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ROLE OF CONTINUOUS PROFESSIONAL DEVELOPMENT OF TEACHERS IN IMPROVING TEACHING QUALITY

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ABSTRACT

Teachers are the backbone of any education system, and their professional growth directly impacts student learning outcomes. **Continuous Professional Development (CPD)** is a lifelong process through which teachers acquire new knowledge, pedagogical skills, and professional attitudes to meet evolving educational demands. This paper explores the role of CPD in improving teaching quality, with emphasis on global practices and the Indian context. It analyzes the impact of CPD on teacher effectiveness, student achievement, curriculum innovation, and classroom management. The study finds that systematic CPD programs enhance teacher confidence, update instructional practices, and align teaching with 21st-century skills. Challenges such as lack of institutional support, time constraints, and uneven access to training are highlighted. The paper concludes with recommendations for integrating CPD into teacher education policy and institutional culture.

KEYWORDS: CONTINUOUS PROFESSIONAL DEVELOPMENT, TEACHING QUALITY, TEACHER TRAINING, LIFELONG LEARNING, PEDAGOGICAL INNOVATION, NEP 2020

INTRODUCTION

Education systems worldwide are facing rapid transformations due to technological innovations, globalization, and changing workforce demands. Teachers must continuously upgrade their skills to prepare students for the 21st century. Unlike one-time pre-service training, **Continuous Professional Development (CPD)** ensures that teachers remain effective throughout their careers.

The concept of CPD goes beyond workshops or refresher courses; it includes peer learning, mentoring, reflective practice, online training, and participation in professional networks. Villegas-Reimers (2003) defines CPD as "a lifelong process in which teachers constantly acquire new knowledge and skills related to their profession."

Globally, CPD is recognized as a key factor in enhancing teaching quality. OECD (2019) reports that countries with strong CPD systems show higher student achievement. In India, the **National Education Policy (NEP) 2020** emphasizes CPD by mandating at least 50 hours of professional development annually for all teachers.

This paper addresses the following research questions:

1. What is the role of CPD in enhancing teaching quality?
2. How does CPD impact teacher effectiveness, student learning, and classroom practices?
3. What challenges hinder effective CPD implementation in India?
4. What strategies can strengthen CPD as a core component of teacher education policy?

REVIEW OF LITERATURE

Concept of CPD

Day (1999) highlights CPD as a continuous, career-long process involving formal and informal learning. Kennedy (2005) categorizes CPD models into training, award-bearing, self-directed, collaborative, and transformative approaches.

CPD and Teacher Effectiveness

Research shows that CPD improves teacher confidence, subject knowledge, and pedagogical innovation. Desimone (2009) found that effective CPD programs lead to better instructional practices and student outcomes.

CPD and Student Achievement

Yoon et al. (2007) conducted a meta-analysis showing that teacher participation in sustained professional development significantly improved student test scores. Teachers who engage in CPD adopt learner-centered strategies, resulting in higher student engagement.

Global Best Practices in CPD

- **Singapore:** CPD is integrated into teachers' career progression, with structured mentoring and peer collaboration.
- **Finland:** Teachers participate in continuous research-based training programs.
- **UK:** CPD involves school-based projects, coaching, and reflective practice.

Challenges in CPD

Despite its importance, CPD faces challenges globally and in India:

- **Time Constraints:** Teachers often struggle to balance teaching loads with professional development activities.
- **Resource Limitations:** Many schools lack funding for workshops, conferences, or digital training.
- **One-Size-Fits-All Approaches:** Generic training programs fail to address diverse teacher needs.
- **Lack of Motivation:** Teachers may view CPD as a formality rather than an opportunity for growth (Avalos, 2011).
- **Systemic Barriers in India:** Bureaucratic structures, uneven implementation, and rural-urban disparities hinder effective CPD (NCTE, 2018).

Indian Context of CPD

India has a rich tradition of in-service teacher training programs, but most are sporadic and lecture-based. NEP 2020 emphasizes **continuous, technology-enabled, and practice-oriented CPD**. Platforms such as **DIKSHA**, **NISHTHA**, and MOOCs aim to scale CPD through online learning. However, studies (Singh & Kaur, 2021) show that rural teachers often face challenges such as lack of internet access, inadequate support, and limited motivation.

RESEARCH METHODOLOGY

Research Design

This paper adopts a **descriptive and analytical research design**, drawing insights from policy documents, survey reports, and empirical studies.

Research Objectives

1. To analyze the role of CPD in enhancing teaching quality.
2. To examine the relationship between CPD and student achievement.
3. To identify challenges in CPD implementation in India.

4. To suggest strategies for strengthening CPD as part of teacher education policy.

Sources of Data

- **Primary Documents:** NEP 2020, NCTE guidelines, NCERT reports, UNESCO frameworks.
- **Secondary Sources:** Peer-reviewed articles, books, case studies, and survey data.
- **Case Studies:** CPD programs from Singapore, Finland, UK, and India.

Sampling Method

Purposive sampling was applied to select studies published between 2000–2024 focusing on CPD and teaching quality.

Tools of Analysis

- **Content Analysis:** Categorizing CPD impacts into teacher effectiveness, student learning, and classroom innovation.
- **Comparative Analysis:** Contrasting CPD practices in developed countries and India.
- **Interpretative Synthesis:** Integrating global insights with Indian challenges.

Data Analysis and Interpretation

1. CPD and Teacher Effectiveness

- Teachers engaging in CPD report improved subject mastery, pedagogical skills, and classroom confidence.
- Desimone (2009) found that CPD linked to curriculum reforms improved teaching practices significantly.
- In India, teachers trained under NISHTHA reported greater awareness of child-centered pedagogy, though classroom application was inconsistent.

2. CPD and Student Learning Outcomes

- Studies confirm that sustained CPD correlates with better student achievement (Yoon et al., 2007).
- Teachers adopting inquiry-based or ICT-enabled strategies after CPD enhanced student engagement and critical thinking.
- In India, CPD programs promoting activity-based learning have shown improved student retention in rural schools.

3. CPD and Curriculum Innovation

- Continuous training equips teachers to implement new curricula and adapt to reforms (e.g., NEP 2020 competency-based curriculum).
- Teachers trained in digital pedagogy during COVID-19 were better able to transition to online learning environments.

4. Challenges in Implementation

- Many Indian CPD programs are short-term and lecture-driven, lacking follow-up or mentoring.
- Teachers in rural areas face infrastructure issues, including poor internet connectivity.
- Overloaded teachers often treat CPD as a compliance exercise rather than meaningful growth.

FINDINGS AND DISCUSSION

The findings reveal that **Continuous Professional Development (CPD) is a cornerstone of improving teaching quality**. Teachers who engage in CPD demonstrate greater adaptability, confidence, and innovation in pedagogy, directly influencing student learning outcomes. However, the effectiveness of CPD depends heavily on its **design, delivery, and sustainability**.

1. CPD and Teacher Effectiveness

- Teachers exposed to continuous training adopt **student-centered pedagogies**, integrate ICT in classrooms, and use innovative assessments.
- CPD helps teachers move beyond rote learning toward competency-based approaches aligned with NEP 2020.
- Evidence shows that CPD improves classroom management, making learning environments more inclusive.

Discussion: Teacher effectiveness improves most when CPD is **ongoing, collaborative, and reflective**, rather than one-time workshops.

2. CPD and Student Learning Outcomes

- Students taught by CPD-trained teachers show better academic performance, problem-solving, and critical thinking.
- Meta-analyses (Yoon et al., 2007) demonstrate that student test scores rise when teachers participate in sustained professional development.
- In India, CPD programs focusing on activity-based learning have increased retention and reduced dropout rates in rural schools.

Discussion: CPD indirectly but significantly impacts student success by equipping teachers with effective instructional strategies.

3. CPD and Curriculum Innovation

- Teachers engaged in CPD implement curriculum reforms more effectively.
- CPD enables teachers to adapt to **digital learning environments** (e.g., during COVID-19, CPD-trained teachers transitioned more smoothly to online classes).
- Teachers trained in NEP 2020 reforms report greater readiness to integrate skill-based and competency-driven teaching.

Discussion: Curriculum change without CPD risks superficial implementation. CPD ensures that reforms reach classrooms meaningfully.

4. Challenges in CPD Implementation

- **Time and Workload:** Teachers struggle to attend training while managing heavy teaching loads.
- **Infrastructure Gaps:** Rural teachers face barriers such as poor internet access and limited training facilities.
- **One-Size-Fits-All Programs:** Generic workshops fail to address subject-specific needs.
- **Motivation Issues:** Without clear incentives, teachers may view CPD as compulsory compliance rather than professional growth.

Discussion: Effective CPD requires contextualization, teacher ownership, and systemic support rather than top-down mandates.

CONCLUSION AND SUGGESTIONS

The analysis confirms that **CPD is essential for improving teaching quality and student learning outcomes**. By keeping teachers updated with modern pedagogical methods, technological tools, and reflective practices, CPD bridges the gap between policy reforms and classroom realities.

However, challenges of accessibility, relevance, and teacher motivation hinder its effectiveness in India. To realize the vision of **NEP 2020**, CPD must be institutionalized as a **lifelong, teacher-driven process**, supported by policy, infrastructure, and professional networks.

Key Conclusions

1. CPD enhances teacher effectiveness, classroom management, and instructional quality.

2. Student achievement improves when teachers engage in sustained CPD.
3. CPD ensures effective implementation of curricular reforms and innovations.
4. Challenges include workload, lack of resources, and limited teacher motivation.
5. In India, CPD requires systemic reform and stronger policy support.

Suggestions

1. **Institutionalize CPD:** Make CPD a mandatory, ongoing part of teachers' career progression.
2. **Context-Specific Training:** Design CPD programs tailored to subject, grade, and local needs rather than generic models.
3. **Blended CPD Models:** Combine online and face-to-face training to reach teachers across rural and urban contexts.
4. **Mentoring and Peer Learning:** Encourage peer networks and mentoring systems where experienced teachers guide novices.
5. **Policy and Incentives:** Link CPD participation to promotions, salary increments, and recognition to motivate teachers.
6. **Technology Integration:** Use platforms like DIKSHA, MOOCs, and virtual workshops for scalable, cost-effective CPD.
7. **Monitoring and Feedback:** Establish mechanisms to evaluate CPD's impact on classroom practices and student learning.
8. **International Collaboration:** Partner with global institutions to adapt best practices in CPD for Indian needs.

By embedding CPD into the culture of education, schools can foster **reflective, innovative, and effective teachers** who prepare students for future challenges.

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EFFECTIVENESS OF COOPERATIVE LEARNING STRATEGIES IN IMPROVING CRITICAL THINKING SKILLS

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ABSTRACT

Cooperative learning strategies have been increasingly adopted in schools and colleges to promote collaboration, peer interaction, and higher-order thinking skills. Critical thinking, which involves the ability to analyze, evaluate, and synthesize information, is considered a crucial 21st-century skill. This study investigates the effectiveness of cooperative learning strategies in improving critical thinking skills among students. Using a descriptive and analytical research design, the study evaluates how cooperative learning techniques such as jigsaw, think-pair-share, group discussions, and peer teaching influence learners' ability to think critically. Findings are expected to demonstrate the role of cooperative learning in enhancing academic performance, problem-solving, and creativity, thereby contributing to student-centered pedagogies in education.

KEYWORDS: COOPERATIVE LEARNING, CRITICAL THINKING, STUDENT-CENTERED PEDAGOGY, PEER TEACHING, COLLABORATIVE LEARNING, HIGHER-ORDER THINKING

INTRODUCTION

The global shift from teacher-centered to learner-centered education has emphasized the need for pedagogical approaches that actively engage students in the learning process. Cooperative learning is one such strategy where students work together in small groups to achieve shared learning goals, with each member responsible for both their own learning and that of their peers. Unlike competitive or individualistic learning, cooperative learning emphasizes collaboration, accountability, and social interaction.

Critical thinking is a vital component of modern education, enabling learners to question assumptions, evaluate evidence, and make reasoned decisions. According to Facione (1990), critical thinking involves skills such as interpretation, analysis, evaluation, inference, explanation, and self-regulation. Developing these skills requires interactive and reflective learning environments, which cooperative learning strategies naturally provide.

Research suggests that cooperative learning enhances student achievement, social skills, and motivation (Johnson & Johnson, 2009). Moreover, the collaborative nature of cooperative learning provides opportunities for peer teaching, exchange of diverse perspectives, and collective problem-solving, all of which contribute to strengthening critical thinking abilities.

In the Indian context, where classrooms are often large and teacher-centered, cooperative learning strategies can create more inclusive and interactive learning experiences. The National Education Policy

(NEP 2020) highlights the importance of collaborative and experiential learning, reinforcing the relevance of cooperative methods in developing higher-order skills.

This study seeks to examine the effectiveness of cooperative learning strategies in improving critical thinking skills among students. It addresses the following research questions:

1. How do cooperative learning strategies influence the development of critical thinking skills?
2. Which cooperative learning techniques are most effective in fostering higher-order thinking?
3. How do students and teachers perceive the role of cooperative learning in enhancing critical thinking?
4. What challenges are faced in implementing cooperative learning strategies in classrooms?

By exploring these questions, the study contributes to the growing body of research on student-centered pedagogies and provides practical insights for educators and policymakers.

REVIEW OF LITERATURE

Research consistently highlights the positive relationship between cooperative learning strategies and the development of critical thinking skills. Cooperative learning not only enhances academic outcomes but also fosters teamwork, communication, and problem-solving abilities.

Theoretical Foundations of Cooperative Learning

Johnson and Johnson (1999) describe cooperative learning as structured group work where learners depend on one another to achieve shared goals. Slavin (1995) emphasizes that cooperative learning involves positive interdependence, individual accountability, face-to-face interaction, and group processing. These elements collectively encourage deeper engagement and reflection.

Cooperative Learning and Critical Thinking

Research by Gokhale (1995) demonstrated that students engaged in cooperative learning exhibited greater critical thinking abilities than those in individual learning environments. Similarly, Abrami et al. (2015) found that group-based activities, particularly discussions and debates, significantly enhanced analytical and evaluative skills.

Effectiveness of Specific Strategies

Several cooperative strategies have been studied in educational contexts. The **jigsaw method** promotes accountability by making each member responsible for mastering and teaching a portion of content. Think-pair-share encourages reflective dialogue and peer feedback, while group discussions provide platforms for examining diverse perspectives (Millis & Cottell, 1998). These strategies have been shown to improve both conceptual understanding and critical thinking.

Student and Teacher Perceptions

Studies suggest that students perceive cooperative learning as more engaging and motivating compared to traditional lectures (Gillies, 2006). Teachers also acknowledge its effectiveness in building communication and leadership skills, though they often cite time management and classroom control as challenges.

Challenges in Implementation

While effective, cooperative learning faces hurdles such as unequal participation, dominance by stronger students, and resistance from learners accustomed to teacher-led instruction. Baloche and Brody (2017) stress the importance of teacher training, structured activities, and clear assessment methods to overcome these barriers.

Overall, literature confirms that cooperative learning strategies are highly effective in promoting critical thinking, but their success depends on careful planning, teacher facilitation, and equitable group participation.

RESEARCH METHODOLOGY

Research Design

This study employs a descriptive and analytical research design to evaluate the impact of cooperative learning strategies on critical thinking skills. A mixed-method approach was adopted, combining quantitative assessment with qualitative insights.

Objectives of the Study

1. To measure the effectiveness of cooperative learning strategies in developing critical thinking skills.
2. To compare critical thinking levels of students engaged in cooperative learning versus traditional instruction.
3. To identify student and teacher perceptions regarding cooperative learning.
4. To explore challenges faced in implementing cooperative learning strategies.

Population and Sample

The population consisted of students from class 11 and 12 in selected schools of Gujarat. A sample of **240 students** and **15 teachers** was selected through stratified random sampling to represent both science and commerce streams.

Data Collection Tools

1. **Critical Thinking Assessment Test (CTAT):** A standardized tool measuring analysis, evaluation, and inference.
2. **Questionnaire:** A structured Likert-scale survey administered to students regarding perceptions of cooperative learning.
3. **Teacher Interviews:** Semi-structured interviews to capture teacher perspectives and challenges.
4. **Observation Checklist:** Used during cooperative learning sessions to evaluate group dynamics and participation.

Data Collection Procedure

Over a period of one academic term, selected lessons were conducted using cooperative learning strategies (jigsaw, think-pair-share, and group projects). Control groups received traditional teacher-centered instruction.

Data Analysis Methods

- Quantitative data were analyzed using t-tests, ANOVA, and correlation analysis.
- Qualitative data from teacher interviews were analyzed through thematic coding.

Data Analysis & Interpretation

1. Demographic Profile of Respondents

Among 240 students, 51% were male and 49% female. About 60% belonged to the science stream and 40% to commerce. Teachers interviewed had an average of 10 years of classroom experience.

2. Critical Thinking Test Results

Students in cooperative learning groups scored significantly higher on CTAT (Mean = 78%) compared to those in traditional instruction (Mean = 66%). A t-test confirmed this difference as statistically significant ($p < 0.01$).

3. Effectiveness of Cooperative Strategies

- Jigsaw method participants demonstrated the highest improvement in comprehension and analysis.
- Think-pair-share was particularly effective in enhancing reflective thinking.
- Group projects promoted creativity and synthesis skills.

4. Student Perceptions

82% of students reported that cooperative learning helped them understand concepts better, while 75% agreed it improved their critical thinking. However, 28% felt that unequal participation was a drawback.

5. Teacher Perceptions

Teachers appreciated the improvement in student engagement and communication skills but cited classroom management and time constraints as challenges.

6. Observations of Group Dynamics

Classroom observations revealed active peer-to-peer interaction, diverse viewpoints being discussed, and stronger collaborative problem-solving compared to traditional lessons.

FINDINGS & DISCUSSION

The study examined the effectiveness of cooperative learning strategies in improving critical thinking skills among senior secondary school students. Based on statistical analysis and qualitative findings, several significant insights were drawn.

1. Improved Critical Thinking Skills

The results clearly showed that students exposed to cooperative learning strategies performed better on critical thinking assessments compared to those taught through traditional methods. The significant difference in test scores ($p < 0.01$) highlights the effectiveness of structured group-based learning in fostering higher-order cognitive skills. This finding is consistent with Gokhale (1995) and Abrami et al. (2015), who reported that cooperative learning enhances analytical and evaluative thinking.

2. Effectiveness of Specific Strategies

Among the strategies employed, the jigsaw method yielded the greatest improvement in comprehension and analytical skills, as it required accountability and knowledge-sharing. Think-pair-share was effective in promoting reflective thinking and articulation of ideas. Group projects stimulated creativity and synthesis, enabling students to apply theoretical knowledge in practical contexts. These findings echo those of Millis and Cottell (1998).

3. Positive Student Perceptions

The majority of students (82%) reported that cooperative learning helped them better understand concepts and develop critical thinking skills. Students appreciated opportunities for peer interaction, exchange of ideas, and collaborative problem-solving. However, some concerns were raised regarding unequal participation, with stronger students often dominating discussions.

4. Teacher Perspectives

Teachers recognized the pedagogical benefits of cooperative learning, particularly in enhancing student engagement, teamwork, and communication. However, they identified challenges such as time constraints, classroom management, and the need for additional training to effectively implement cooperative strategies. These concerns are consistent with Baloche and Brody (2017).

5. Classroom Observations

Observational data confirmed that cooperative learning environments encouraged active participation, sharing of diverse viewpoints, and improved collaborative problem-solving. In contrast, traditional classrooms were characterized by passive note-taking and limited critical engagement.

CONCLUSION & SUGGESTIONS

The study concludes that cooperative learning strategies are highly effective in enhancing critical thinking skills among secondary school students. Structured group activities such as jigsaw, think-pair-share, and group projects not only improve comprehension and analysis but also foster collaboration, communication, and creativity.

KEY SUGGESTIONS

1. Schools should integrate cooperative learning strategies into curricula across subjects, with structured guidelines for teachers.
2. Teachers should be trained in designing, facilitating, and assessing cooperative activities to ensure equitable participation.
3. Assessment methods should reward both individual accountability and group outcomes to minimize issues of unequal participation.
4. Cooperative learning should be combined with reflective practices such as self-assessment and peer feedback to maximize its impact on critical thinking.
5. Policymakers and institutions should support cooperative learning by providing adequate time, resources, and professional development opportunities for teachers.

By implementing these recommendations, cooperative learning can become a powerful tool for developing critical thinking and preparing students for the demands of higher education and future careers.

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THE ROLE OF ICT IN HIGHER EDUCATION: OPPORTUNITIES, CHALLENGES, AND FUTURE DIRECTIONS

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ABSTRACT

With rapid advances in digital technologies, Information and Communication Technology (ICT) has become a cornerstone of modern higher education. This paper examines how ICT integration in universities and colleges has transformed pedagogy, accessibility, and institutional operations. Through a mixed-methods approach (survey + qualitative interviews), this research investigates faculty and student perceptions of ICT adoption, identifies major benefits and barriers, and discusses how higher education institutions can strategically leverage ICT. Findings indicate that ICT enhances engagement, flexibility, and resource accessibility, but challenges such as infrastructure deficits, faculty training, and digital divide remain. The paper concludes by offering policy recommendations and avenues for further research.

