ્નાતક, સ્કીલ કોર્સ અને ટેકનીકલવ્યવસાયિક- કોર્સ નો સમાવેશ થાય છે.
- ત્રીજા ક્રમ માં ઉત્તરદાતાની વયને ૧૫ થી લઈને ૫૫ વર્ષની વય ની વચ્ચે વર્ગીકૃત કરેલ છે,જેમાં ૧૫ થી ૨૫ વર્ષ માં ઉત્તરદાતાની સંખ્યા વધુ જોવા મળે છે.

ક્રમ	રોજગારીનું ક્ષેત્ર	ઉત્તરદાતાની સંખ્યા
૧	કૃષિ	૦
૨	ઉદ્યોગમાં નોકરી	૧૦
૩	સ્વરોજગારી	૫
૪	સ્વ કૌશલ્ય આધારિત	૮
૫	અન્ય	૧
	કુલ	૨૫

કોષ્ટક નં.૧.૪ ઉત્તરદાતાની રોજગારી અંગેની માહિતી

માહિતીની રજૂઆત:

- કોષ્ટક ૧.૪ માં ઉત્તરદાતાની રોજગારી અંગેની માહિતી દર્શાવવામાં આવેલ છે.
- ટેબલ માં જોઈ શકાય છે કે ,રોજગારીના ક્ષેત્રને કુલ ૦૪ ભાગમાં વિભાજીત કરેલ છે.જેમાં કૃષિ,નોકરી,સ્વરોજગારી અને સ્વ કૌશલ્ય આધારિત ક્ષેત્રનો સમાવેશ થાય છે.
- આપેલ માહિતી દર્શાવે છે કે,કૃષિ ક્ષેત્રે સૌથી ઓછા ૦ અને ઉદ્યોગ માં નોકરી કરતા સૌથી વધુ એમ કુલ ૧૦ ઉત્તરદાતાઓની સંખ્યા જોવા મળે છે.



કોષ્ટક નં.૧.૫ ઉત્તરદાતાની અન્ય માહિતી અને તેમના અભિપ્રાયો

ક્રમ	વિગત		ઉત્તરદાતાની સંખ્યા
૧	શું તમે તમારા કૌશલ્ય આધારિત વ્યવસાય કરી રહ્યાં છો?	હા	૬
		ના	૧૯
૨	રોજગારી મેળવવામાં પડતી સમસ્યાઓ	કૌશલ્ય મુજબ રોજગારીનો અભાવ	૦૮
		અન્ય ફિલ્ડનો અસ્વીકાર	૦૭
		રોજગારદાતાનો અભાવ	૦૫
		સામાન્ય શિક્ષણ	૦૨
		આવક ઓછી મળવી	૦૨
		અન્ય	૦૧
૩	રોજગારી વિસંગતતા અભિપ્રાય	કૌશલ્ય અને રોજગારીની સુસંગતતાનો અભાવ	૧૧
		શિક્ષણ અને રોજગારીની તકોમાં સુમેળનો અભાવ	૦૯
		અભ્યાસ પદ્ધતિમાં સુધારાનો અભાવ	૦૪
		રોજગાર બજાર માહિતીનો અભાવ	૦૧
		ભાવી જરૂરિયાત અંગેના જ્ઞાન/માહિતીનો અભાવ	૦૦

માહિતીની રજૂઆત:

- ઉપરોક્ત ટેબલમાં ઉત્તરદાતાની કૌશલ્યની માહિતી સાથે સાથે રોજગારી મેળવવામાં પડતી મુશ્કેલીઓ તથા તેમના અભિપ્રાયો દર્શાવવામાં આવેલ છે.
- કોષ્ટકમાં દર્શાવ્યા મુજબ કૌશલ્ય આધારિત વ્યવસાય કરતા ઉત્તરદાતાઓની સંખ્યા ખુબ ઓછી છે .
- બીજા ક્રમ માં ઉત્તરદાતાઓને નોકરી મેળવવામાં કયા કયા અવરોધો આવે છે તેની માહિતી આપેલ છે, જેમાં સુધી વધુ ઉત્તરદાતાનો મત એ છે કે તેઓને કૌશલ્ય મુજબ ની નોકરી મળતી નથી.



- સંસોધન વિષય અંતર્ગત અભિપ્રાયો લેવામાં આવેલ છે,તેમાં પણ મોટા ભાગના ઉત્તરદાતાઓનો અભિપ્રાય એ જ છે કે,તેઓ જે પણ વ્યવસાય સાથે હાલમાં સંકળાયેલા હે તે તેમના શિક્ષણ સાથે સુસંગત નથી.

નિષ્કર્ષ

1. કોષ્ટક ૧.૩ જેમાં ઉત્તરદાતાની જાતી,શિક્ષણ અને ઉંમર ની માહિતી આપેલ છે તેના પરથી એ તારણ આવે છે કે હજી પણ નોકરી કરતા વર્ગમાં પુરષ જાતીની સંખ્યા સ્ત્રી વર્ગ કરતા વધુ છે.
2. શિક્ષણ ની માહિતી તપાસતા જણાય છે કે,આ ક્ષેત્રમાં હકારાત્મક સુધારો જોવા મળે છે જેમાં,નિરક્ષર ઉત્તરદાતાઓની સંખ્યા ૦ છે અને અન્ય સ્કીલ કોર્ષમાં જોડાયેલ ઉત્તરદાતાઓની સંખ્યા સૌથી વધુ ૦૯ છે.
3. કોષ્ટક ૧.૪ જોતા ખ્યાલ આવે છે કે,સૌથી વધુ સંખ્યા એ ઉદ્યોગોમાં નોકરી કરતા ઉત્તરદાતાઓની છે જે કુલ ૧૦ છે અને સ્વ કૌશલ્ય આધારિત ક્ષેત્રમાં સાથે જોડાયેલ વ્યક્તિઓની સંખ્યા પણ ૦૯ છે જે નોંધપાત્ર છે.
4. કૌશલ્ય આધારિત વ્યવસાય કરતા ઉત્તરદાતાઓ ની સંખ્યા માત્ર ૦૬ જ છે.જે કોષ્ટક ૧.૫ માં જોઈ શકાય છે,જેના પરથી એ તારણ કાઢી શકાય છે કે રોજગારી ની માંગ અને કૌશલ્યની માંગ વચ્ચે સંલગ્નતાનો અભાવ છે.
5. રોજગારી મેળવવામાં નડતી અડચણો માં કૌશલ્ય આધારિત વ્યવસાય ન હોય તેવા ઉત્તરદાતાઓની સંખ્યા ૦૮ છે સાથે સાથે કૌશલ્ય અને રોજગારીની સુસંગતતાનો અભાવ હોય તેવા કુલ ૧૧ ઉત્તરદાતાઓ છે.
6. ઉત્તરદાતાઓના અભિપ્રાયો જોતા એવો નિષ્કર્ષ આવે છે કે કુલ ૧૧ જેટલા ઉત્તરદાતાઓનું એમ માનવું છે કે, કૌશલ્ય અને રોજગારીમાં સુસંગતતાનો અભાવ છે અને ૦૯ જેટલા ઉત્તરદાતાઓનું એમ કેહવું છે કે,શિક્ષણ અને રોજગારીની મળતી તકો વચ્ચે પણ યોગ્ય સુમેળ નથી.



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