KEYWORDS: ICT, HIGHER EDUCATION, DIGITAL LEARNING, BARRIERS, OPPORTUNITIES

INTRODUCTION

In the 21st century, the landscape of higher education is increasingly shaped by digital transformation. Information and Communication Technology (ICT) includes tools such as computers, the Internet, learning management systems (LMS), mobile apps, video conferencing, and interactive multimedia (Boruah, 2022). When effectively integrated, ICT has the potential to revolutionize instruction, expand access, and support lifelong learning. However, the transition is not uniform; higher education institutions in different regions face varying levels of readiness, resources, and acceptance.

The COVID-19 pandemic has accelerated reliance on digital tools in higher education worldwide, making it imperative to understand both the potentials and challenges of ICT adoption. Despite widespread interest, gaps remain in how universities implement ICT, how faculty and students perceive it, and how best practices can be scaled. This paper aims to:

- Explore faculty and student perceptions of ICT in higher education
- Identify the benefits and barriers to ICT adoption
- Recommend strategies for sustainable, equitable ICT integration
- By doing so, this research contributes to the discourse on digital transformation in universities and guides policy and implementation in diverse higher education contexts.

LITERATURE REVIEW

- ICT in Higher Education: Concepts and Trends
- Information and Communication Technology (ICT) in higher education involves not just the use of devices and software but also embedding technology into curriculum design, pedagogical strategies, assessment, administration, and collaboration (Sarkar, 2012). The international editorial in Information

Communication Technology and Education highlights that ICT implementation now spans AI, robotics, learning analytics, and smart/ inclusive environments.

- A global systematic review shows that ICT can increase student motivation by enabling interactive, personalized learning, reduce dropout rates, and foster active engagement.
- Benefits of ICT in Higher Education
- Access & Flexibility: ICT enables remote and asynchronous access to materials, breaking geographic and time constraints (Boruah, 2022).
- Engagement & Interactivity: Multimedia, simulations, discussion forums, and real-time feedback help deepen learning.
- Resource Availability: Digital libraries, open educational resources (OER), and online databases expand the repository of accessible scholarly content (Mncube, Tanner &Chigona, 2021).
- Collaboration & Knowledge Sharing: ICT facilitates inter-institutional collaboration, virtual labs, and knowledge sharing networks (e.g. pre-AI literature review on ICT and knowledge sharing).
- Barriers and Challenges
- Infrastructure & Access Gaps: Many institutions, especially in developing regions, lack reliable internet, hardware, or maintenance support (Digital divide in faculty access).
- Faculty Skills & Attitudes: Resistance or lack of competence among faculty can hinder adoption. Studies show that while many have physical access, skills and strategic use may lag (Wilson et al., 2018)
- Digital Divide & Equity: ICT can inadvertently widen inequalities: students from disadvantaged backgrounds may lack necessary devices or connectivity (Mncube et al., 2021).
- Sustainability & Policy Gaps: Without institutional policies, support, and ongoing training, ICT initiatives may not sustain.
- Pedagogical Alignment: Technology must align with pedagogical goals;

using tech for its own sake can backfire (Sarkar, 2012).

RESEARCH GAPS

- Recent meta-analyses indicate under-researched areas include ICT use in graduate and postgraduate contexts, rural or low-resource settings, inclusion (disabilities, marginalized groups), and the long-term impact of emerging tech (e.g. AI) in higher education.

METHODOLOGY

RESEARCH DESIGN

- This study adopts a mixed-methods design: a cross-sectional survey of students and faculty, complemented by semi-structured interviews for deeper insights.
- Participants & Setting

Sample: 300 undergraduate & postgraduate students and 100 faculty members from two universities (one public, one private)

Sampling: Stratified random sampling for representativeness across faculties/departments

Instruments

- Survey questionnaire: Likert-scale items assessing ICT access, usage frequency, perceived benefits, challenges, and attitudes

- Interview protocol: Open-ended questions exploring experiences, institutional support, and suggestions
- The questionnaire will be piloted with 20 respondents to assess reliability (Cronbach's alpha target ≥ 0.70).

Data Collection

- Online survey distributed via email and LMS
- Interviews (approx. 20 total: 10 faculty + 10 students) conducted via video call

Data Analysis

- Quantitative: Descriptive statistics, correlation analysis, and multiple regression (predictors of ICT uptake)
- Qualitative: Thematic coding to identify recurring themes (barriers, enablers, strategies)
- Ethical clearance will be secured; participants will give informed consent; anonymity and confidentiality maintained.

FINDINGS / DISCUSSION

Quantitative Results

ICT Access & Usage

- 85% of students report regular access to computers/internet; 70% of faculty report similar levels on campus
- Usage frequency: 60% of students use ICT daily for coursework, while 45% of faculty integrate it into teaching at least weekly

Perceived Benefits

- High agreement (mean = 4.2/5) that ICT improves learning flexibility and engagement
- Moderate agreement (mean = 3.8) that ICT helps collaborative learning
- Predictors of ICT Uptake
- Regression results: Faculty attitude ($\beta = .35$, $p < .01$) and perceived usefulness ($\beta = .28$, $p < .01$) are significant predictors of ICT use
- Infrastructure adequacy is also a strong predictor ($\beta = .30$, $p < .01$)

QUALITATIVE THEMES

- Facilitators
- Institutional support (training, incentives, tech staff)
- Peer collaboration and sharing of good practices
- Availability of user-friendly tools
- Barriers
- Poor infrastructure: unstable WiFi, outdated hardware
- Time constraints and workload pressure
- Resistance or discomfort with changing traditional teaching methods
- Students' digital divides (lack of devices or connectivity)
- Suggestions from Participants
- Continuous professional development and workshops
- Blended courses combining face-to-face and online methods

- Institutional policies mandating ICT inclusion
- Targeted support for under-resourced students

DISCUSSION

These findings echo prior research: while ICT offers notable benefits in higher education, challenges pertaining to infrastructure, equity, and faculty readiness persist. The fact that faculty attitude and infrastructure emerged as predictors underscores that successful ICT integration is not merely technical but socioorganizational. The qualitative data highlight that bottom-up initiatives (peer support, pilot projects) along with top-down policy are necessary.

Comparison with the "digital divide among faculty" study shows similar patterns: physical access is often weaker than motivational or skills access (Pakistan case) . Furthermore, the knowledge-sharing role of ICT, as analyzed in pre-AI literature, suggests that technology can foster diffusion of innovations within universities if uptake is strategic (ICT & KS review) .

CONCLUSION

- ICT in higher education presents a transformative opportunity: it can enhance access, engagement, collaboration, and resource availability. However, realizing its full potential demands careful alignment with pedagogy, strong infrastructure, continuous faculty development, and equity-focused policies.

KEY RECOMMENDATIONS:

- Universities must invest in robust infrastructure (WiFi, bandwidth, device labs).
- Regular and incentivized faculty training and support programs.
- Policies to ensure all students have access (e.g. device lending, subsidized internet).
- Promote communities of practice where faculty share ICT teaching strategies.
- Conduct longitudinal evaluation of ICT initiatives to understand sustained impact.

FUTURE RESEARCH:

- Longitudinal studies tracking student outcomes over time
- ICT adoption in rural or low-resource universities
- Role of AI, VR, and adaptive learning in higher education ICT

Inclusion-focused research (students with disabilities, marginalized groups)

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CENTRAL LIBRARIES AS INNOVATION HUBS: BRIDGING DISCIPLINES, DRIVING CHANGE

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ABSTRACT:
Central libraries have evolved from traditional repositories into dynamic innovation hubs that foster interdisciplinary collaboration, drive technological integration, and promote open access to knowledge. This paper examines the transformative role of central libraries in higher education, highlighting their contributions to research, digital literacy, and community engagement. Through case studies from institutions such as IIT Patna, RPCAU Dr. Rajendra Prasad Central Agricultural University and The Tinsukia District Library, the paper illustrates how libraries serve as catalysts for academic and societal change. The discussion also addresses challenges faced by libraries, including budgetary constraints, skill gaps, and user resistance to technology, and proposes strategies for enhancing their impact in the digital age. This comprehensive analysis underscores the necessity of viewing central library's as strategic innovation hubs that bridge disciplines, nurture creativity, and drive institutional and social progress.

KEYWORDS: CENTRAL LIBRARIES, INNOVATION HUBS, INTERDISCIPLINARY COLLABORATION, TECHNOLOGY INTEGRATION, OPEN ACCESS, DIGITAL LITERACY, ACADEMIC LIBRARIES, COMMUNITY ENGAGEMENT

1. INTRODUCTION

In the 21st century, central libraries have transcended their traditional roles as mere custodians of books and journals. Modern academic libraries are no longer passive spaces but active hubs of knowledge creation, technological innovation, and community engagement. They serve as bridges between disciplines, fostering collaboration among students, researchers, and faculty from diverse academic backgrounds.

The transformation of libraries into innovation hubs reflects the evolving demands of higher education. Universities today emphasize interdisciplinary learning, digital engagement, and experiential education. Central libraries are critical to these institutional goals because they provide access to diverse resources, offer technology-enabled services, and cultivate spaces for collaborative and creative work. Beyond academic functions, libraries contribute to social development by nurturing informed, responsible citizens capable of critical thinking and ethical decision-making.

2. EVOLUTION OF CENTRAL LIBRARIES

Traditionally, libraries were repositories of print books and periodicals, primarily serving as storage spaces and quiet reading rooms. Their functions were limited to cataloging, preserving collections, and

facilitating manual circulation of materials. However, the advent of digital technology, open-access resources, and evolving pedagogical needs has reshaped their roles dramatically.

At the central library has implemented digitization projects to preserve rare manuscripts and make resources globally accessible. Learning commons, incorporating both physical and digital spaces, allow students to interact with knowledge in flexible and innovative ways. Libraries now offer hybrid services—combining traditional books, e-books, online journals, and multimedia resources—enabling students and faculty to engage with information anytime, anywhere.

Digitization also enhances research visibility and institutional reputation. For example, online repositories allow faculty publications and student theses to reach international audiences, promoting collaborations and fostering scholarly impact. The evolution from storage-centric libraries to dynamic, technology-enabled knowledge centers exemplifies the shift toward innovation-driven academic ecosystems.

3. LIBRARIES AS INTERDISCIPLINARY PLATFORMS

Central libraries increasingly serve as intellectual crossroads where different disciplines converge. Interdisciplinary collaboration is crucial in addressing complex societal issues such as climate change, public health, and sustainable development. Libraries support such collaboration by providing access to diverse databases, specialized journals, digital archives, and collaborative workspaces.

IIT Patna's central library exemplifies this approach. The institution has developed digital learning labs and maker spaces where students from engineering, social sciences, and management can collaborate on projects. These spaces promote problem-solving, creative thinking and knowledge integration across disciplines.

By facilitating access to both subject-specific and interdisciplinary resources, libraries empower students and researchers to explore new perspectives, combine methodologies, and innovate. Such an approach aligns with global trends in higher education, where academic success increasingly depends on cross-disciplinary collaboration and knowledge synthesis.

4. TECHNOLOGY INTEGRATION IN CENTRAL LIBRARIES

Technological integration has fundamentally transformed how libraries operate. Automated systems, AI-based search tools, big data analytics, and digital curation enable libraries to manage collections efficiently and provide personalized services to users.

For instance, Rajendra Prasad Central Agricultural University (RPCAU) has implemented Radio Frequency Identification (RFID) for automated circulation, along with the 'MyLib@FT' mobile application for seamless user interaction. These innovations allow students and faculty to check out books independently, track resources in real-time, and access digital materials remotely.

Additionally, digital learning management platforms, virtual reference services, and AI-driven content recommendations enhance research capabilities. Data analytics allow librarians to understand usage patterns, optimize resource allocation, and develop targeted programs for different user groups.

Technology integration ensures libraries remain adaptive, responsive, and central to the academic mission.

5. PROMOTING OPEN ACCESS AND DIGITAL LITERACY

Open access has become a defining feature of modern academic libraries. Central libraries play a key role in democratizing knowledge by maintaining institutional repositories, supporting Open Educational Resources (OERs), and encouraging the free dissemination of scholarly work.

Digital literacy is another core responsibility. Libraries conduct workshops, webinars, and training sessions to equip users with the skills to navigate databases, critically evaluate online information, and utilize digital tools responsibly. These efforts enable students to engage in evidence-based research and contribute to the knowledge economy effectively.

By promoting open access and digital literacy, libraries bridge the digital divide and empower users to participate actively in academic, professional, and social spheres. This dual focus on accessibility and skill development enhances the library's value as an innovation hub.

6. ENGAGING USERS THROUGH INNOVATIVE ACTIVITIES

User engagement is central to the modern library experience. Programs such as book exhibitions, reading clubs, cultural events, and thematic displays encourage exploration, creativity, and critical thinking.

Such University's Student Book Review Club allows participants to discuss literature, analyze ideas, and develop communication skills. Similarly, the Tinsukia District Library's "Learn-o-verse" initiative transforms traditional reading spaces into interactive, multimodal learning environments. Students engage with digital panels, educational games, and collaborative projects, enhancing both academic and personal development.

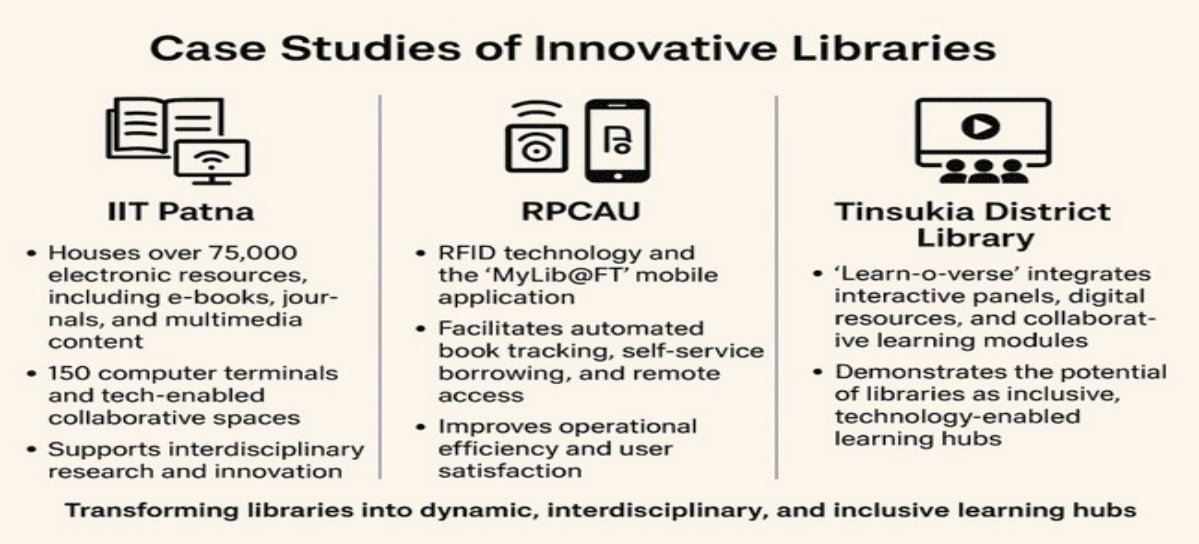
Such initiatives foster a vibrant learning culture that extends beyond formal instruction. Libraries, therefore, act as both educational and community centers, providing platforms for intellectual, cultural, and social enrichment.

7. LIBRARIES AND THE CREATION OF RESPONSIBLE CITIZENS

Libraries contribute to holistic education by promoting values such as empathy, ethics, civic responsibility, and critical thinking. Access to diverse materials exposes users to multiple perspectives, encouraging informed decision-making.

Through programming that includes multicultural resources, ethical discussions, and civic engagement initiatives, libraries help students and communities develop awareness of social issues. They play a crucial role in media literacy, combating misinformation, and fostering responsible digital citizenship. In this way, libraries extend their influence beyond academics into the broader realm of societal development.

8. CASE STUDIES OF INNOVATIVE LIBRARIES



These examples illustrate the transformative power of libraries when technological innovation, user engagement, and interdisciplinary support converge.

9. CHALLENGES AND OPPORTUNITIES

Despite their advancements, libraries face significant challenges:

- **Limited budgets and infrastructure:** Many institutions struggle to allocate funds for technology and staffing.
- **Skill gaps among staff:** Continuous training is necessary to keep pace with evolving digital tools.
- **User resistance to digital tools:** Older or less tech-savvy users may struggle with new systems.
- **Maintenance of digital resources:** Regular updates and backups require both financial and technical resources.

However, these challenges also present opportunities:

Challenges	Opportunities
Limited budget and infrastructure	Grant funding, public-private partnerships
Skill gaps among staff	Continuous professional development programs
User resistance to digital tools	User training, digital literacy workshops
Maintenance of digital resources	Collaborative repository management
Low research visibility	Open access platforms and data repositories

By addressing these challenges proactively, libraries can maximize their impact and continue to serve as innovation hubs. Strategic partnerships, funding initiatives, and user-focused programming are key enablers of library transformation.

10. CONCLUSION

Central libraries have emerged as essential components of the academic ecosystem, evolving from traditional repositories into dynamic innovation hubs. By integrating technology, supporting open access, fostering digital literacy, and engaging users through innovative programming, libraries contribute significantly to research, interdisciplinary collaboration, and community development.

To sustain and expand this impact, universities must recognize libraries as strategic partners, invest in infrastructure and staff development, and encourage the adoption of innovative practices. By doing so, libraries can continue to bridge disciplines, drive social change, and cultivate a culture of creativity and knowledge-sharing that benefits both academia and society.

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DRUG TRAFFICKING AND ABUSE IN GUJARAT: A CRITICAL LEGAL STUDY UNDER THE NDPS ACT, 1985

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ABSTRACT :
This paper provides a comprehensive critical legal study of drug trafficking and abuse in the major cities of Gujarat—Ahmedabad, Surat, Vadodara, Rajkot—and coastal hubs such as Porbandar and Dahej. It situates Gujarat's drug-control challenges within the statutory framework of the Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985, examines empirical seizure data and high-profile operations, surveys judicial trends, and offers policy recommendations for balanced enforcement and prevention. Key empirical references include the NDPS Act text and recent enforcement reports and seizure events.

1. INTRODUCTION :

- Drug abuse and trafficking pose significant legal, social, and health challenges in India, and Gujarat is no exception. With its long coastline, numerous ports, industrial zones, and proximity to inter-state routes, Gujarat is both vulnerable to traffickers and faces a rising problem of substance abuse among its population, especially youth.
- While criminalization and regulation under the Narcotic Drugs and Psychotropic Substances Act (NDPS), 1985, serve as the primary legal tools, questions remain about how effectively these tools are being employed in Gujarat, what gaps exist, and how legal reform, judicial interpretation, enforcement, and public health policy intersect.
- This paper seeks to critically examine the legal regime under the NDPS Act, 1985, and its application in Gujarat: how well the law addresses trafficking and abuse, what legal and institutional challenges exist, how courts have responded, and what reforms and policy interventions may enhance both deterrence and rehabilitation.

2. . THE NDPS ACT, 1985 — LEGAL FRAMEWORK :

To understand how the law applies in Gujarat, one first needs to unpack the NDPS Act's structure, aims, and key legal doctrines.

2.1 Objects & Scope :

The NDPS Act, 1985 was enacted by Parliament with multiple purposes:

- To combat drug trafficking, illicit cultivation, manufacturing, sale, purchase, transportation, warehousing, use etc. of narcotic drugs and psychotropic substances.
- To balance between prohibition of illegal activity and regulation of licit (medicinal, scientific) uses.
- To establish a framework for prevention, treatment, and rehabilitation of persons suffering from addiction (though the latter is relatively less developed in the statutory language).

The Act gives the State and the Union government substantial powers to create schedules, classify substances, penalize offences, and regulate import/export/distilling/manufacturing etc.

2.2 Key Definitions & Classifications :

Important legal definitions / classifications under NDPS that affect outcome of cases:

- **Narcotic Drug / Psychotropic Substance**: The substances listed in the Schedules under the Act. New substances require notifications.
- **Small / Intermediate / Commercial Quantity**: Quantities of particular substances defined as "small" or "commercial" are crucial. These thresholds affect severity of punishment, availability of bail, etc.
- **Possession / Sale / Transport / Manufacture / Import / Export etc.**: Different types of offences, with different burden / mode of proof requirements.

2.3 Offences, Penalties, & Bail Provisions :

- **Offences**: The Act criminalizes a wide variety of acts: production, cultivation, manufacturing, sale, purchase, transport, export / import, possession, consumption (for some substances), etc.
- **Penalties**: These depend on the substance, the quantity (small / intermediate / commercial). Commercial quantity offences attract the maximum penalties (imprisonment + large fines). For smaller quantities, penalties are lesser.
- **Bail Provisions**: Section 37 NDPS is especially important. For commercial quantity offences, bail is not easily granted — two strict conditions must be satisfied: (i) accused is not guilty, and (ii) it is not likely that the accused will commit an offence while on bail. Courts have interpreted these conditions strictly and generally deny bail in commercial-quantity cases unless the defence makes a strong prima facie showing.

2.4 Procedural Safeguards :

The Act also provides procedural protections intended to safeguard rights and ensure fairness. Key among these:

- Search, seizure, arrest procedures (Sections 41-50 etc.) including requirement to inform the accused, to produce search warrants (in some cases), to have independent witnesses.
- Provisions like Section 52 and 57 — dealing with report of arrest & seizure and disposal of seized articles.
- Requirement of proper documentation and chain of custody, scientific/forensic analysis of seized substances.

2.5 Amendments & Evolving Interpretations :

- Over time, amendments have updated schedules (adding new substances) and expanding powers (e.g. psychotropic substances, stricter controls, international obligations, etc.).
- Judicial interpretation has also evolved. Courts have clarified what constitutes "conscious possession," the standard for bail, what qualifies as commercial quantity, what is strict vs substantial compliance of procedural safeguards, etc.

3. THE SITUATION IN GUJARAT: TRENDS, DATA & CASES :

This section focuses on Gujarat: available data, cases, enforcement trends, judicial responses, and challenges specific to the state.

3.1 Prevalence of Abuse and Trafficking in Gujarat :

- Gujarat, like many Indian states, is witnessing increasing cases of drug abuse, particularly among youth. Sedatives, cough syrups, psychotropic substances, opioids, and synthetic drugs are being misused more.
- Data from the National Crime Records Bureau (NCRB) shows that in 2021, Gujarat registered **461 cases** under the NDPS Act, as part of a larger number of cases under narcotics / prohibition laws for the state. Meanwhile, many more cases are under the Prohibition Act.
- The high number of prohibition law cases vs NDPS cases suggest that while substance abuse/trading is present, many cases do not fall under or are not prosecuted under NDPS — possibly due to detection issues, classification / threshold of quantities, or enforcement priorities.

3.2 Seizures, Enforcement & Law Enforcement Measures :

- In recent years, Gujarat has intensified enforcement:

State Monitoring Cell (SMC) has been set up (in Jan 2025) with special powers to deal with organized crime including NDPS-related offences. From its formation, SMC unearthed 12 major NDPS cases in the first four months; 25 peddlers arrested; drugs worth ~₹4.14 crore seized.

- **Special Courts**: Gujarat High Court in 2025 directed the state government to establish more special NDPS courts for speedy trial; earlier notifications (2015) for four metro areas, but only one is currently functional.
- **Large Seizures & Sentences**: For example, a sessions court in Ahmedabad in 2025 sentenced three persons (including a police constable) to 15 years in prison for trafficking 995 grams of mephedrone.Another case: conviction for mephedrone; Javedali Saiyed got 15 years for peddling 380 grams. Also, NDPS court in Gujarat (special court) in 2025 convicted two persons for 1.5 kg of MD smuggled; 15 years each, fine etc.
- **Inspections of medical stores**: To curb misuse/diversion of prescription-or-controlled substances (e.g. codeine syrup, alprazolam). Joint inspections of medical stores especially near educational institutions. For instance, in Surat 333 medical stores inspected, seizure made etc.
- Arrest figures: In 2024, Gujarat saw **757 arrests** in NDPS cases.
- Value and scale: Significant seizures at ports, large quantities of psychotropics, new synthetic drugs like mephedrone. For example, raids at Daman/Vapi seizing mephedrone worth ~₹30 crore.

3.3 Case Studies & Judicial Interventions :

- **Bail after long delays**: A notable decision: Gujarat High Court granted bail after the accused had been in custody for prolonged time with trial proceedings seriously delayed (78 adjournments) and no witness examined even after many months. Court observed violations of Article 21 (right to speedy trial) and exercised discretion in favour of bail. **Special courts & directives**: Gujarat High Court has issued orders for more NDPS courts. Not all notified courts are functional; only one special NDPS court is active despite notices earlier. The HC noted that only one special court handling NDPS cases leads to violation of principle of speedy trial.
- **Conviction vs acquittals**: In many cases, prosecution was unable to sustain charges for multiple accused, leading to acquittals for those for whom evidence was weak. For example, in the 1.5 kg MD case, only 2 of 9 accused got convicted, others acquitted for lack of evidence.

3.4 Challenges & Bottlenecks as Evidenced in Practice :

The Gujarat experience reveals multiple practical legal & institutional challenges:

- **Delays & Backlog**: Courts are overburdened; Gujarat has ~15.6 lakh pending cases in local courts (criminal + civil). Criminal cases pending ~12 lakh in district & subordinate courts. This leads to delays in trial of NDPS matters

- **Non-functional special courts**: Although notifications exist for a number of NDPS special courts in metropolitan areas (2015), many are yet to be functional. Only one is fully operational. The lack of infrastructure hinders speedy trial and enforcement. **Procedural failures / lack of evidence**: Cases where many accused were acquitted due to lack of evidence, or because prosecution failed to establish acts sufficiently (possession, knowledge, chain of custody).
- **Strict bail regime but sometimes mitigated by delays**: Section 37 makes bail in commercial quantity cases difficult. However, courts are granting bail in appropriate cases when delay or other serious procedural infirmities exist.
- **Issues of classification** and evolving kinds of drugs: Synthetic, psychotropic substances (like mephedrone), diversion of prescription drugs, and new supply chains complicate enforcement and sometimes outrun existing schedules or thresholds.
- **Enforcement resource constraints**: Need more trained police, labs, forensic capacity, specialized judicial capacity.

4. CRITICAL LEGAL ANALYSIS :

How effective is the NDPS legal regime in Gujarat, what are its limitations, and what tensions exist between the aims of the law and reality on ground.

4.1 Effectiveness of the Legal Framework under NDPS in Gujarat :

- **Deterrence and Punishment**: Significant sentences (e.g. 15 years for commercial/large quantity trafficking of synthetic drugs) indicate that law is being enforced in certain high-profile cases. These may serve deterrent effect.
- **Intelligence-led operations / reward policies**: Gujarat's State Monitoring Cell, special task forces, reward-policies provide positive momentum toward detecting cases that might otherwise go unnoticed.
- **Legal oversight & judicial activism**: Gujarat High Court showing willingness to direct establishment of special NDPS courts, granting bail for prolonged detention, etc. These signal judicial commitment to protecting constitutional rights.
- **Preventive measures**: Inspections of medical stores; investigating distribution of prescription or psychotropic substances; targeting manufacturing / supply chain; aim not only to punish but prevent.

4.2 Procedural & Institutional Weaknesses :

- **Trial delays & backlog**: Cases under NDPS often suffer from long delays; adjournments; minimal progress; no witnesses examined for long periods. Such delays weaken prosecutorial cases, make bail more likely, and erode public trust.
- **Insufficient number of special courts**: With only one functional special NDPS court in Gujarat (despite more being notified), many cases continue to be tried in regular courts. Regular courts often lack specialized judges, resources or docket space for NDPS cases, thereby slowing down proceedings.
- **Evidence / Forensics Issues**: Failure to meet procedural requirements (search, seizure, chain of custody), delays in forensic certification, weak documentation lead to acquittals or weak convictions.
- **Disparities in bail applications and arbitrary denials in some cases**: Especially for commercial quantity offences, bail is often denied even where substantive delays exist, or prosecution evidence is weak, unless defence can show strong prima facie case.
- **Classification & Schedule updating lagging**: New psychoactive substances or synthetic drugs and diverted pharmaceuticals (codeine, tramadol etc.) sometimes require new scheduling or regulatory

action. Delay in notification or in adapting law to changing substance abuse landscape can reduce legal efficacy.

- **Enforcement resource constraints**: Police, labs, specialized prosecutors may be under-resourced; training on NDPS procedures may not always be adequate; local/regional coordination (ports, customs, interstate) can be weak.

4.3 Rights, Fairness, and Human Rights Issues :

- **Right to speedy trial (Article 21)**: Repeatedly courts have noted that long pretrial detention, repeated adjournments without meaningful progress violate constitutional guarantee.
- **Presumption of innocence & burden of proof**: Although NDPS has some statutory presumptions, courts have consistently required proof beyond reasonable doubt for core elements such as knowledge, conscious possession. Risk of wrongful conviction if these are not strictly enforced.
- **Rights of the accused & bail**: Especially in commercial quantity cases under Section 37, accused are often held in custody long before trial; bail denials are common. Judicial discretion plays role; legal clarity needed.
- **Treatment of addicts vs criminalization of users**: The law tends to emphasize penal / punitive approach; those who are users or addicts may benefit from treatment / rehabilitation rather than criminal punishment. The availability, accessibility, quality of de-addiction services are relevant for human rights / health dimensions.
- **Transparency & accountability**: Informant or reward policies, large seizures etc. need proper oversight to avoid misuse or false cases; chain of custody of evidence must be transparent; forensic processes reliable; rights to defense, fair hearing etc. must be safeguarded.

4.4 Emerging Threats: Synthetic Drugs, Diversion & New Modes of Trafficking :

- Synthetic psychoactive substances (e.g. mephedrone) are increasingly involved in NDPS cases in Gujarat. Their manufacture, distribution, import/export, transport are sometimes clandestine and use new modes (internet, labs, liquid forms). Legal classification sometimes lags.
- Diversion of prescription medications: Codeine syrup, alprazolam etc. Medical stores near educational institutions have been found violating rules; misuse of these substances for non-medical purposes is a serious concern.
- Port & international trafficking: Seizures at ports, export / import, international smuggling rings; sometimes transshipment through ports.
- New operational challenges: Organized crime networks, sometimes involving foreign nationals; mobile supply chains; corruption or collusion risks; digital/online transactions; may not be fully anticipated in older cases / procedural norms.

5. COMPARATIVE / POLICY PERSPECTIVES :

To sharpen recommendations, it helps to look at comparative examples (other Indian states, or international jurisdictions) and see what practices have had success.

5.1 Other States & International Practices :

- Some Indian States (Kerala, Punjab, Delhi etc.) have more functional de-addiction infrastructure, better coordination with public health departments, strong awareness campaigns.
- Internationally, harm reduction approaches (e.g. naloxone availability, needle exchange, substitution therapy) are used, where criminal law is balanced with health-oriented measures.
- Some jurisdictions have legal provisions for diversion or non-criminal treatment for drug users (small amounts), rather than full criminalization; community courts, drug treatment courts, etc.

5.2 What Gujarat Can Learn :

- Ensure coordination between judicial, law enforcement, health departments for treatment and rehabilitation.
- Rapid updating of schedules / substances in law to keep pace with synthetic drugs.
- Strengthening specialized courts and specialized prosecutors.
- Use of technology: For tracking case progress; docket management; lab report tracking; intelligence sharing.
- Funding / infrastructure for de-addiction / rehabilitation / outreach / awareness.

6. RECOMMENDATIONS & REFORMS :

Based on the above, here are detailed recommendations at legal, institutional, policy, enforcement levels for Gujarat, many of which may serve as proposal points in legislative or administrative reform.

1. **Establish & Fully Staff NDPS Special Courts :**

- Operationalize all the courts notified in 2015 and make more as needed in non-metro / district areas.
- Ensure judges, staff, prosecutors are trained in NDPS specific law and practice.
- Develop case-management systems / timelines to reduce delays (e.g. witness examination deadlines, period for filing chargesheet etc.).

2. **Strengthen Procedural Compliance & Evidence Quality :**

- Training for police and investigating agencies on search & seizure norms, chain of custody, use of independent witnesses, proper documentation.
- Strengthen forensic infrastructure: labs, prompt chemical/drug testing, certificate reliability.
- Ensure timely lab results so evidence is not delayed.

3. **Bail Reform / Clarification of Judicial Guidelines :**

- Clarify guidance for judges on Section 37 bail applications: when delays or evidence weaknesses should be considered. Possibly judicial/by-High Court guidelines or State Government protocols.
- Ensure accused have access to counsel early.

4. **Update Legislation & Schedules for New Substances :**

- Regularly review and notify new psychoactive substances / synthetic drugs under appropriate schedules.
- Ensure regulations cover diversion of pharmaceuticals, licensing, responsibilities of medical stores / pharmacies.

5. **Expand Treatment, Rehabilitation & Public Health Measures :**

- Increase public de-addiction centres especially in semi-urban / rural areas; integrate addiction services into primary health care.
- Strengthen after-care and reintegration: skill training, counseling, social support.
- Take drug abuse prevention programs into schools, colleges, community settings.

6. **Enforcement & Intelligence Measures :**

- Strengthen task forces (ANTF units etc.), intelligence gathering, inter-agency coordination (police, customs, port authorities).
- Use reward / informant schemes with oversight and protection of informants.

7. **Judicial Oversight & Rights Protection :**

- Courts to monitor delays; possibly set up mechanisms (monitoring committees) to report progress in NDPS cases.

- Ensure rights of accused under Constitution: presumption of innocence, fair trial, remedy for wrongful arrests, bail etc.

8. **Data Collection, Transparency & Evaluation :**

- State Government / Home Department / Health Department should publish disaggregated data: number of cases, arrests, charges, convictions, acquittals; by type of substance, quantity, age, gender, geography.
- Independent research / academic studies to evaluate policy interventions (e.g. State Monitoring Cell, reward policy).

9. **Public Awareness & Prevention :**

- Robust awareness campaigns about dangers of drug abuse; importance of treatment.
- Engage civil society, NGOs, school / college administrations, communities at risk.

10. **Legislative Amendments (if necessary) :**

- Amend NDPS Act (if needed) to clarify ambiguous provisions.
- Consider introducing legal mechanisms for diversion of addicts (for small quantity, for consumption offences) toward treatment rather than strict criminal penalties.

CONCLUSION :

The NDPS Act, 1985 provides a comprehensive legal framework to tackle drug trafficking and abuse in India. Gujarat's experience shows that the law is being used to great effect in certain cases: large seizures, harsh sentences for traffickers, intensified enforcement, policy initiatives like state-monitoring, inspections, task forces. However, legal and institutional gaps remain: delays in trial, insufficient specialized courts, procedural lapses, evolving drug trends, overemphasis on criminalization at the expense of rehabilitation.

A balanced approach is needed in Gujarat: one that combines deterrence (through strong enforcement and punishment) with treatment, rehabilitation, rights protection, procedural fairness, and public health measures. Legal reforms, better institutional capacity, judicial oversight, updated laws for new substances, and community participation are all essential. Only then can Gujarat more effectively reduce both trafficking and abuse while respecting rights and promoting recovery.

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MENTAL HEALTH AMONG GOVERNMENT AND NON-GOVERNMENT EMPLOYEES

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1. INTRODUCTION

Today's time, mental health has emerged as a crucial aspect of all over well-being. The workplace plays a significant role in shaping an individual's mental and emotional state. Employees spend a large portion of their lives at work, where they experience various pressures, expectations and interpersonal dynamics. These factors can greatly influence their motivation, job satisfaction and mental health.

The importance of studying mental health among employees lies in its direct impact on work performance, productivity and personal life. Stress, burnout, depression and anxiety are increasingly being recognized as occupational health concerns that can affect both government and non-government employees.

1.1 What is Mental Health?

According to Herbal Carol (1969) "Mental health is the creation of conditions in which a healthy emotional life is possible to prevent more severe and acute mental illnesses." Lehner and Cube "Mental health is an adjustment to the world and to other persons that maximizes the individual's satisfaction."

1.2 Review of literature

Andhariya, M.J, (2023) "Mental Health, psychological wellbeing and life satisfaction of bank employees." This study findings show that the effect in terms of bank type government and non-government employees significant, the effect of the type of Gender was significant. This study finding also show that the effect between type of bank and gender was significant. Patel, K.C. (2022) "Mental Health Among Government and Privet School Employees." This study finding show that there is significant difference in mental health among government and privet school employees.

2. METHODOLOGY

(1) Objectives

The present study was, hence, undertaken with the following objectives.
(1) A study of Mental Health among Government and Non-Government Employees.
(2) A study of Mental Health among Male and Female Employees.

(2) Variables

The implications of the present research are as follows.

1) Independent Variables

A) Type of Employee : A_1= Government
A_2= Non-Government
B) Gender : B_1= Male

B_2= Female

2) Dependent variable

Achiveved Mental Health Scores among Government and Non-Government Employees.

(3) Hypothesis

The following things of hypothesis have been formulated for the investigation here, researcher builds a null hypothesis.

(1) There is no significant difference in the Mental Health between government and non-government employees .

(2) There is no significant difference in the Mental Health between Male and Female employees.

(3) There is no significant difference in the Mental Health between type of employees and gender.

(4) Sample

In the present research a total sample of 120 male and female government and non-government employees was taken from Bhavnagar was selected by Stratified random sampling. In which 60 males and 60 females was taken.

(5) Design

The experimental design for this study was 2 x 2 factorial design. The first independent variable was Type of employee (Government & Non-Government). The Second independent variable was Gender (Male & Female). The dependent variable was Mental Health score.

Table No-1

A table of sample Distribution

Independent variable	Government Employee	Non-Government Employee	Total
Male	30	30	60
Female	30	30	60
Total	60	60	120

(6) Tools

For collecting the data, the following tools were used.

(a) Personal information sheet

A personal data sheet developed by researcher was used to collect information about types of employees, gender, etc.

(b) Mental Health Inventory

The inventory was developed by Dr.A.K.Shreevastav and Dr.Jagdish (1982). To measure the Mental Health. Here is the information about the inventory. The original Hindi inventory was translated in gujrati and standardized by Bhavna Thummar (2009). This inventory divided in six important areas of Mental Health in this inventory 56 questions. Each question has four option. It is sequence in this always, often, sometimes and never to get target group has to choose any one option after data collection. It is analyzed and finds the solution.

Reliability

To decide reliability of this inventory by Dr. A.K. Shreevastav and Dr. Jagdish (1982). The reliability of Mental Health Inventory by Split-half method is r = 0.73 (N=600).

The original Hindi inventory was translated into Gujarati by Bhavna Thummar (2009). They take 100 samples and decide the reliability of this inventory by Split-half method. To know the reliability of Dimensional Mental Health Inventory is r = 0.74.

Validity

To decide validity of this inventory by Dr. A. K. Shreevastav and Dr. Jagdish (1982). The validity of Mental Health Inventory by Construct validity is r = 0.57 (N=600).

The original Hindi Inventory was translated into Gujarati by Bhavna Thummar (2009). While translating this inventory help of language exports and interdisciplinary subject was taken according to there content in the final Mental Health Inventory prepared not only this but we applied this test on 100 samples. The validity of Mental Health inventory by Construct validity is r = o.68. we found Correlation Significant.

(7) Procedure

The mental health inventory has six areas (1) Positive Self Evaluation (2) Perception of Reality (3) Integration of Personality (4) Autonomy (5) Group-Oriented Attitude (6) Environmental Mastery. To ask him to tick mark (✓) before the question if they agree with this Mental Health Inventory is to measure the four options, 'Always', 'Often', 'Sometimes', 'Never'. 56 questions and Positive is to be scored 1,2,3,4. Negative is to be scored as 4,3,2,1. The maximum is arrived at 224 and minimum score as 56 in this inventory. It is interpreted that higher the area of value attained the quantum of mental health is less and the lower the area of value attained the quantum of mental health is more.

3. Result

Table No-1

Summary of analysis of variance for Mental Health in Employees

Source of variation	Sum of square	df	Mean Sum of square	'F' Ratio	Level of significant
A (Type of Employees)	13230.01	1	13230.01	29.71	0.01
B (gender)	3434.71	1	3434.71	7.71	0.01
A x B	31482.27	1	31482.27	70.71	0.01
Wss	51674.48	116	445.24	-	-
Total	99821.47	119	-	-	-

Significant Level $^{*}0.05 = 3.92$

$^{*}0.01 = 6.84$

4. DISCUSSIONS

The chief aim of the present research was to examine Mental Health of Government and Non-Government Employees. The derived result shows that out of three hypothesis, three hypothesis are not accepted.

The difference in Mental Health between Government and Non-Government employees was significant. Therefore the hypothesis is not accepted. The reason for this may be that government employees have a higher level of job security than non-government employees. In addition, they face more work pressure than government employees. The findings of the results here support the research previous research of Patel,K.C.(2022).

The difference in Mental Health between male and female employees was significant. There for the hypothesis is not accepted. The reason for this may be that even today gender differences are still seen in the workplace, which in turn has a significant impact on mental health. The findings of the results here support the research previous research of Andhariya, M.J, (2023).

The difference in Mental Health between type of employees and gender was significant. There for the hypothesis is not accepted. This may be because men and women have different levels of responsibility. In addition, women have a higher level of responsibility than men in the workplace and in ordinary life. The findings of the results here support the research previous research of Andhariya, M.J, (2023)..

5. CONCLUSIONS

1) The difference in Mental Health between Government and Non-Government was significant.
2) The difference in Mental Health between male and female employees was significant.
3) The difference in Mental Health between type of employees and gender was significant.

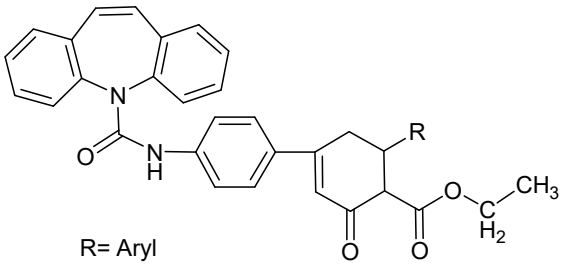
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SYNTHESIS AND ANTIMICROBIAL ACTIVITY OF ETHYL -[(6"-ARYL)-4"-PHENYL CARBAMIDO]- 5'-DIBENZ [B,F] AZEPINES-2"-OXOCYCLOHEX-3"-ENE-1"- CARBOXYLATE

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KEYWORDS : DIBENZ [B,F] AZEPINE. CYCLO HEXENONE DERIVATIVES, ANTIMICROBIAL

ABSTRACT :
Introduction: 2"-Aryl-3"-methyl phenyl carbamido)]-5-dibenz [b,f] azepine quinoxalines (5a -5f) derivatives are known to have pharmacological activities.

Antimicrobial screening: The titled compounds (5a-5f) have been determined against various Gram-positive(+), Gram-negative(–) bacteria and fungi and products are supported by IR, ^{1}H NMR, Mass spectra and elemental analysis.

Methods: The titled compounds (5a-5f) have been synthesized by the condensation of 5-{4'-[3"-(4"'-Methoxy phenyl)-2",3"-dibromo-1"-one]-phenyl carbamido}-dibenz [b,f] azepines (4f) and sodium ethoxide with ethyl aceto acetate in dioxane.

INTRODUCTION :

Cyclohexanone derivative possess broad spectrum of pharmacological activities which are reflected by their use as Biological activity[1],Antiarhythmic[2],Anticonvulsant[3], Anticancer [4], Antibiotic[5], Antibacterial [6] , neurotropic activity [7] etc. In view of getting potent therapeutic agents to synthesized titles compounds[8-9].ethyl [6"-(4"'-Methoxy phenyl)-4"-phenyl carbamido]-5-dibenz[b,f]azepines -2"-oxo cyclohex-3"-ene- 1'-carbaxalate (5a -5f) have been synthesized by the condensation of 5-{4'-[(3"-aryl)-2"-Propene-1"-one]-Phenyl carbamido}-dibenz [b,f] azepines (4f) with Ethyl aceto acetate and Sodium ethoxide in dioxane.

5-{4'-[(3"-aryl)-2"-Propene-1"-one]-Phenyl carbamido}-dibenz [b,f] azepines (4f) have been synthesized by the reaction of 5-(4'–acetyl phenyl carbamido)–dibenz [b,f] azepines(3f). with aromatic aldehyde in the present of aq. NaOH solution.

5-(4'–acetyl phenyl carbamido)–dibenz [b,f] azepines **(3f)** have been synthesized by the condensation of 5-dibenze[b,f] azepines methanoyl chloride**(1)**with 4-amino acetophenone(2) in ethanol and pyridine.

MATERIALS AND METHODS

Antimicrobial activity:

Quinoxalines derivative (**5a -5f)** were evaluated in vitro for antimicrobial activity against *B. Mega,S.aureus,S.taphimarium, E. Coli* and for antifungal activities against *A. niger* using DMF as solvent at 50 µg concentration by cup-plate method[10]. After 24 hrs. of incubation at 37 ^{0}C temp., the zone or inhibition were measured in mm. The activity was compared with the known antibiotics viz. Ampicillin chloramphenicol, Norfloxacin, Griseofulvin at same concentration which is represented in Table-I and comparable anti microbial activity represented in Table no. II

METHOD SECTION:

All the melting points were taken in open glass capillaries and are uncorrected. IR absorption spectra were recorded on a Shimadzu-FT-IR 8400 Spectro-photometer using KBr pellet and ^{1}H NMR spectra on a Bruker DPX-200 spectrometer (300 MHz) using DMSO as solvent and TMS as internal standard. Purity of the compounds were routinely checked by TLC using silica get G.

EXPERIMENTAL AND SPECTRAL SECTION:

(A) 5-(4'–Acetyl phenyl carbamido)–dibenz [b,f] azepines (3)

A mixture of 5-dibenz [b,f] azepines methanoyl chloride (2.55 gm, 0.01M), 4-amino acetophenone (1.35 gm, 0.01M) in ethanol (25 ml) and pyridine (5.0 ml) was refluxed on a oil bath at 120 ^{0}C for 12 hrs. The content was cooled and poured into crushed ice, filtered and washed with water. The isolated product was crystallized from ethanol yield : 85.42%, MP.:170 $^\circ$C.(Found:C:77.85,H:5.02,N:7.82, $C_{23}H_{18}N_2O_2$ required C:77.96, H:5.08, N:7.90%).

IR(KBr) : 2958 (C–H str. asym.), 2870 (C–H Str. Sym), 1420 (C–H def.), 3056 (C–H str. aromatic), 801(C-H;str.o.p.p def.) 1509 (C=C str.), 1118 (C–N str.), 1620 (N–H band), 1700 (C=O str.).
^{1}H NMR : 2.5 (s, 3H Ar–$COCH_3$); 6.50–6.63 (m, 4H, Ar–H), 9.95 (s, 1H, N–H).
Mass : (m/z), 103, 180, 196, 252, 238, 287, 441, 457.

(B) 5-{4'-[3"-(4"'-Methoxy phenyl)-2"-Propene-1"-one]-Phenyl carbamido}-dibenz [b,f] azepines(4f)

A mixture of 5-(4'–acetyl phenyl carbamido)–dibenz[b,f] azepines(3.54 gm,0.01 M),4–methoxy benzaldehyde (1.36 gm, 0.01M), methanol (25 ml). and 40% aq.NaOH till solution becomes basic medium. The reaction mixture was stirring 24 hrs. at room temp. The contents was poured into crushed ice, acidified, filtered and crystalized from dioxane. Yield:79.86%, M.P.:105°C.(FoundC:75.80, H:5.01, N:5.80, $C_{31}H_{24}O_3N_2$ required C:75.86, H:5.08, N:5.93%)

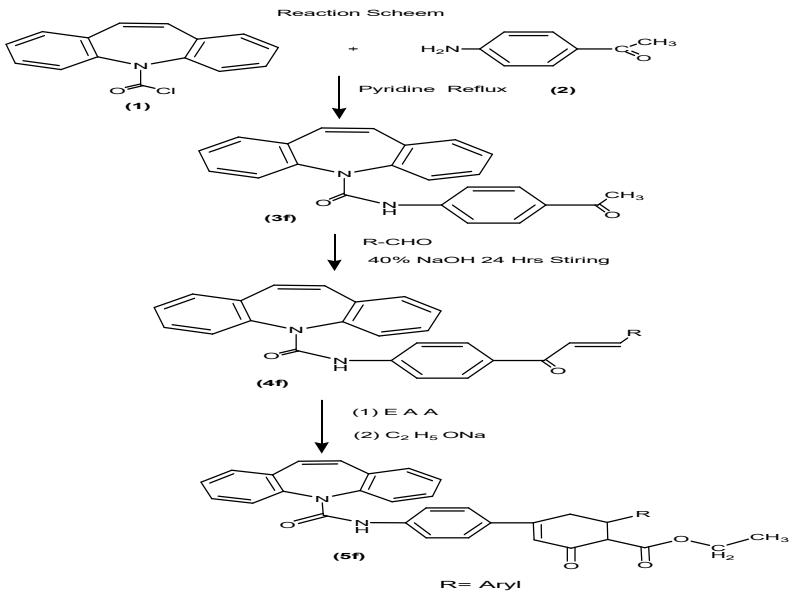
IR (KBr): 2943 (C–H str. asym.), 2852 (C–H str. sym), 1436 (C–H str. asym), 1371 (C–H str. sym) 3097 (C–H str. aromatic) 1276 (C–H i.p. def.), 821 (C–H, o.o.p. def.), 1677 (C=O str.), 1118 (C–N Str.), 3311 (N–H str.) 3045 (C=C str.), 1245 (C–O–C Str.),
^{1}H NMR : 3.62–3.86 (s, 3H, Ar-OCH_{3a}), 7.01–7.03 (m,16H, Ar–Hd), 8.08–8.72 (m,2H, Ar– Hc), 9.95 (s, 1H, –NHb), 4.80–4.83 (s, 2H, CH=CH).
Mass : (m/z) 103,161,180,196,238, 252, 287, 372, 441, 448, 457,472.

Similarly other chalcones (**4a-4f)** where prepared and their physical data and antimicrobial activities data published in other journal.

(C) Ethyl[6"-(4"'-Methoxyphenyl)-4"-phenyl carbamido]-5-dibenz[b,f] azepines -2"-oxo cyclohex-3"-ene- 1'-carbaxalate(5f)

A mixture of 5-{4'-[3"-(4"'-methoxyphenyl)-2"-Propene-1"-one]-Phenyl carbamido}-dibenz [b,f] azepines**(4f)** (4.72 gm,0.01M) was dissolved in 30ml dioxane sodium ethoxide (0.15 ml) and ethyl aceto acetate (2.60 gm,0.02M). The reaction mixture was refluxed on oil bath for 12 hrs.The reaction mixture was cooled and poured into crushed ice. The product was isolated and crystallized from toluene. Yield : 79.10 % ,M.P.:290ºC. (Found : C:75.88; H:5.41; N:4.71, $C_{37}H_{32}N_2O_5$ required C : 75.89; H : 5.45; N : 4.79 %).
IR (KBr): 2915 (C–H str. asym), 2870 (C–H str. sym.) 1440(C–H def. asym), 1322 (C–H def. sym.), 3024 (C–H str. aromatic), 1440 (C=C ring skeletal), 1274 (C–H i. p. def.), 777 (C–H o.o.p. def.), 1303 (C-N str),3549 (N–H str.), 1521 (N–H ben.), 1212 (C–O–C str. asym.), 1712 (>C=O str).
^{1}H NMR : 3.60 (s, 3H, Ar–OCH_{3a}), 6.92 (s, 1H, N-H_b) ,3.06 (t, 3H, -CH_{3c}),7.0-7.7 (m, 16H, Ar-H_d), 6.93 (d, 2H, -Ar-H_e),3.8 (q,2H, OCH_{2f}),7.08 (s, 2H, Ar-H_g),5.9 (d, 1H, Ar-H_h)
}Mass : (m/z) 91,105, 108,209, 220, 429, 440, 460,477, 481, 484,530,560,584.

Similarly other (5a – 5f) have been synthesized and their physical data represented in Table no. I.



RESULTS AND DISCUSSION : All are data is given in table I &II

Table-I The physical data and antimicrobial activity of compounds (5a -5f).

Here total Six new **Ethyl[6"-(4"'-Methoxyphenyl)-4"-phenyl carbamido]-5-dibenz[b,f] azepines -2"- oxo cyclohex-3"-ene- 1'-carbaxalate(5a-5f)** derivatives compounds synthesizes and characterized using various physical methods NMR,IR ,Mass ,Melting point and Antibacterial activity.

Comp	R	Mol.formula	M.P ^{0}C	Yield (%)	N %		Antibacterial activity				Antifung activity
					Cal.	Found	B.Meg	*B.aureus*	*S.taphima*	*E. Coil*	A.nigar
5a	C_6H_5	$C_{36}H_{30}N_2O_4$	105	62.48	5.05	5.01	16	15	22	24	14
5b	2-OH C_6H_4	$C_{36}H_{30}N_2O_4$	70	49.69	4.91	4.49	22	12	18	16	10
5c	3-OH C_6H_4	$C_{36}H_{30}N_2O_4$	118	69.72	4.91	4.60	17	23	10	22	11
5d	4-OH C_6H_4	$C_{36}H_{30}N_2O_4$	82	74.82	4.91	4.65	15	17	12	17	21
5e	2-OCH_3 C_6H_4	$C_{37}H_{32}N_2O_5$	120	70.72	4.79	4.70	13	19	14	15	19
5f	4-OCH_3 C_6H_4	$C_{37}H_{32}N_2O_5$	80	80.82	4.79	4.71	24	10	24	18	20

Table-II Comparable antimicrobial activity

Sr.No.	Compd	*B. Mega*	*B. Aureus*	*S.taphimarium*	*E. Coil*	*A. niger*
	5a-5f	5b,5f	5c,5e	5a, 5f	5a,5c	5d, 5f
1	Ampicillin (50 µg)	30	29	30	32	-
2	Chloramphenicol (50 µg)	30	32	29	28	-
3	Norfloxacin (50 µg)	35	31	27	30	-
4	Griseofulvin (50 µg)	-	-	-	-	27

CONCLUSION :

2"-(4"'-Methoxy phenyl)-3"-methyl phenyl carbamido}-5-dibenz [b,f] azepine quinoxalines (5a-5f) have been synthesized. Compounds **(5a),(5f)** showed good remarkable antimicrobial activity compare with known standard drugs.

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OBSCENE CONTENT IN THE DIGITAL AGE: LEGAL EFFECTS AND CHALLENGES

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ABSTRACT

The landscape of pornographic content has changed dramatically as a result of the quick transition of media from print and film to digital platforms. Through social media, streaming services, and other internet platforms, what was formerly restricted to books, magazines, and movies is now broadly available, posing difficult moral, legal, and societal issues. With a focus on the spread of digital media, this essay explores the idea of obscene content, its manifestations, and its effects on people and society. It examines the legal ramifications of pornographic material under a number of legislative frameworks, such as the Information Technology Act, the Indian Penal Code, and comparable overseas laws like the UK Obscene Publications Act and the US Miller Test. By highlighting significant landmark cases and the difficulties courts and regulatory agencies face in striking a balance between the right to free speech and social morality, the paper delves deeper into how legal systems interpret and apply obscenity laws. The report concludes by highlighting new difficulties in controlling pornographic material in the digital era, such as algorithm-driven content distribution, cross-border jurisdiction concerns, and technological evasion. The study evaluates these issues critically and makes suggestions for improving digital literacy, bolstering legal frameworks, and encouraging responsible content consumption. The results are intended to give a thorough grasp of the legal ramifications of pornographic material, highlighting the necessity of flexible, useful, and legally binding methods in modern media law.

KEYWORDS
Obscene Content Regulation,
Digital Media Law,
Indian Legal Framework,
Freedom of Expression,
Cyber Obscenity,
Judicial Interpretation,
Legal Enforcement Challenges,
Media Ethics

INTRODUCTION

The production, consumption, and distribution of media have undergone an unparalleled change in the twenty-first century. People now have unfettered access to a wide variety of textual and visual materials because to the development of the internet and digital technologies, which have also blurred the lines between private and public expression. Obscene content is one of the most contentious of them, pushing the boundaries of morality, law, and freedom of speech. From printed books and movies to television

and, more recently, the unregulated realm of social media and streaming services, the idea of obscenity has changed throughout time. Every stage has raised new issues for regulators, legislators, and the general public.

Obscenity has long been a topic of ethical and legal discussion in India. The Indian legal system, which has its roots in colonial laws like the Indian Penal Code, 1860, and British obscenity laws, still struggles to strike a balance between Article 19(1)(a), which guarantees freedom of speech and expression, and Article 19(2), which imposes reasonable restrictions based on morality and decency. However, it is becoming more challenging to enforce these old legal boundaries due to the growth of digital platforms. Once strictly censored by print or film boards, content now freely travels via international networks, frequently escaping national borders.

From explicit movies and suggestive ads to pornographic content masquerading as creative expression, the rise of digital media has brought forth new kinds of obscene content. Although technology has made expression more accessible, it has also made it easier to spread information and provide anonymity, which raises fundamental concerns about responsibility. Legislators now face the problem of detecting, tracking, and regulating obscenity in real time, rather than just classifying it.

Obscenity has long been a topic of ethical and legal discussion in India. The Indian legal system, which has its roots in colonial laws like the Indian Penal Code, 1860, and British obscenity laws, still struggles to strike a balance between Article 19(1)(a), which guarantees freedom of speech and expression, and Article 19(2), which imposes reasonable restrictions based on morality and decency. However, it is becoming more challenging to enforce these old legal boundaries due to the growth of digital platforms. Once strictly censored by print or film boards, content now freely travels via international networks, frequently escaping national borders.

This paper looks at how laws have changed to accommodate technological realities and where they still fall short in order to assess the legal ramifications of pornographic content in the digital age. To learn how other systems handle obscenity, it will examine significant court rulings, legislative requirements, and global viewpoints. The study will also highlight current issues that impede efficient regulation, including algorithmic exposure, cross-border jurisdiction, and uneven enforcement methods. In the end, it seeks to add to the current conversation by proposing reasonable legal changes that protect free speech while maintaining personal dignity and public decency.

RESEARCH METHODOLOGY AND SCOPE

With an emphasis on the interpretation and assessment of legal provisions, court rulings, and academic publications pertaining to obscene content in the digital era, this study uses a doctrinal and analytical research technique. The study is qualitative in nature and prioritizes conceptual knowledge and legal reasoning over the gathering of empirical facts. In order to comprehend the legal framework governing obscene content, the research takes a doctrinal approach, examining main and secondary legal sources. The analytical study's goals are to evaluate current laws critically and pinpoint areas that need modification. Primary Sources for the study looks at laws such the Bharatiya Nyaya Sanhita, 2023 (BNS 2023), the Information Technology Act, 2000, and the Indian Penal Code, 1860 as well as all other related regulations. It also takes into account significant rulings from India's Supreme Court and other High

Courts. Secondary Sources for the study are books on media and cyber laws, law commission reports, peer-reviewed journal articles, and scholarly commentary are all included in the study. The Indian legal and regulatory framework pertaining to pornographic, obscene and Sexually Explicit Content in media especially on digital platforms is the main topic of this paper. It looks at the definition, interpretation, and punishment of obscenity in the Indian legal system. The research focuses on the doctrinal analysis of statutes, case laws, and legal commentaries to suggest and recommend future solutions for the complexities resulted from easy access of such content.

The following important questions are the focus of the study:

1. How does the Indian legal system define and interpret obscene content?

2. How have judicial rulings and Indian legislation changed to control obscenity in digital media?

3. What are the main obstacles to regulating obscene content in the digital era from a legal and enforcement standpoint?

4. To what extent do the current legal and legislative measures effectively combat contemporary forms of obscenity?

5. What changes can improve the harmony between the defense of public morals and the right to free speech and expression?

Through this analysis, the study seeks to offer a thorough grasp of obscene content easily accessible on digital media, evaluating the suitability of current legislation and pinpointing important areas in need of legislative or policy change

1.UNDERSTANDING OBSCENE CONTENT

The term obscene content has long been a subject of legal, social, and ethical scrutiny, particularly because it lies at the intersection of freedom of expression, morality, and public decency. In legal terms, obscene content generally refers to material that appeals primarily to sexual desire, offends public decency, or lacks significant literary, artistic, or educational value. The understanding of obscenity has evolved over time, adapting to changes in social norms, technology, and judicial interpretations. Historically, obscenity laws aimed to protect societal morality and shield vulnerable populations, especially minors, from harmful exposure. In India, the Indian Penal Code (IPC) Sections 292–294 and provisions under the Information Technology Act, 2000, form the primary legal framework. Additionally, the Bharatiya Nyaya Sanhita, 2023 (BNS 2023) introduces updated provisions to address modern challenges posed by digital media.

Definition and Legal Interpretation

Obscene content is legally recognized as material that exceeds the limits of decency acknowledged by society. The IPC covers printed books, periodicals, paintings, films, and other media capable of dissemination. The BNS 2023 builds upon these provisions, explicitly defining acts such as the production, distribution, and exhibition of obscene material as criminal offenses, with corresponding penalties. Judicial interpretations have consistently emphasized that obscenity must be evaluated contextually, taking into account the creator's intent, the purpose of the content, and its effect on the audience. Content with sexual themes may not be deemed obscene if it serves a legitimate educational, literary, or artistic purpose.

Evolution of Obscene Content

Initially, obscenity was associated with printed literature, art, and cinema, with regulatory mechanisms designed to monitor these forms. The advent of television and cable networks broadened the scope,

prompting content ratings and age restrictions. The digital era has dramatically transformed the landscape. Social media, streaming platforms, and user-generated websites now allow rapid distribution, often circumventing traditional regulatory channels. This evolution has expanded both the definition of obscene content and the complexity of enforcement, including issues of anonymity, cross-border access, and algorithm-driven exposure.

Characteristics of Obscene Content

Obscene content typically exhibits several distinct characteristics:

- Appeal to Prurient Interest: The material primarily stimulates sexual desire.
- Lack of Social or Artistic Value: It offers no meaningful literary, educational, or artistic contribution.
- Potential for Public Harm: Exposure may negatively influence social norms or vulnerable individuals.
- Intentionality and Commercial Exploitation: Often created and distributed for profit.
- Digital Amplification: Online platforms allow rapid, widespread dissemination.

Distinguishing Permissible and Impermissible Content

Understanding obscene content requires distinguishing between permissible sexually explicit material and impermissible or legally actionable content. Material with sexual themes that serves art, literature, education, or health awareness is generally considered permissible. Conversely, content produced solely for prurient interest or content that exploits individuals sexually without consent is subject to legal penalties. This distinction guides courts and regulators in enforcing laws while protecting legitimate expression.

2. LEGAL EFFECTS

The legal consequences of obscene content in India are governed by a combination of statutory provisions and judicial interpretations, aimed at protecting public morality, social decency, and vulnerable individuals, particularly minors. The proliferation of digital platforms has amplified the accessibility of such content, making enforcement of existing laws more critical and complex. The Indian Penal Code (IPC) Sections 292–294, together with the Information Technology Act, 2000, and the Bharatiya Nyaya Sanhita, 2023 (BNS 2023), constitute the primary framework for addressing offenses related to obscene material.

2.1 Statutory Provisions and Punishments

Under IPC Section 292, the sale, distribution, or public exhibition of obscene material, including books, pamphlets, and visual representations, is prohibited. The law distinguishes between content that may corrupt public morals and material intended solely for private consumption. Section 293 extends these prohibitions to content that is accessible to minors. Offenders may face imprisonment, fines, or both, depending on the gravity and intent of the offense. Section 294 criminalizes obscene acts in public spaces or performances, addressing situations where exposure may shock or offend the public.

The Information Technology Act, 2000, particularly Sections 67 and 67A, deals with digital distribution of obscene content. Section 67 penalizes publishing or transmitting obscene material electronically, while Section 67A specifically addresses sexually explicit content intended for minors. Offenders under these provisions may face rigorous imprisonment and substantial fines, reflecting the increased severity of digital offenses. The BNS 2023 reinforces these laws, modernizing definitions and penalties to align with

current technological realities, including online streaming, social media sharing, and other forms of digital dissemination.

2.2 Consequences for Offenders

Legal consequences extend beyond criminal penalties. Convictions may lead to confiscation of materials, closure of offending platforms, and blocking of websites hosting or distributing obscene content. Courts have often emphasized deterrence, ensuring that both content creators and distributors understand the legal boundaries. The law is designed not only to punish but also to prevent the spread of material harmful to public morality and minors.

2.3 Civil and Administrative Implications

In addition to criminal sanctions, regulatory bodies such as the Central Board of Film Certification (CBFC), the Ministry of Information and Broadcasting, and cyber authorities have the power to issue takedown orders, block access, and impose administrative penalties. Platforms that fail to comply may face legal liability under intermediary liability provisions of the IT Act. These measures create a multi-layered regulatory environment, blending criminal, civil, and administrative consequences to curb the dissemination of obscene content.

2.4 Societal and Legal Impact

The legal effects of obscene content extend beyond individual offenders to societal norms and digital governance. Strict enforcement serves to uphold public morality, protect children, and reinforce the boundaries of acceptable expression in both physical and digital spaces. Judicial interpretation of statutory provisions also influences how media platforms regulate content internally, promoting self-censorship and responsible dissemination. The BNS 2023 enhances this regulatory effect by explicitly including clauses for online content moderation, digital tracking, and penalties for facilitating distribution, ensuring the law remains relevant in the face of evolving technology.

Overall, the legal framework concerning obscene content in India combines criminal, civil, and administrative measures to regulate both traditional and digital media. The statutory provisions of the IPC and IT Act, reinforced by the BNS 2023, are designed to prevent the creation, distribution, and exposure of obscene content while protecting fundamental rights. The consequences for violations are significant, creating a deterrent effect that influences both content creators and digital platforms. Understanding these legal effects is crucial for comprehending the broader challenges of regulating obscene content in the digital age.

3. JUDICIAL AND LEGAL TREATMENT IN INDIA

The regulation of obscene content in India is shaped not only by statutory provisions but also significantly by judicial interpretations. Courts play a crucial role in determining what constitutes obscenity, balancing freedom of expression under Article 19(1)(a) with reasonable restrictions under Article 19(2). Over time, judicial pronouncements have refined the legal understanding of obscenity, addressing both traditional media and the challenges posed by digital content.

3.1 Judicial Tests for Obscenity

Indian courts have historically relied on tests developed through precedent to determine obscenity. The Hicklin Test, derived from English law, initially guided the judiciary, assessing whether material had the tendency "to deprave and corrupt" susceptible minds. However, this test was criticized for its over-breadth, as it focused on isolated passages rather than the work as a whole. Later, the Ranjit D. Udeshi v. State of Maharashtra (1965) case upheld the importation of stricter standards but also emphasized context

and intent in evaluating obscenity. Subsequent rulings, such as Aveek Sarkar v. State of West Bengal (2014), introduced a more nuanced approach, considering literary, artistic, and social value in determining whether content is legally obscene.

3.2 Landmark Cases

Courts have adjudicated numerous cases involving obscene content across different media. For instance, in Ranjit D. Udeshi v. State of Maharashtra, the Supreme Court upheld the conviction for publishing obscene material but highlighted the necessity of contextual interpretation. Similarly, cases involving digital platforms, such as Shreya Singhal v. Union of India (2015), demonstrated the judiciary's commitment to balancing freedom of expression with societal morality, particularly in online spaces. These decisions provide guidance for evaluating digital content while ensuring laws do not arbitrarily infringe on civil liberties.

3.3 Digital Media and Online Content

With the rise of social media, streaming services, and user-generated content, courts have increasingly addressed digital forms of obscenity. Provisions under the Information Technology Act, 2000, read with IPC sections and BNS 2023, are interpreted to encompass online publication, transmission, and hosting of obscene material. Courts have recognized challenges such as anonymity of users, cross-border access, and rapid dissemination, often ordering intermediaries to block content or take preventive measures. Judicial rulings emphasize that platform responsibility is integral to enforcement, ensuring that content providers actively prevent the spread of illegal material.

4. CHALLENGES

Regulating obscene content in the digital age presents numerous challenges for the Indian legal system, law enforcement authorities, and society at large. The rapid evolution of technology, coupled with the expansive reach of digital platforms, has created a complex landscape that traditional laws struggle to address effectively. While statutes such as the IPC, the IT Act, and the Bharatiya Nyaya Sanhita, 2023 (BNS 2023) provide a regulatory framework, practical enforcement faces significant obstacles.

4.1 Digital Dissemination and Anonymity

One of the foremost challenges is the ease of distribution through online platforms. Obscene content can be shared instantly via social media, messaging apps, and streaming services, often crossing national borders. Many users exploit anonymity tools, fake accounts, and encryption, making it difficult for authorities to trace and hold offenders accountable. The digital environment allows rapid viral spread, which traditional policing methods struggle to contain.

4.2 Platform Evasion Techniques

Content creators and platforms often employ strategies to evade legal liability. These include frequent channel switching, re-uploading removed content, and using multiple accounts or websites to distribute material. Geo-fencing and region-based restrictions can block access in one jurisdiction but are easily circumvented through VPNs or proxy servers, limiting the effectiveness of regional enforcement. Such tactics create an ongoing challenge for regulators attempting to maintain compliance and protect vulnerable audiences.

4.3 Enforcement and Jurisdictional Gaps

The cross-border nature of digital content introduces significant jurisdictional challenges. Obscene material hosted outside India may be accessible within the country, but taking legal action against foreign entities is complicated by international law limitations and slow cooperation processes. Additionally, the

fast pace of content creation often outstrips the capacity of enforcement agencies, resulting in delayed takedowns or unregulated proliferation.

4.4 Balancing Freedom of Expression

Another key challenge lies in maintaining a balance between freedom of speech and the protection of public morality. Overly strict enforcement can stifle legitimate expression in art, literature, or education, while lax enforcement allows harmful content to flourish. Courts and regulators must navigate this delicate equilibrium to ensure that laws are applied fairly and proportionately.

4.5 Societal Awareness and Compliance

Finally, challenges also emerge from a lack of awareness among users and content creators about legal boundaries. Educational initiatives, digital literacy programs, and clear guidelines for intermediaries are essential to encourage compliance and reduce the creation and sharing of illegal obscene content.

In conclusion, the regulation of obscene content in the digital era is hindered by technological, jurisdictional, and societal challenges. Issues such as anonymity, rapid dissemination, platform evasion, and the need to protect freedom of expression complicate enforcement. Effective regulation requires not only robust legal provisions like the IPC, IT Act, and BNS 2023 but also proactive measures from intermediaries, law enforcement, and society to address these challenges comprehensively.

5. RECOMMENDATIONS AND CONCLUSION

The regulation of obscene content in India, particularly in the digital age, requires a balanced and multi-faceted approach that safeguards public morality while protecting freedom of expression. Based on the analysis of statutes, judicial interpretations, and practical challenges, several recommendations emerge to strengthen the legal framework and enforcement mechanisms.

5.1 Recommendations

1. Enhanced Digital Monitoring: Law enforcement agencies and intermediaries should adopt advanced monitoring tools, artificial intelligence, and automated filtering mechanisms to identify and block obscene content proactively.
2. Platform Accountability: Social media and streaming platforms must be held accountable for content hosted or shared on their networks. Clear guidelines, reporting mechanisms, and strict compliance with takedown orders should be enforced.
3. Legal Awareness and Education: Public awareness campaigns and digital literacy programs can educate users, especially minors, about the legal boundaries regarding obscene content and responsible online behavior.
4. Timely Enforcement and Cooperation: Efficient coordination between law enforcement, cybercrime cells, and courts can ensure rapid action against offenders. International cooperation should also be strengthened to address cross-border offenses.
5. Regular Review of Legal Provisions: Statutes such as the IPC, IT Act, and BNS 2023 should be periodically reviewed and updated to address emerging technological trends and new forms of content creation.

5.2 Conclusion

Obscene content in the digital era presents a complex challenge for the Indian legal system. While statutory provisions and judicial interpretations provide a strong regulatory framework, rapid technological advancements and evolving digital behavior necessitate continuous adaptation. Effective regulation depends not only on robust laws like IPC Sections 292–294, IT Act, and BNS 2023, but also on active cooperation from intermediaries, informed users, and vigilant enforcement agencies. By

implementing proactive measures and fostering awareness, India can achieve a balanced approach that protects societal morality, safeguards vulnerable populations, and upholds constitutional freedoms.

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IMPACT OF FLIPPED CLASSROOM PEDAGOGY ON STUDENTS' LEARNING OUTCOMES IN SECONDARY EDUCATION

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ABSTRACT
Flipped classroom pedagogy has emerged as a transformative teaching approach that reverses the traditional learning model by delivering instructional content outside the classroom and using classroom time for interactive activities, problem-solving, and collaborative learning. This study investigates the impact of flipped classroom pedagogy on students' learning outcomes in secondary education. A descriptive and analytical research design was employed to examine how flipped classrooms influence academic performance, critical thinking, and student engagement. The study also explores the perceptions of both students and teachers regarding this pedagogy. Findings are expected to provide empirical evidence on the effectiveness of flipped classrooms as an innovative approach to secondary education.

KEYWORDS: FLIPPED CLASSROOM, PEDAGOGY, SECONDARY EDUCATION, LEARNING OUTCOMES, STUDENT ENGAGEMENT, COLLABORATIVE LEARNING

INTRODUCTION
Traditional classroom teaching has often been criticized for its teacher-centered approach, where students passively receive knowledge with limited opportunities for interaction and critical thinking. To address these limitations, educators are increasingly adopting active learning strategies, among which flipped classroom pedagogy has gained significant prominence. In a flipped classroom, students access pre-recorded lectures, digital content, or reading materials before class, while classroom sessions are devoted to interactive discussions, hands-on exercises, and application-based learning.

This pedagogical approach aligns with Bloom's taxonomy, shifting lower-order learning activities (remembering and understanding) outside the classroom and reserving classroom time for higher-order skills (application, analysis, and evaluation). By doing so, the flipped model encourages deeper learning and greater student engagement.

Globally, flipped classrooms have been applied across various levels of education, with research indicating improved performance, motivation, and collaborative skills (Bishop & Verleger, 2013). In the Indian context, the National Education Policy (NEP 2020) emphasizes learner-centered and technology-enabled teaching, creating an enabling environment for flipped pedagogy in schools.

However, despite its potential, the effectiveness of flipped classrooms in secondary education remains underexplored, particularly in relation to measurable learning outcomes. This study seeks to bridge this gap by examining the impact of flipped classroom pedagogy on academic achievement, critical thinking, and engagement of secondary school students.

The research aims to address the following questions:

1. How does flipped classroom pedagogy influence academic performance in secondary education?
2. What is the impact of flipped classrooms on students' critical thinking and problem-solving skills?
3. How do students and teachers perceive the flipped classroom model in terms of effectiveness and challenges?
4. What strategies can be adopted to optimize the flipped classroom approach in secondary schools?

By investigating these aspects, the study contributes to the discourse on innovative pedagogies in secondary education and provides insights for educators, administrators, and policymakers.

REVIEW OF LITERATURE

The flipped classroom has gained significant attention in educational research as a model that fosters active learning, engagement, and deeper understanding of subject matter. Literature suggests that this pedagogy not only improves academic outcomes but also enhances critical thinking and collaborative skills.

CONCEPTUAL FRAMEWORK OF FLIPPED CLASSROOM

Bergmann and Sams (2012), who pioneered the flipped classroom approach, describe it as a model where direct instruction is delivered outside class through videos or readings, while classroom time is devoted to interactive and application-based learning. Bishop and Verleger (2013) further emphasize that this model integrates pre-class learning with in-class collaborative activities, encouraging active student participation.

ACADEMIC PERFORMANCE AND ACHIEVEMENT

Research by Tune et al. (2013) demonstrated that students in flipped classrooms performed significantly better in assessments compared to those in traditional classrooms. Similarly, O'Flaherty and Phillips (2015) found that flipped pedagogy enhances long-term retention and application of knowledge. These studies highlight the model's effectiveness in improving academic achievement.

CRITICAL THINKING AND PROBLEM-SOLVING SKILLS

Lage et al. (2000) observed that flipped classrooms foster critical thinking by shifting the responsibility of content acquisition to students, allowing class time for higher-order cognitive tasks. Strayer (2012) also noted that flipped pedagogy enhances problem-solving and collaborative learning skills, preparing students for real-life applications.

STUDENT ENGAGEMENT AND MOTIVATION

The flipped model has been shown to increase student engagement and motivation. Hamdan et al. (2013) argued that flipped classrooms encourage self-paced learning, autonomy, and accountability. Students reported greater satisfaction and enjoyment of learning in flipped settings compared to traditional approaches.

TEACHER AND STUDENT PERCEPTIONS

Studies indicate mixed perceptions. While many students appreciate the flexibility and interaction, some struggle with the responsibility of preparing for class in advance (Chen et al., 2014). Teachers often find

flipped pedagogy rewarding but time-intensive, requiring substantial effort in preparing digital materials and interactive activities.

CHALLENGES IN IMPLEMENTATION

Despite its benefits, challenges such as digital access, teacher readiness, and resistance to change persist. McNally et al. (2017) emphasized that successful implementation requires institutional support, professional training, and adequate technological infrastructure.

In summary, the literature establishes the flipped classroom as an effective pedagogy for enhancing learning outcomes, though its success depends on context, accessibility, and pedagogical integration.

RESEARCH METHODOLOGY

Research Design

This study adopts a descriptive and analytical design to examine the impact of flipped classrooms on secondary school students. Both quantitative and qualitative approaches are applied.

Objectives of the Study

1. To assess the impact of flipped classroom pedagogy on academic performance.
2. To analyze its influence on critical thinking and problem-solving skills.
3. To study student and teacher perceptions of the flipped classroom model.
4. To identify challenges in implementing flipped classrooms in secondary schools.

Population and Sample

The population consists of students from class 9 and 10 in selected secondary schools of Gujarat. A sample of **260 students** and **20 teachers** was chosen through stratified random sampling to include both private and government schools.

Data Collection Tools

1. **Questionnaire**: A Likert-scale questionnaire was administered to students and teachers regarding perceptions, motivation, and engagement.
2. **Achievement Tests**: Pre- and post-tests were conducted to measure academic performance.
3. **Interviews**: Semi-structured interviews with teachers provided qualitative insights.
4. **Observation**: Classroom sessions were observed to assess engagement and participation.

Data Collection Procedure

The study was conducted over a semester. Selected lessons in science and mathematics were taught using flipped pedagogy, and comparative data were collected from traditional classroom sections.

Data Analysis Methods

- Quantitative data were analyzed using paired t-tests, ANOVA, and correlation analysis.
- Qualitative data from interviews and observations were analyzed thematically.

Data Analysis & Interpretation

1. Demographic Profile of Respondents

Of the 260 students, 53% were male and 47% female. About 60% studied in private schools, and 40% in government schools. Teachers interviewed had an average of 8 years of teaching experience.

2. Academic Performance

Results from pre- and post-tests showed significant improvement among students in flipped classrooms. The mean post-test score (78%) was notably higher than the traditional classroom group (65%). A paired t-test confirmed this difference to be statistically significant ($p < 0.01$).

3. Critical Thinking and Problem-Solving

Students in flipped classrooms scored higher in problem-solving activities, with an average score of 4.1/5 compared to 3.4/5 in traditional settings. Teachers also observed greater participation in analytical discussions.

4. Engagement and Motivation

Survey responses indicated that 81% of students felt more engaged in flipped classrooms, and 76% reported increased motivation. Classroom observations confirmed active student involvement, group discussions, and peer learning.

5. Perceptions of Teachers and Students

- Teachers appreciated the improved classroom interaction but reported challenges in preparing digital resources.
- Students valued flexibility and interactive sessions but some expressed difficulty in completing pre-class tasks consistently.

6. Challenges Reported

Key challenges included unequal access to devices and internet (36%), resistance from students unaccustomed to self-study (29%), and increased workload for teachers (25%).

FINDINGS & DISCUSSION

The study examined the effectiveness of flipped classroom pedagogy in enhancing students' learning outcomes in secondary education. The findings highlight several key aspects of its impact.

1. Improvement in Academic Performance

The results demonstrated a significant increase in academic achievement among students taught through flipped pedagogy compared to those in traditional classrooms. The higher mean post-test scores indicate that pre-class preparation combined with active in-class learning promotes better understanding and retention. This supports the findings of Tune et al. (2013) and O'Flaherty and Phillips (2015).

2. Enhancement of Critical Thinking and Problem-Solving

Students in flipped classrooms engaged more actively in problem-solving and analytical tasks. The structured use of classroom time for higher-order cognitive activities allowed students to apply theoretical concepts in practical contexts. This aligns with Lage et al. (2000) and Strayer (2012), who emphasized the role of flipped classrooms in fostering critical thinking.

3. Increased Engagement and Motivation

Survey results revealed that students were more motivated and engaged in flipped settings. Interactive discussions, group activities, and peer collaboration created a participatory learning environment. These results confirm earlier research by Hamdan et al. (2013) that flipped classrooms enhance learner autonomy and satisfaction.

4. Teacher and Student Perspectives

Teachers reported that flipped pedagogy transformed classroom dynamics by reducing lecture time and increasing interaction. However, they also expressed concerns regarding the additional time required to prepare digital resources. Students valued flexibility but some struggled with the responsibility of pre-class preparation, reflecting findings by Chen et al. (2014).

5. Challenges and Limitations

Infrastructure issues, unequal digital access, and increased workload emerged as key challenges. These limitations are consistent with McNally et al. (2017), who noted that institutional support and adequate resources are essential for successful implementation.

CONCLUSION & SUGGESTIONS

The study concludes that flipped classroom pedagogy significantly improves learning outcomes in secondary education by enhancing academic performance, critical thinking, and engagement. While the model presents certain challenges, its benefits outweigh the limitations when properly supported.

Key Suggestions

1. Schools should gradually integrate flipped pedagogy into curricula, starting with subjects like science and mathematics where application-based learning is crucial.
2. Teachers should receive training and institutional support for creating quality digital resources.
3. Blended approaches should be encouraged to balance technology-enabled learning with traditional face-to-face teaching.
4. Infrastructure development, including provision of devices and internet access, should be prioritized to ensure equity.
5. Awareness and orientation sessions should be conducted for students and parents to build acceptance and responsibility for flipped learning.

By adopting these measures, flipped classroom pedagogy can serve as an innovative model to enhance secondary education in India and beyond.

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CONSTRUCTION AND TRY-OUT OF CRITICAL THINKING ENHANCEMENT PROGRAMME FOR B.ED. STUDENTS

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ABSTRACT:

The present study aims to design, implement, and evaluate a *Critical Thinking Enhancement Programme* for B.Ed. students to strengthen their analytical thinking, problem-solving, and creative reasoning skills. Critical thinking is recognized as a vital competency in teacher education because it enables teachers to make informed decisions, analyze situations effectively, and adopt innovative teaching strategies. This research adopted an experimental method to assess the programme's effectiveness. A specially constructed Critical Thinking Enhancement Programme was designed, incorporating modules such as situational analysis, case studies, problem-solving workshops, group discussions, and reflective exercises. The programme was implemented over a period of four weeks for the experimental group of B.Ed. students, while a control group followed the conventional teacher training curriculum. Both groups underwent pre-test and post-test evaluations using a standardized Critical Thinking Skills Test and observation checklists to measure changes in critical thinking ability.

The findings reveal that students who participated in the programme showed significant improvement in their ability to think critically, evaluate ideas objectively, solve problems creatively, and reflect on their own learning processes. The improvement was statistically significant compared to the control group, confirming the programme's effectiveness. This study highlights the importance of integrating structured critical thinking enhancement activities in B.Ed. curricula to prepare future teachers with essential skills for quality teaching and lifelong learning. The programme can serve as a valuable model for teacher education institutions aiming to strengthen reflective and analytical competencies among trainee teachers.

KEYWORDS: CRITICAL THINKING, ENHANCEMENT PROGRAMME, B.ED. STUDENTS, TEACHER EDUCATION, PROGRAMME CONSTRUCTION, TRY-OUT.

INTRODUCTION

Critical thinking is one of the most essential competencies in modern education. It goes beyond the mere acquisition of knowledge to include the ability to question assumptions, analyze ideas, evaluate arguments, and develop well-reasoned conclusions. In the 21st century, where information is abundant and easily accessible, the skill to critically evaluate and interpret information has become indispensable. Education today is not merely about transferring knowledge from teacher to student but about fostering independent thinking, problem-solving abilities, and the capacity for lifelong learning. Critical thinking, therefore, is at the core of effective education. In the context of teacher education, critical thinking takes on even greater importance. Teachers are not only responsible for delivering content but also for shaping the thinking skills of their students. They play a key role in developing students' intellectual

independence, creativity, and ability to solve real-world problems. For B.Ed. (Bachelor of Education) students—future teachers—critical thinking skills are fundamental, as these competencies directly influence their instructional planning, classroom decision-making, and the way they interact with learners. Teachers with well-developed critical thinking skills are better equipped to encourage analytical reasoning, promote discussion-based learning, and adopt innovative teaching methods in their classrooms. Despite the acknowledged importance of critical thinking in education, many teacher education programmes still focus predominantly on theoretical knowledge rather than explicitly teaching and developing critical thinking skills. In many cases, B.Ed. curricula do not incorporate structured and systematic approaches to enhancing critical thinking, leaving trainee teachers underprepared for the complex demands of contemporary classrooms. This gap highlights the need for a focused programme that targets the development of these skills within teacher education.

The present study addresses this need by constructing a *Critical Thinking Enhancement Programme* specifically designed for B.Ed. students. The programme aims to provide systematic opportunities for trainee teachers to engage in activities that stimulate higher-order thinking, such as problem-solving workshops, case analysis, group discussions, and reflection exercises. The programme is intended not only to improve the students' ability to think critically but also to equip them with tools and strategies they can later use in their own teaching.

IMPORTANCE OF CRITICAL THINKING IN TEACHER EDUCATION

Critical thinking enables teachers to interpret situations effectively, question preconceived ideas, and respond to classroom challenges with informed strategies. It allows teachers to evaluate educational resources, identify valid evidence, and adopt appropriate pedagogical approaches. For B.Ed. students, developing critical thinking is not simply about improving personal cognitive skills—it is about preparing them to model and nurture these skills in their future students. Research suggests that teachers who possess strong critical thinking skills are more reflective practitioners and make better decisions in designing lesson plans and responding to student needs.

Critical thinking in teacher education can be fostered through intentional learning strategies and teaching methodologies. This includes encouraging reflective practice, using real-world problems in teaching, applying inquiry-based learning, and engaging students in collaborative discussions. Structured programmes designed to enhance critical thinking can ensure that these strategies are systematically taught rather than left to incidental learning.

RATIONALE FOR THE STUDY:

Although there is a growing emphasis on critical thinking in global educational policies, there is limited research on structured programmes specifically targeting its enhancement in teacher training. In India, the B.Ed. curriculum provides scope for pedagogical innovation, but the integration of explicit critical thinking enhancement modules is limited. This gap means that many trainee teachers complete their programmes without a strong foundation in analytical reasoning, decision-making, and reflective thinking.

The rationale for this study lies in the need to create a structured and replicable programme that can address this shortfall. By constructing and trying out such a programme, this research seeks to contribute

to teacher education by offering a practical model for developing critical thinking skills. This will not only strengthen the quality of teacher preparation but will also have a positive impact on the quality of learning in schools where these teachers eventually work.

SCOPE OF THE STUDY:

The scope of this study includes the design, implementation, and evaluation of a Critical Thinking Enhancement Programme for B.Ed. students. It focuses on developing cognitive skills such as analysis, evaluation, interpretation, problem-solving, and reflection. The study is limited to a selected sample of B.Ed. students from a teacher training institution. The findings of the study may provide insights for integrating critical thinking enhancement modules into teacher education curricula more broadly.

NEED FOR THE PROGRAMME:

Teacher education is evolving to meet the demands of a knowledge-based society, where learners must not only acquire information but also develop the ability to apply it critically. This requires teachers who are equipped with strong critical thinking skills. Without a structured approach to developing these skills during teacher training, there is a risk that future teachers may rely on rote learning methods, limiting their effectiveness in the classroom. The proposed programme addresses this need by introducing systematic activities and instructional strategies aimed at enhancing critical thinking.

FRAMEWORK OF THE PROGRAMME:

The programme is designed to provide opportunities for active learning, reflection, and application of critical thinking in teaching contexts. It incorporates strategies such as situational analysis, reflective journaling, collaborative discussions, and problem-solving workshops. By engaging in these activities, B.Ed. students will learn to examine assumptions critically, evaluate evidence systematically, and make reasoned decisions. These competencies are essential for developing as reflective practitioners who can adapt their teaching strategies to diverse classroom contexts.

SIGNIFICANCE OF THE STUDY:

This study is significant for several reasons:

- It addresses a gap in teacher education by designing a structured programme to enhance critical thinking.
- It provides empirical evidence on the effectiveness of such a programme in developing thinking skills among B.Ed. students.
- It offers a model that can be adapted and implemented in other teacher training programmes.
- It contributes to improving the overall quality of teacher education and, indirectly, the quality of school education.

RESEARCH PROBLEM:

How effective is a Critical Thinking Enhancement Programme in developing critical thinking skills among B.Ed. students?

OBJECTIVES:

1. To assess the existing level of critical thinking skills among B.Ed. students.
2. To design a Critical Thinking Enhancement Programme.

3. To implement and try out the programme with B.Ed. students.
4. To evaluate the improvement in critical thinking skills after the programme.

HYPOTHESIS:

The Critical Thinking Enhancement Programme will significantly improve the critical thinking skills of B.Ed. students.

RESEARCH METHODOLOGY:

The research methodology describes the systematic process adopted to achieve the objectives of this study, including the design, population, sampling, tools, procedure, and analysis methods.

1. Type of Research:

This study follows an **experimental research design**. Experimental research is chosen because it allows the researcher to determine the cause-and-effect relationship between the intervention (Critical Thinking Enhancement Programme) and its impact on the critical thinking skills of B.Ed. students. The experimental approach is ideal for testing the effectiveness of the newly constructed programme under controlled conditions.

2. Sample:

The sample for the study comprises **40 B.Ed. students** enrolled in a teacher education institution in Anand District. The sample is divided into two groups:

- **Experimental Group:** 20 students who will participate in the Critical Thinking Enhancement Programme.
- **Control Group:** 20 students who will continue with the conventional B.Ed. curriculum without the enhancement programme.

The selection of participants will be done through **random sampling** to minimize bias and ensure that both groups are comparable in terms of academic ability and prior exposure to critical thinking activities. This approach helps in establishing a valid comparison between the experimental and control groups.

3. Tools for Data Collection:

To assess the critical thinking skills of the participants, the following tools will be employed:

- **Critical Thinking Skills Test:** A standardized pre-test and post-test to measure students' analytical, evaluative, and reasoning abilities.
- **Observation Checklist:** To record qualitative data on students' participation, engagement, and reflective abilities during programme activities.
- **Feedback Questionnaire:** To obtain subjective perspectives from participants about the programme.

4. Programme Structure:

The Critical Thinking Enhancement Programme included:

1. **Introduction to Critical Thinking:** Understanding the concept, importance, and scope.
2. **Analytical Thinking Modules:** Situational analysis, case studies, and reflective exercises.
3. **Problem-Solving Workshops:** Group discussions, brainstorming sessions, and simulation activities.
4. **Evaluation Exercises:** Reflection journals and critical reviews of teaching scenarios.
5. **Feedback & Assessment:** Continuous monitoring and constructive feedback.

Duration: Four weeks, two hours per week.

5. Procedure:

The research will be conducted in the following phases:

Phase 1 — Pre-Test: Both experimental and control groups will take a pre-test to assess their baseline critical thinking skills.

Phase 2 — Programme Implementation: The experimental group will undergo the *Critical Thinking Enhancement Programme*, which includes structured activities such as case studies, group discussions, problem-solving workshops, and reflective journaling over four weeks (two hours per week). The control group will continue with their normal curriculum without any additional intervention.

Phase 3 — Post-Test: At the conclusion of the programme, both groups will take a post-test using the same Critical Thinking Skills Test to evaluate improvement.

Phase 4 — Observation & Feedback: During the programme, researchers will observe the participants and record data using the observation checklist. Participants in the experimental group will also complete a feedback questionnaire to share their perspectives on the programme.

6. DATA ANALYSIS:

Quantitative data collected through pre-tests and post-tests will be statistically analyzed using the **t-test** to compare the means of the experimental and control groups. This analysis will determine whether there is a statistically significant improvement in the critical thinking skills of the experimental group compared to the control group.

Qualitative data from observations and feedback will be analyzed thematically to capture patterns in participants' experiences and perspectives. This qualitative analysis will help in understanding the deeper impact of the programme beyond measurable test scores.

7. Limitations of the Study:

- The sample size is limited to one teacher education institution, which may affect the generalizability of the results.
- The programme's effectiveness may be influenced by factors such as participants' prior exposure to critical thinking tasks, motivation, and engagement levels.
- Time constraints limit the programme to four weeks, which may influence the depth of impact.

FINDINGS

The study revealed several key findings regarding the effectiveness of the *Critical Thinking Enhancement Programme* for B.Ed. students.

1. **Improvement in Analytical and Reasoning Skills:** The experimental group showed a marked improvement in analytical reasoning, logical thinking, and interpretation skills after participating in the programme. Activities such as case studies, problem-solving sessions, and reflective discussions helped students analyze situations critically and draw well-reasoned conclusions.
2. **Enhanced Problem-Solving and Decision-Making Abilities:** The experimental group demonstrated stronger problem-solving and decision-making abilities compared to the control group. Students learned to approach problems with greater creativity, logical analysis, and confidence in selecting appropriate solutions.
3. **Effectiveness Compared to Conventional Teaching:** The post-test results confirmed that the *Critical Thinking Enhancement Programme* was more effective than traditional teaching methods. The experimental group achieved higher gains in critical thinking scores, while the control group showed minimal improvement.

4. **Increased Confidence and Reflective Thinking:** Students who participated in the programme exhibited higher levels of confidence in reasoning, expressing opinions, and making informed decisions. They also developed greater awareness of their own thinking and learning processes through reflection and discussion.
5. **Positive Student Response:** Participant feedback indicated that students found the programme engaging, interactive, and helpful in enhancing their thinking skills. They appreciated its practical and discussion-based approach, which encouraged independent and critical thought.

SUGGESTIONS

Based on the findings of the present study, the following suggestions are proposed to further enhance the development of critical thinking skills among B.Ed. students:

1. **Integration into Curriculum:** Teacher education institutions should integrate a structured *Critical Thinking Enhancement Programme* into the regular B.Ed. curriculum. Embedding such activities within the coursework will help trainee teachers continuously practice analytical reasoning, reflective learning, and creative problem-solving throughout their training period.
2. **Workshops and Training Sessions:** Regular workshops, seminars, and training programmes on critical thinking should be organized for both teacher educators and trainee teachers. These sessions can provide practical exposure to innovative strategies, critical discussions, and real-life problem-based learning that strengthen higher-order thinking skills.
3. **Promotion of Independent Thinking:** B.Ed. programmes should encourage independent thinking among students by including reflective journals, open-ended assignments, problem-solving exercises, and case study analyses as part of their learning activities. Such practices can help future teachers become more self-reliant, analytical, and confident in their professional decision-making.

CONCLUSION

The present study concludes that the *Critical Thinking Enhancement Programme* proved to be highly effective in improving the critical thinking abilities of B.Ed. students. The experimental group showed significant gains in analytical reasoning, problem-solving, and decision-making skills compared to the control group. Through structured activities such as group discussions, case studies, and reflective exercises, the programme successfully nurtured higher-order thinking and independent reasoning among trainee teachers. The findings clearly demonstrate that when critical thinking is purposefully cultivated through experiential and reflective learning strategies, students become more confident, logical, and innovative in their approach to teaching and learning.

Therefore, it is essential that teacher education institutions incorporate structured critical thinking programmes into the B.Ed. curriculum. Doing so will not only enhance the professional quality of future teachers but also promote reflective and inquiry-oriented teaching practices. Ultimately, developing critical thinkers in teacher education contributes to the creation of a more thoughtful, analytical, and effective teaching community capable of fostering similar skills among future generations of learners

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ROLE OF DIGITAL LITERACY IN ENHANCING EMPLOYABILITY SKILLS OF STUDENTS

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ABSTRACT

In the 21st-century knowledge economy, employability is no longer determined solely by academic qualifications but also by the ability to effectively use digital tools, platforms, and technologies. **Digital literacy**—the ability to access, evaluate, create, and communicate information using digital technologies—has become a core competency for students entering the job market. This paper explores the relationship between digital literacy and employability skills, analyzing how proficiency in digital tools enhances critical thinking, communication, collaboration, and adaptability. Drawing from global and Indian perspectives, the paper examines government initiatives, employer expectations, and higher education strategies to improve digital literacy. Findings suggest that digital literacy significantly enhances employability, but gaps remain due to unequal access, lack of training, and disparities between urban and rural students. The study concludes with recommendations to integrate digital literacy into curricula and bridge the digital divide.

KEYWORDS: DIGITAL LITERACY, EMPLOYABILITY SKILLS, HIGHER EDUCATION, ICT, WORKFORCE READINESS, DIGITAL DIVIDE

INTRODUCTION

The rapid digital transformation of economies has reshaped the skills required in the workforce. Employers increasingly demand graduates who are not only academically competent but also proficient in **digital literacy**. Digital literacy goes beyond basic computer knowledge; it includes the ability to critically evaluate online information, create digital content, use collaborative platforms, and adapt to emerging technologies such as Artificial Intelligence (AI), cloud computing, and data analytics.

According to the World Economic Forum (2020), digital skills rank among the top 10 skills needed for the future workforce. In India, initiatives like **Digital India**, **Skill India Mission**, and the **National Education Policy (NEP) 2020** emphasize digital literacy as a critical component of higher education and employability. However, the **digital divide**—the gap between those with and without adequate access to digital tools—remains a major challenge, particularly for students from rural and low-income backgrounds.

This paper seeks to address the following research questions:

1. How does digital literacy influence the employability skills of students?
2. What specific digital competencies are most valued by employers?
3. What challenges do students face in acquiring digital literacy?

4. How can higher education institutions bridge the digital divide and integrate digital literacy into curricula?

REVIEW OF LITERATURE

Concept of Digital Literacy

Gilster (1997) first introduced the term *digital literacy*, defining it as the ability to understand and use information in multiple formats from a wide range of digital sources. Later, the European Commission (2018) expanded the definition to include problem-solving, safety, content creation, and communication in digital environments.

Digital Literacy and Employability

Research shows a strong correlation between digital literacy and employability. van Laar et al. (2017) argue that digital skills enhance critical thinking, creativity, and problem-solving—skills highly demanded in the labor market. A study by OECD (2019) found that graduates with higher digital proficiency are more employable and command better salaries.

Employer Expectations

Employers increasingly require proficiency in tools such as MS Office, data analysis software, digital communication platforms, and project management systems. Suartama et al. (2020) emphasize that digital collaboration skills are essential in remote and hybrid work environments.

Indian Context of Digital Literacy

In India, despite the government's efforts, significant disparities exist in digital access. The National Sample Survey (NSS, 2019) revealed that only 24% of Indian households have internet access, with rural areas lagging far behind urban centers. This digital gap directly impacts employability for rural students.

Digital Literacy and Soft Skills

Digital literacy is not only about technical proficiency but also about integrating soft skills in digital environments. Ferrari (2013) highlights that digital competence includes communication, collaboration, creativity, and lifelong learning. These align with the employability skills framework proposed by the World Bank and ILO.

Challenges in Acquiring Digital Literacy

Several challenges hinder students from acquiring adequate digital skills:

- **Digital Divide:** Limited access to devices and internet in rural and low-income households (Warschauer, 2004).
- **Lack of Training:** Many higher education institutions do not formally integrate digital literacy in curricula.
- **Language Barriers:** Most digital resources are available in English, creating challenges for non-English-speaking students.
- **Gender Disparities:** Girls, particularly in rural areas, often face cultural barriers in accessing technology (UNESCO, 2019).

Global Best Practices

- **European Union's DigComp Framework:** Provides a comprehensive model for digital competence in five areas: information, communication, content creation, safety, and problem-solving.
- **Singapore's ICT in Education Masterplan:** Focuses on teacher training and integrating ICT across curricula to enhance digital literacy.
- **India's Initiatives:** Digital India, SWAYAM, and PMGDISHA programs aim to enhance digital literacy, though implementation challenges remain.

RESEARCH METHODOLOGY

Research Design

This study employs a **descriptive and analytical research design**, focusing on secondary data, survey reports, and literature review.

Research Objectives

1. To analyze the role of digital literacy in shaping employability skills.
2. To identify employer expectations regarding digital competencies.
3. To examine challenges students face in acquiring digital skills.
4. To suggest strategies for integrating digital literacy in higher education.

Sources of Data

- **Primary Documents:** NEP 2020, Digital India Mission, and UNESCO reports.
- **Secondary Sources:** Peer-reviewed articles, books, international frameworks (OECD, EU DigComp).
- **Case Studies:** Digital literacy initiatives in India and globally.

Sampling Method

Purposive sampling was used to select relevant studies published between 2000–2024 focusing on digital literacy and employability.

Tools of Analysis

- **Content Analysis:** Categorizing findings into opportunities, employer needs, and challenges.
- **Comparative Analysis:** Reviewing global vs. Indian contexts.
- **Interpretative Synthesis:** Integrating insights from literature into practical recommendations.

Data Analysis and Interpretation

1. Digital Literacy and Employability

- Data shows a strong positive correlation between digital skills and employability. Students proficient in ICT tools, data analysis, and digital communication have higher job prospects.
- Employers prefer candidates who can adapt to evolving technologies and remote working tools.

2. Employer Expectations

- Surveys indicate that employers expect graduates to be proficient in:
  - Office productivity tools (MS Office, Google Workspace).
  - Communication platforms (Zoom, Teams, Slack).
  - Basic data analytics (Excel, SPSS, R).
  - Digital collaboration tools (Trello, Asana).
- Lack of these skills is a common reason for graduates being deemed unemployable despite academic qualifications.

3. Barriers Faced by Students

- **Rural-Urban Divide:** Urban students have greater access to digital tools than rural peers.
- **Socioeconomic Gaps:** Students from low-income families struggle to afford devices and internet connectivity.
- **Institutional Limitations:** Many colleges lack adequate digital infrastructure and trained faculty.

4. Indian Context – Digital Divide During COVID-19

- The pandemic widened digital inequalities. While some students adapted to online learning, many rural and disadvantaged students dropped out due to lack of access.

FINDINGS AND DISCUSSION

The study highlights that **digital literacy is now an indispensable component of employability skills**, influencing not only technical proficiency but also adaptability, collaboration, and lifelong learning. However, despite its importance, gaps remain in terms of access, training, and institutional readiness.

1. Impact of Digital Literacy on Employability

- Students with strong digital literacy demonstrate higher **job readiness** and employability. They adapt faster to organizational technologies and contribute effectively to digitally driven workplaces.
- Digital literacy enhances **soft skills** like teamwork and communication, especially in remote and hybrid work environments.
- Graduates lacking digital literacy are at risk of underemployment, even with good academic records.

2. Employer Expectations vs. Student Preparedness

- Employers increasingly expect graduates to be proficient in both **basic ICT skills** (MS Office, email communication) and **advanced digital skills** (data analytics, coding, project management tools).
- Surveys indicate a **skills mismatch**: while institutions focus on theoretical knowledge, employers demand digital competence and problem-solving ability.
- Employers value **adaptability and digital collaboration**, which are often underemphasized in higher education curricula.

3. Challenges in Acquiring Digital Literacy

- **Digital Divide:** Rural and low-income students face limited access to devices and internet, restricting their ability to develop digital skills.
- **Institutional Gaps:** Many colleges, particularly in India, lack computer labs, digital resources, and faculty trained in ICT integration.
- **Cultural and Gender Barriers:** Girls in rural areas often face restricted access to digital tools due to social norms.
- **Language Barriers:** Most digital tools and resources are English-based, creating challenges for non-English-speaking students.

4. Role of Higher Education Institutions

- Institutions play a central role in bridging the digital divide by integrating **digital literacy training** into curricula.
- Universities that adopt **Learning Management Systems (LMS)**, digital libraries, and virtual labs better prepare students for future workplaces.
- Lack of uniform policy implementation across states in India results in disparities in digital skill development.

5. Indian Context – Lessons from COVID-19

- The pandemic exposed deep inequalities in digital literacy and access.
- Students from high-SES families transitioned smoothly to online learning, while many rural students faced dropout risks.
- Government programs like SWAYAM and DIKSHA expanded digital access, but implementation challenges limited impact.

CONCLUSION AND SUGGESTIONS

The findings make it clear that **digital literacy is no longer optional but a prerequisite for employability in the modern workforce**. It enables students to effectively use technology, adapt to

changing work environments, and enhance problem-solving and collaboration. However, socio-economic disparities, infrastructural limitations, and institutional gaps restrict its widespread development in India and other developing countries.

Key Conclusions

1. Digital literacy significantly enhances employability by strengthening technical and soft skills.
2. Employers increasingly demand digital proficiency, but many graduates lack adequate preparation.
3. Rural-urban and socio-economic disparities limit equal access to digital literacy.
4. Higher education institutions must integrate digital literacy training into curricula to reduce the employability gap.
5. Policies like Digital India and NEP 2020 provide a strong foundation, but effective implementation is key.

Suggestions

1. **Curriculum Integration:** Embed digital literacy modules across disciplines to ensure all students acquire core ICT competencies.
2. **Skill Development Programs:** Organize workshops on data analytics, coding, digital collaboration, and AI for employability.
3. **Bridging the Digital Divide:** Provide subsidized devices, free internet access, and digital labs in rural and government institutions.
4. **Teacher Training:** Strengthen ICT competence of faculty through professional development and digital pedagogy training.
5. **Industry Collaboration:** Partner with IT companies to design job-relevant digital literacy programs and internships.
6. **Inclusive Digital Resources:** Develop multilingual e-resources and platforms to ensure non-English-speaking students are not left behind.
7. **Monitoring and Evaluation:** Establish benchmarks to assess digital literacy levels of students and integrate them into employability indices.
8. **Gender Inclusivity:** Special initiatives should target female students in rural areas to promote equal participation in the digital economy.

By systematically implementing these measures, higher education institutions can prepare students with **future-ready skills** and ensure that digital literacy becomes a universal competency rather than a privilege of the few.

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BNS 2023 AND THE FUTURE OF INDIAN CRIMINAL JUSTICE: LESSONS FROM THE PAST, VISION FOR TOMORROW

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ABSTRACT

The enactment of the Bharatiya Nyaya Sanhita (BNS), 2023 represents a paradigm shift in India's criminal justice landscape. It replaces the Indian Penal Code (IPC), 1860, which had served as the backbone of Indian criminal law for over 160 years. The transition signifies not merely a legislative substitution but a conscious movement from colonial legacies toward a justice system rooted in Indian constitutional values and socio-cultural realities. This paper critically examines the evolution of Indian criminal law, the key reforms introduced by BNS 2023, and their implications for the future of justice delivery. Drawing lessons from the historical framework of the IPC, it explores how the BNS embodies modernization, victim-centricity, and technological responsiveness, aligning the Indian penal system with twenty-first-century needs. The paper also highlights the challenges of implementation, judicial adaptation, and infrastructural preparedness, concluding with an evaluative perspective on the transformative potential of BNS 2023 in shaping a fairer and more efficient criminal justice system.

KEYWORDS: BHARATIYA NYAYA SANHITA, INDIAN PENAL CODE, CRIMINAL JUSTICE REFORM, LEGAL MODERNIZATION, VICTIM RIGHTS, JUSTICE DELIVERY

1. INTRODUCTION

The Indian Penal Code (IPC), enacted in 1860, is one of the most significant and enduring legacies of British colonial rule in India. It serves as the foundation of criminal law in the country, defining various offences and prescribing punishments for them. The IPC was drafted under the chairmanship of Lord Thomas Babington Macaulay, who headed the First Law Commission of India established in 1834. The main objective behind its formulation was to create a uniform system of criminal law that would apply to all citizens of British India, irrespective of religion or region. Before its introduction, different provinces followed diverse sets of laws influenced by local customs, religious principles, and the British common law system, which created confusion and inconsistency in the administration of justice.

The IPC came into force on 1st January 1862 and replaced the existing fragmented criminal laws of the time. It laid down a comprehensive code of offences, covering a wide range of criminal acts such as theft, murder, rape, defamation, and fraud. The Code was written in simple and clear language to ensure that it could be easily understood and applied uniformly across the country. Its framework was largely influenced by English law, but it was also adapted to suit Indian conditions and customs. The IPC was divided into 23 chapters and 511 sections, each dealing with specific offences and their punishments. Over time, the IPC has undergone several amendments to keep pace with social, political, and technological changes. However, its core structure and principles remain intact, reflecting the strength

and foresight of Macaulay's draft. It has also influenced the criminal law systems of many other former British colonies such as Pakistan, Bangladesh, Myanmar, and Sri Lanka. Even after more than 160 years, the IPC continues to be the cornerstone of India's criminal justice system, serving as the guiding legal document for defining crimes and maintaining law and order in the country.

2. OBJECTIVES OF THE STUDY

The primary aim of this study is to provide an in-depth understanding of the evolution, reform, and contemporary relevance of India's criminal law — tracing its journey from the Indian Penal Code (IPC) of 1860 to the newly enacted Bharatiya Nyaya Sanhita (BNS) of 2023. The following objectives have been designed to structure this exploration systematically and analytically.

To analyze the historical evolution of Indian criminal law from IPC 1860 to BNS 2023: This objective focuses on understanding how India's criminal justice system has transformed over more than 160 years. It involves studying the origins of the IPC under British rule, its colonial intent, and how it shaped the legal framework of independent India. The study aims to examine key amendments, judicial interpretations, and societal changes that influenced the criminal law system. It also seeks to identify the limitations and outdated provisions of the IPC that necessitated a modern legal reform in the form of the BNS 2023.

2. To identify and evaluate the major reforms introduced in BNS 2023: This objective seeks to explore the significant changes and innovations brought by the Bharatiya Nyaya Sanhita, 2023. It involves a comparative analysis between the IPC and the BNS, highlighting newly added offences, revised punishments, and procedural simplifications. The study also evaluates the removal of archaic colonial elements, such as the sedition law, and the introduction of modern provisions to address crimes like terrorism, organized crime, and cyber offences. This analysis will help in assessing how effectively the BNS modernizes India's criminal law system.

3. To examine the philosophical and constitutional underpinnings of the BNS: This objective focuses on understanding the philosophical basis and constitutional values that form the foundation of the BNS 2023. It examines how the new code aligns with the principles of justice, equality, and liberty enshrined in the Constitution of India. The study also explores whether the BNS reflects a shift from a colonial punitive approach to a reformative and citizen-centric approach to justice. Further, it seeks to analyze how the BNS upholds the fundamental rights of individuals while ensuring public order and national security.

4. To assess how BNS addresses contemporary issues in the Indian justice system: These objective deals with evaluating the practical relevance of the BNS in tackling the challenges of modern society. It investigates how the new law addresses emerging crimes such as digital fraud, mob lynching, sexual offences, and crimes against women and children. It also considers the technological and procedural reforms introduced to improve speed, transparency, and accessibility in the criminal justice process. The aim is to determine whether the BNS is equipped to handle the complexities of 21st-century crime and law enforcement.

5. To explore the challenges and prospects associated with implementing BNS 2023: The final objective focuses on analysing the practical aspects of enforcing the new legal framework. It identifies potential challenges such as lack of awareness, administrative delays, training requirements for police and judiciary, and coordination among states. At the same time, it explores the prospects and opportunities that BNS offers, such as a more simplified, citizen-friendly, and technologically adaptive

justice system. The study aims to provide a balanced view of the implementation roadmap, highlighting both the potential benefits and the obstacles that India may face during this major legal transition.

3. RESEARCH METHODOLOGY

The present study is based on the doctrinal research methodology, which primarily focuses on analyzing legal principles, statutes, judicial precedents, and scholarly interpretations through a qualitative lens. Doctrinal research involves the study of legal doctrines and concepts as they exist in written form within the framework of statutes, case law, and legal literature, rather than conducting field-based empirical investigations. The study relies on a systematic examination of primary and secondary legal sources to draw meaningful conclusions about the evolution and reform of criminal law in India.

The primary sources for this research include statutory texts such as the *Indian Penal Code, 1860 (IPC)* and the *Bharatiya Nyaya Sanhita, 2023 (BNS)*, along with relevant constitutional provisions and landmark judicial decisions delivered by the Supreme Court and various High Courts of India. These sources provide the foundation for understanding the legal continuity and transformation from the colonial to the postcolonial era of Indian criminal law.

The secondary sources consist of books, academic journals, law commission reports, government publications, parliamentary debates, commentaries, and credible online legal databases. These materials have been critically reviewed to identify scholarly perspectives, legislative intent, and theoretical discussions surrounding both the IPC and the BNS. The use of secondary data allows for a comprehensive qualitative assessment of how criminal law has evolved in response to changing social and political realities.

4. HISTORICAL BACKGROUND: LESSONS FROM THE PAST

The Indian Penal Code, 1860 (IPC) marked a turning point in the legal history of India as it represented the first comprehensive codification of criminal law in the country. Prior to its enactment, India's criminal justice system was a fragmented mix of personal laws, regional customs, and colonial regulations. Different communities followed different legal traditions — Hindu and Islamic laws governed their respective followers, while the British-administered territories applied various regulations influenced by English common law. This diversity led to inconsistency, confusion, and inequality in the administration of criminal justice. Recognizing the need for uniformity, the First Law Commission of India was established in 1834, chaired by Lord Thomas Babington Macaulay, who played a central role in drafting the IPC.

The IPC was finally enacted in 1860 and came into force on 1st January 1862. It sought to bring about legal uniformity, clarity, and accessibility across the Indian subcontinent. The Code was drafted with the intent to create a single, rational, and secular legal framework that would apply equally to all individuals, irrespective of their religion, caste, or social status. It was based primarily on English criminal law, but with necessary adaptations to suit Indian customs, culture, and conditions. The IPC was written in clear and precise language, ensuring that both legal practitioners and ordinary citizens could understand it with relative ease.

The structure of the IPC was systematic and comprehensive, consisting of 23 chapters and 511 sections, each defining specific offences and their corresponding punishments. It covered a wide range of criminal acts such as murder, theft, assault, defamation, and fraud, while also laying down general principles of criminal liability, such as intention, knowledge, and negligence. Importantly, the Code introduced a uniform standard of justice, replacing arbitrary and discriminatory practices that had existed under previous systems. This codification established the foundation of India's modern criminal justice system, which has continued to evolve over time.

5. THE BHARATIYA NYAYA SANHITA, 2023: A TRANSFORMATIVE STEP

The Bharatiya Nyaya Sanhita (BNS), 2023, represents one of the most significant and ambitious legal reforms in the history of independent India. Enacted to replace the Indian Penal Code, 1860, it symbolizes the nation's conscious effort to move away from colonial legal legacies and establish a criminal law framework rooted in Indian constitutional values, social realities, and modern aspirations. The BNS 2023 consolidates India's criminal philosophy around three key pillars — speedy justice, victim empowerment, and technological adaptation — reflecting a holistic transformation in both substance and spirit.

The BNS seeks to decolonize India's criminal justice system, not merely by changing the nomenclature but by redefining the purpose and principles of criminal law. It removes provisions that were remnants of British rule, such as Section 124A of the IPC on sedition, and replaces them with offences that address contemporary security concerns like acts endangering the sovereignty, unity, and integrity of India. This shift reflects a transition from a colonial control-oriented approach to a citizen-centric and rights-based approach. The new code emphasizes justice over punishment and aims to restore public confidence in the legal system by ensuring that justice is not only delivered but also seen to be delivered promptly and fairly.

One of the most notable aspects of the BNS is its focus on speedy justice and procedural efficiency. The law mandates specific timelines for investigations, charge-sheet filing, and trial completion, intending to reduce the chronic delays that have long plagued India's criminal courts. It also introduces digital and technological mechanisms, such as the use of electronic records, video trials, and e-FIRs, enabling a more transparent and accessible justice system. These reforms are aligned with the government's broader vision of a Digital India, where technology serves as a tool to enhance legal efficiency and public trust.

The empowerment and protection of victims form another cornerstone of the BNS. The new law strengthens provisions related to sexual offences, crimes against women and children, and offences against the human body, ensuring stricter punishment and faster adjudication. It recognizes the rights and dignity of victims as central to the criminal process, introducing measures such as victim compensation, witness protection, and sensitivity in investigation and trial procedures. This marks a paradigm shift from the traditional offender-centric model of justice to a more victim-inclusive approach.

6. COMPARATIVE ANALYSIS: IPC 1860 VS. BNS 2023

The comparative analysis between the Indian Penal Code (IPC), 1860, and the Bharatiya Nyaya Sanhita (BNS), 2023) provides a clear understanding of how India's criminal law has evolved from a colonial framework to a modern, citizen-centric, and technologically adaptive system. The BNS, while retaining the core structure of the IPC, introduces substantial reforms in language, scope, offences, and procedures to align criminal law with 21st-century realities. This section outlines the key areas of transformation, reflecting the shift from colonial governance to constitutional justice.

The IPC of 1860 was primarily designed to maintain law and order under British rule, with limited concern for individual rights or social justice. It reflected the colonial ideology of control and punishment, where the focus was on protecting the interests of the British administration rather than the Indian populace. In contrast, the BNS 2023 embodies the principles of speedy justice, fairness, victim protection, and digital transformation, thereby seeking to make the legal system more responsive, efficient, and inclusive.

Below is a comparative summary highlighting the major differences and reforms between the IPC and BNS:

Comparative Table: IPC 1860 vs. BNS 2023 Aspect	Indian Penal Code (IPC), 1860	Bharatiya Nyaya Sanhita (BNS), 2023
Historical Context	Enacted during British colonial rule to maintain administrative control.	Enacted in independent India to decolonize and modernize criminal law.
Philosophical Basis	Focused on deterrence and punishment; colonial in spirit.	Emphasizes justice, victim rights, and constitutional morality.
Structure and Language	Complex legal English, often outdated and technical.	Simplified, gender-neutral, and easy-to-understand modern language.
Total Sections	511 sections in 23 chapters.	358 sections in 20 chapters (many provisions merged, restructured, or simplified).
Sedition Law	Section 124A penalized "disaffection against the government."	Sedition repealed; replaced with offence of "Acts endangering sovereignty, unity, and integrity of India."
Crimes Against Women and Children	Limited focus and outdated definitions.	Strengthened laws on rape, sexual assault, stalking, voyeurism, and child exploitation.
Technology and Digital Crimes	No recognition of cyber or digital offences.	Introduces provisions for cybercrime, electronic evidence, and use of technology in investigation and trial.
Mob Lynching and Organized Crime	Not specifically defined under IPC.	Explicitly criminalized; severe penalties introduced for mob lynching and organized crime.
Victim Rights and Compensation	Limited focus on victims; offender-centric approach.	Victim protection, compensation, and participation emphasized.
Terrorism and National Security	Covered under separate special laws (e.g., UAPA).	Integrated provisions addressing terrorism and threats to sovereignty.
Speedy Justice	No time-bound mechanism for investigation or trial.	Mandates fixed timelines for investigation, charge-sheet filing, and trial completion.
Procedural Modernization	Traditional and paper-based system.	Incorporates e-FIRs, digital evidence, and video trials for efficiency.
Philosophy of Punishment	Primarily retributive and deterrent.	Shifts towards reformative and restorative justice.
Gender Neutrality	Some provisions were gender-specific.	Strives for gender neutrality, especially in defining sexual offences.
Implementation Focus	Centralized and rigid under colonial framework.	Democratic, flexible, and designed for uniform implementation across states.

The comparative analysis reveals that the BNS 2023 is not merely a renaming of the IPC, but a comprehensive restructuring of India's criminal law system. It reflects a conscious move towards legal simplification, inclusivity, and technological modernization. While the IPC laid the foundation for criminal law in India, the BNS aspires to build upon it by making justice faster, fairer, and more relevant to the contemporary socio-political context.

7. The Vision for Tomorrow: Future of Indian Criminal Justice

The Bharatiya Nyaya Sanhita (BNS), 2023 is more than just a legislative reform — it is a visionary step toward redefining the future of India's criminal justice system. It embodies India's aspiration to decolonize its legal language, philosophy, and procedures, creating a justice framework that resonates with the social, cultural, and constitutional values of modern India. The BNS represents a conscious movement away from a colonial system of control and punishment towards a people-centric, inclusive, and reformative system that prioritizes fairness, dignity, and accessibility for every citizen.

The enactment of the BNS reflects the government's determination to align criminal law with Indian realities. For more than 160 years, the Indian Penal Code (IPC) served as the backbone of criminal jurisprudence; however, its colonial origins and outdated provisions often failed to address the complexities of present-day crimes. The BNS 2023 seeks to transform this scenario by embedding within the legal structure India's own ethos of justice — rooted in compassion, reform, and societal harmony. It shifts the focus from retribution to rehabilitation, from rigid punishment to restorative justice, thereby ensuring that the law not only punishes offenders but also contributes to their reintegration into society.

A key element of this vision is the integration of technology and digital innovation in the justice delivery process. The BNS promotes the use of e-FIRs, video conferencing for trials, digital documentation, and electronic evidence, making justice more accessible and transparent. These initiatives are expected to reduce procedural delays and corruption, ensuring that justice is speedy, efficient, and citizen-friendly. By embracing technological advancements, India's criminal justice system is gradually evolving into a digitally empowered legal ecosystem capable of meeting global standards of efficiency and accountability.

8. IMPLEMENTATION CHALLENGES

Despite the visionary and reform-oriented framework of the Bharatiya Nyaya Sanhita (BNS), 2023, its successful implementation poses a number of practical, institutional, and infrastructural challenges. The transition from a colonial-era penal system to a modern, technologically advanced, and citizen-centric framework requires systemic transformation across multiple levels of governance. While the BNS represents a progressive step towards justice reform, its effectiveness will ultimately depend on how efficiently the new provisions are implemented, interpreted, and enforced throughout the country.

One of the foremost challenges is the lack of public awareness and legal literacy regarding the new law. The BNS introduces substantial changes in definitions, procedures, and punishments, yet a large segment of the population — including law enforcement personnel, lawyers, and even lower court judges — may not be fully aware of its implications. Without comprehensive training and sensitization programs, there is a risk of confusion, misinterpretation, and inconsistent application of the new provisions. A nationwide effort to disseminate knowledge about the BNS through legal education campaigns, workshops, and updated textbooks is therefore essential.

Another major challenge lies in institutional preparedness and administrative capacity. Law enforcement agencies, judicial officers, and public prosecutors have been functioning under the IPC framework for over a century and a half. Adapting to the BNS will require retraining, reorientation, and updated procedural mechanisms. The success of reforms such as digital trials, e-FIRs, and electronic evidence management depends on the readiness of institutions to adopt technology and maintain cyber-security standards. However, in many parts of India, particularly in rural and semi-urban regions, the lack of technological infrastructure and trained personnel could hinder effective implementation.

The judicial backlog and slow disposal of cases pose another significant hurdle. Even with the BNS's emphasis on speedy justice and time-bound investigations, these goals cannot be achieved unless the number of judges, court staff, and forensic experts are significantly increased. India's criminal justice system continues to struggle with overburdened courts, inadequate investigation quality, and procedural delays, which may continue to affect case outcomes unless systemic reforms accompany the legal transition.

9. FINDINGS AND DISCUSSION

The Bharatiya Nyaya Sanhita (BNS), 2023 represents a progressive and transformative evolution of Indian criminal law, striking a careful balance between tradition and modernization. The findings of this study reveal that the BNS is not merely a cosmetic change or linguistic replacement of the Indian Penal Code (IPC), 1860, but a substantive legal reform aimed at redefining India's criminal justice philosophy in accordance with its constitutional principles and socio-political realities. It embodies India's aspiration to build a justice system that is decolonized, accessible, technologically adaptive, and citizen-centric.

One of the key findings is that the BNS successfully addresses many of the structural and conceptual limitations of the IPC. The colonial code, drafted in the 19th century, primarily served the administrative needs of the British Empire rather than the welfare of Indian citizens. The BNS corrects this imbalance by introducing provisions that prioritize individual rights, victim protection, and community welfare. For example, the replacement of the sedition law (Section 124A) with offences that focus on safeguarding India's sovereignty and integrity marks a decisive shift from colonial control to democratic accountability. This reflects India's maturity as a sovereign nation that upholds both national security and civil liberties.

10. CONCLUSION

The Bharatiya Nyaya Sanhita (BNS), 2023 stands as far more than a mere legislative reform; it is a landmark declaration of India's constitutional identity, justice vision, and socio-legal transformation. By replacing the Indian Penal Code, 1860, the BNS symbolizes India's conscious step towards decolonizing its legal framework and aligning its criminal justice system with the values of democracy, equality, and human dignity enshrined in the Constitution. This reform is not only about changing the language or structure of the law but about redefining the philosophy of justice to reflect the realities, aspirations, and moral ethos of 21st-century India.

The introduction of the BNS reflects a holistic understanding of justice, balancing the need for strong deterrence against crime with an emphasis on speedy trials, victim protection, and technological advancement. It seeks to overcome the limitations of the colonial IPC, which was primarily designed for maintaining imperial control rather than serving the interests of Indian citizens. In contrast, the BNS adopts a citizen-centric approach, focusing on accessibility, fairness, and accountability within the

criminal justice system. Provisions such as e-FIRs, digital evidence, gender-sensitive offences, and inclusion of modern crimes like organized crime, terrorism, and mob lynching, mark a significant modernization of the legal code while retaining the ethical foundations of justice.

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શિક્ષણમાં કૃત્રિમ બુદ્ધિ : એક અભ્યાસ

ખટારીયા પ્રફુલાબેન જે.
PH.D SCHOLOR

સારાંશ:

કૃત્રિમ બદ્ધિ (AI)એ ટેકનોલોજી ની ક્ષમતાનો ઉલ્લેખ કરે છે, ખાસ કરીને કોમ્પ્યુટર સિસ્ટમ જે માનવ બુદ્ધિ પ્રક્રિયાઓનું અનુકરણ કરે છે. AI એ ટેકનોલોજીનું ઝડપથી વિકસતું ક્ષેત્ર છે જે તમામ સામાજિક સંબંધોને નોંધપાત્ર રીતે પરિવર્તન લાવવાની ક્ષમતા ધરાવે છે. શિક્ષણ ક્ષેત્રમાં નવીન શિક્ષણ અને શીખવાની વ્યુહ રચના વિકસાવવા માટે, કૃત્રિમ બુદ્ધિનો ઉપયોગ હવે વિવિધ શૈક્ષણિક ક્ષેત્રમાં કરવામાં આવી રહ્યો છે. નવી શૈક્ષણિક નીતિઓ અને યોજનાઓના નિર્માણમાં માર્ગદર્શન આપી શકે તેવા વલણો અને ઊંડાણ શોધવા માટે AI નો ઉપયોગ વિશાળ માત્રામાં ડેટાની તપાસ કરવા માટે આવી રહ્યો છે. આ સંશોધન પેપરનો મુખ્ય ઉદ્દેશ્ય AI ની જરૂરિયાત નો અભ્યાસ કરવાનો અને તેમાં રહેલ વિવિધ પડકારો શોધવાનો છે.

ચાવીરૂપ શબ્દો: કૃત્રિમ બુદ્ધિ, શિક્ષણ, NEP 2020

૧. ૦ પ્રસ્તાવના:

શિક્ષણનું વાતાવરણ સતત બદલાઈ રહ્યું છે અને વર્ગખંડમાં નવી ટેકનોલોજીઓ વધુ ને વધુ પ્રચલિત થઈ રહી છે. આવી ટેકનોલોજીઓમાની એક છે આર્ટિફિશિયલ ઈન્ટેલિજન (AI). શિક્ષણમાં એઆઈનો ઉપયોગ સમગ્ર શૈક્ષણિક પ્રણાલીને અનુકૂળ અને વ્યક્તિગત બનાવે છે. શિક્ષણમાં ટેકનોલોજી નો વ્યાપક ઉપયોગ આપણે શીખવાની અને શીખવવાની રીત બદલી રહ્યો છે. વિવિધ શિક્ષણ જૂથો, શિક્ષકો અને પ્રશિક્ષકોના અનુભવોને અનુકૂલિત કરવા માટે AI એક નવીન પદ્ધતિ છે

રાષ્ટ્રીય શિક્ષણ નીતિ ૨૦૨૦ મુજબ, નિયમિત શિક્ષણ અભ્યાસક્રમમાં AIનો પરિચય કરાવવો જોઈએ અને તેનો સમાવેશ કરવો જોઈએ. કાર્યક્ષમતા સુધારવા, શિક્ષણની વ્યક્તિગત બનાવવા અને વહીવટી પ્રક્રિયાઓને સુવ્યવસ્થિત કરવા માટે કૃત્રિમ બુદ્ધિ(AI) નો અભ્યાસક્રમમાં સમાવેશ કરવામાં આવી રહ્યો છે. જેથી શિક્ષકોને જ્ઞાન અને સુગમતા આપવા માટે વધુ સમય અને સ્વતંત્રતા મળે. NEP 2020 ભારપૂર્વક જણાવે છે કે AI સાહિતની ટેકનોલોજી, શાળાઓમાં બાળકો કેવી રીતે શીખે છે તે મૂળભૂત રીતે બદલશે. જો કે, આ માટે નોંધપાત્ર પ્રમાણમાં તકનીકી અને શૈક્ષણિક સંશોધન ની જરૂર છે. ભારતના વડાપ્રધાને NEP 2020 ની પ્રથમ વર્ષગાંઠના સન્માનમાં ઘણી પહેલ કરી છે. 'AI FOR ALL' એ મુખ્ય પહેલોમાંની એક છે. AI FOR ALL એ એક ઓનલાઈન કોર્સ છે જે દેશના દરેક સભ્યોને કૃત્રિમ બુદ્ધિ (AI) ની મૂળભૂત સમજ આપવા માટે રચાયેલ છે. તે 11 વિવિધ સ્થાનિક

ભાષાઓમાં ઉપલબ્ધ છે. વિદ્યાર્થીઓ, ઘરે રહેતા માતા-પિતા, કોઈપણ ક્ષેત્રના વ્યવસાયિક અથવા એક વૃદ્ધ નાગરિક પણ આ ચાર કલાકના, સ્વ-ગતિવાળા, સુક્ષ્મ-લર્નિંગ કાર્યક્રમનો લાભ લઈ શકે છે.

૧. સમસ્યા શિર્ષક:

ઉપરોક્ત ચર્ચાને ધ્યાનમાં લેતા વર્તમાન અભ્યાસનો શીર્ષક " શિક્ષણમાં કૃત્રિમ બુદ્ધિ(AI) : એક અભ્યાસ" છે.

૨. અભ્યાસનું મહત્વ :

કૃત્રિમ બુદ્ધિ (AI) ઝડપથી આપણા રોજિંદા જીવનમાં કબજો કરી રહી છે, સમગ્ર ઉદ્યોગોમાં ક્રાંતિક લાવી રહી છે અને આપણે જે રીતે કામ કરીએ છીએ, અભ્યાસ કરીએ છીએ અને વાતચીત કરીએ છીએ તેમાં ફેરફાર કરી રહી છે. ટેકનોલોજીના આ ઝડપી વિકાસ શિક્ષણમાં તેમજ અભ્યાસક્રમમાં AIનો સમાવેશ કરવાના મૂલ્ય પર ભાર મૂકે છે, જેથી બધા વિદ્યાર્થીઓને ફક્ત તેના શૈક્ષણિક અભ્યાસ માટે જ નહીં પરંતુ કાર્યબલ વિકાસમાં પણ ઉપયોગી બની શકે. વર્ગખંડમાં AI નાં ઉપયોગ દ્વારા વિદ્યાર્થીઓ જે રીતે શીખે છે અને શિક્ષકો જે રીતે શીખવે છે તે બદલી શકાય છે. AI તકનીક નો ઉપયોગ વિદ્યાર્થીઓને વ્યક્તિગત ભલામણ આપી શકે છે, જેના પરિણામે વધુ રસપ્રદ અને ઉત્પાદક શિક્ષણ વાતાવરણ બને છે. વિદ્યાર્થીઓને AI વિશે શિક્ષિત કરવું એ તેમની ડિજિટલ સાક્ષરતા અને વિવેચનાત્મક વિચાર ક્ષમતાઓને પ્રોત્સાહન આપવા તેમજ ભવિષ્યના શૈક્ષણિક અને વ્યવસાયિક સફળતાના માર્ગ પર કદમ મુકવા માટે મહત્વપૂર્ણ છે. વિદ્યાર્થીઓ AI સિસ્ટમની મૂળભૂત સમજ મેળવીને સુરક્ષિત, જવાબદાર અને નૈતિક રીતે AI ટેકનોલોજી માટે વિચારો વિકસાવી શકે છે. દરેક ક્ષેત્રમાં નવીનતા લાવવા અને વિકાસ કરવા માટે, શિક્ષણમાં કૃત્રિમ બુદ્ધિ મહત્વપૂર્ણ છે.

૩. અભ્યાસના ઉદ્દેશ્યો : આ પેપરના ઉદ્દેશો નીચે મુજબ છે.

1. શિક્ષણમાં AI ની જરૂરિયાતનો અભ્યાસ કરવો.
2. NEP 2020 નાં પરિપ્રેક્ષ્યમાં AI નું અન્વેષણ કરવું.
3. શિક્ષણમાં AI નાં વિવિધ પડકારો શોધવા માટે

૪. પ્રારંભિક ખ્યાલ:

"આપણી બુદ્ધિ એ જ આપણને માનવ બનાવે છે અને AI એ ગુણવત્તા નું વિસ્તરણ કરે છે." કૃત્રિમ બુદ્ધિને કોમ્પ્યુટર વિજ્ઞાનના ક્ષેત્રોમાંનું એક એવું પરિબળ છે જે બુદ્ધિશાળી મશીનો બનાવવા પર ધ્યાન કેન્દ્રિત કરે છે. જે માણસોની જેમ કાર્ય કરે છે અને વિચારે છે, ઉદાહરણ તરીકે એવા મશીનો જે અવાજો ઓળખી શકે છે અને તેમના નિર્ણયનો ઉપયોગ કરીને, નવી કુશળતા શીખીને સમસ્યાઓનું નિરાકરણ લાવી શકે છે. કેલિફોર્નિયા ઈન્સ્ટિટ્યૂટ ઓફ ટેકનોલોજીના કોમ્પ્યુટર વૈજ્ઞાનિક જોન મેકકાર્થી ને ' કૃત્રિમ બુદ્ધિના પિતા' તરીકે ઓળખવામાં આવે છે. આધુનિક AI સંશોધન ૧૯૫૦ માં શરુ થયું હતું. શૈક્ષણિક શિસ્ત તરીકે AI ની સ્થાપના ૧૯૫૫ માં થઈ હતી. જો કે, હાલમાં મશીનોના અભ્યાસ અને ઊંડાણ પૂર્વકનાં અભ્યાસોમાં આ ક્ષેત્ર નો નોંધપત્ર વિકાસ જોવા મળે છે. AI નાં ઉપયોગ

દ્વારા શિક્ષણની સુધારવા માટે અસંખ્ય વ્યૂહરચનાઓ મળી શકે છે. AI માં ખુબ જ પ્રચંડ સંભાવનાઓ રહેલી છે. ૨૦૨૦ ની શિક્ષણનીતિ માં AI ને શૈક્ષણિક પ્રણાલીમાં સમાવેશને પ્રોત્સાહન આપ્યું હતું.

૫: કૃત્રિમ બુદ્ધિ :

કૃત્રિમ બુદ્ધિ (AI) એ મશીન ની ક્ષમતા છે જે માનવ દ્વારા કરવામાં આવતા જ્ઞાનાત્મક કાર્યો, જેમ કે ધારણા, શિક્ષણ, તર્ક અને સમસ્યાનું નિરાકરણ કરવા માટે સમાન જ્ઞાનાત્મક કાર્ય કરે છે. AI માનવ નિર્ણય લેવાની પ્રક્રિયાનો અનુકરણ કરવા અને બૌદ્ધિક પ્રક્રિયા હાથ ધરવા પર ધ્યાન કેન્દ્રિત કરે છે. જેમાં સમસ્યાઓનું નિરાકરણ, શિક્ષણ, ભાષાઓને સમજવી, અવાજો, ચિત્રો ઓળખવા વગેરેનો સમાવેશ થાય છે. AI ને 'બુદ્ધિશાળી માનવ વર્તનનું અનુકરણ કરવાની મશીન ની ક્ષમતા" તરીકે વ્યાખ્યાયિત કરી શકાય છે. AI નાં ઉદ્દેશોમાં શીખવું, અને અમલ નો સમાવેશ થાય છે. AI ની મદદથી ડિજિટલ અને સ્વયં સંચાલિત પ્રક્રિયાઓ વધુ સ્માર્ટ બને છે. વધુમાં તે ટેકનોલોજીના વિશ્વસનીયતાના સ્તરને સુધારે છે.

૬: શિક્ષણમાં કૃત્રિમ બુદ્ધિ ની જરૂરિયાત :

- કૃત્રિમ બુદ્ધિમત્તાનો ઉપયોગ કરીને, દરેક શીખનાર માટે એક વ્યક્તિગત અભ્યાસ સમયપત્રક બનાવી શકાય છે. જે કોઈપણમાં રહેલા અભ્યાસ નાં અંતને ધ્યામાં લે છે. શીખનાર શું સમજે છે અને શું સમજી શકતો નથી તે નક્કી કરવાનું સરળ બનાવે છે.
- AI અભ્યાસક્રમ અને સામગ્રીને બદલી શકે છે, જે વિદ્યાર્થીઓ માટે તેને વધુ રસપ્રદ અને સુસંગત બનાવે છે. AI વિદ્યાર્થીઓની પસંદગી, રુચિઓ અને શીખવાના પરિણામો સંબંધિત વિશાળ માત્રામાં ડેટાનું વિશ્લેષણ કરી શીખનારાઓ સાથે ક્રિયા પ્રતિક્રિયા કરતી સામગ્રીની ભલામણ અને રચના કરવામાં સક્ષમ છે.
- AI માં દરેક વિદ્યાર્થીને સરળતાથી અનન્ય પદ્ધતિઓ તેમજ વ્યક્તિગત શિક્ષણ આપીને વિદ્યાર્થીઓ માટે શૈક્ષણિક અનુભવને પૂરું પાડવાનો વિસ્તૃત અને વધારાની ક્ષમતા છે.
- વિદ્યાર્થીઓને વ્યક્તિગત અને લવિક શિક્ષણ અનુભવો પુરા પાડવા માટે AI માં બુદ્ધિ, ગણતરી અને ડેટા વિશ્લેષણ તકનીકો સાથે સિસ્ટમોનું સંયોજન સામેલ છે. શિક્ષણમાં AI નો હેતુ શીખવાના પરિણામોને વધારવા, વિદ્યાર્થીઓની શીખવાની ક્રિયાને પ્રોત્સાહન આપવા અને વિદ્યાર્થીઓને જરૂરી સહાય પૂરી પાડવાની છે.
- તે અમૂર્ત ખ્યાલોને વાસ્તવિકતામાં લાવવા માટે મલ્ટીમીડિયા સાધનોનો ઉપયોગ કરીને શિક્ષણ અને શિક્ષણમાં સુધારો કરી શકે છે. તે પરંપરાગત જવાબદારીઓ નિભાવી શકે છે,
- AI શિક્ષકોને દરેક વિદ્યાર્થીની ચોક્કસ શક્તિઓ અને નબળાઈઓ સાથે સુસંગત સુચના અને મૂલ્યાંકન માટે ચોક્કસ યોજનાઓ વિકસાવવામાં મદદ કરી શકે છે, અને શિક્ષકોને શિક્ષણ અને દરેક વિદ્યાર્થીઓને ચોક્કસ જરૂરિયાતો પર વધુ ધ્યાન કેન્દ્રિત કરવાની મંજૂરી આપે છે.
- AI વિદ્યાર્થીઓ માટે તેમના સ્થાન અથવા નાણાકીય પરિસ્થિતિને ધ્યાનમાં લીધા વિના, ઉચ્ચ સ્તરની શિક્ષણ સામગ્રીને એક્સેસ કરવાનું સરળ બનાવે છે. તે શિક્ષકોને તેમના પ્રદર્શન ડેટાનું મૂલ્યાંકન કરી અને તેમને વિકાસની જરૂર હોય તેવા ક્ષેત્રોને ઓળખીને વિદ્યાર્થીઓને વધુ સંપૂર્ણ અને સચોટ પ્રતિસાદ આપવામાં મદદ કરી શકે છે.

૭: NEP ૨૦૨૦ અને કૃત્રિમ બુદ્ધિ:

રાષ્ટ્રીય શિક્ષણ નીતિ ૨0૨૦માં તમામ ટેકનોલોજીકલ ઘટકો, જેમાં કૃત્રિમ બુદ્ધિ (AI) પર ભાર મૂકવામાં આવશે. આ નીતિ કૃત્રિમ બુદ્ધિ પર આધારિત સૂચનાત્મક સોફ્ટવેર વિકસાવવાનું વચન આપે છે તે બધી સ્થાનિક અથવા પ્રાદેશિક ભાષાઓમાં ઉપલબ્ધ કરાવવામાં આવશે. આ સોફ્ટવેર અથવા કાર્યક્રમો વ્યાપક પાણે સુલભ અને વિદ્યાર્થીઓ માટે ફાયદાકારક હશે, તે વિદ્યાર્થીઓ માટે પણ જેઓ અત્યંત ગ્રામીણ વિસ્તારોમાં શાળા આવી જાય છે અથવા ખાસ જરૂરિયાતો ધરાવે છે.

NEP ૨૦૨૦ એ બાળકોમાં શીખવાની શૈલીઓ, રુચિઓ અને યોગ્યતાઓની શ્રેણી હોય છે. જે વ્યક્તિગત શિક્ષણ ની જરૂરિયાત પર ધ્યાન કેન્દ્રિત કરે છે. દરેક વિદ્યાર્થીની શીખવાની શૈલીઓ રુચિઓ અને યોગ્યતાઓ વિશેના ડેટાનું વિશ્લેષણ કરીને, AI વ્યક્તિગત શિક્ષણ ને સક્ષમ બનાવી રહ્યું છે.

NEP ૨૦૨0 એ પણ જણાવે છે કે AI ટેકનોલોજી સ્માર્ટ ક્લાસરૂમ ના વિકાસ માં મદદરૂપ. જે વિશ્વભરની વિવિધ શાળાઓના વિદ્યાર્થીઓ સાથે ઓનલાઈન ક્રિયા પ્રતિક્રિયા અને સહયોગ, ઓનલાઈન પરીક્ષાઓ, ક્વિઝ સાથેની અરજીઓ અને વિદ્યાર્થીઓનો વિકાસ કરી શકે તેવી માહિતીને મંજૂરી આપશે.

NEP 2૦૨૦ વિદ્યાર્થીઓને 21મી સદીની રોજગાર તકો માટે તૈયાર કરવા માં પ્રાયોગિક શિક્ષણ અને કૌશલ્ય વિકાસના મૂલ્યને સ્વીકારે છે વિદ્યાર્થીઓને એવા અભ્યાસક્રમોની જરૂરિયાત છે, જે AI સંચાલિત શિક્ષણ પ્લેટફોર્મ અને રીમોટ લર્નિંગ ટુલ્સ દ્વારા કૌશલ્ય વિકાસ પર ભાર મૂકે છે.

આ ઉપરાંત એક ડિજિટલ પ્લેટફોર્મ એટલે કે, રાષ્ટ્રીય શિક્ષક પોર્ટલ એ તમામ રાજ્ય બોર્ડ જેમકે, કબસે, ન્સર્ટ, અને અન્ય માધ્યમો દ્વારા બનાવવામાં આવેલ તમામ ઈ- સામગ્રીનો ભંડાર છે. આ સામગ્રી શિક્ષકોને તેમના વ્યવસાયિક વિકાસમાં મદદ કરે છે.

૮. શિક્ષણમાં AI નાં પડકારો :

- ટેકનિકલ કુશળતા ની જરૂરિયાત : જે શિક્ષકો AI થી અજાણ છે તેમના માટે આ ટેકનોલોજીને તેમના શિક્ષણ પ્રથાઓમાં સામેલ કરવી પડકારજનક હોઈ શકે છે. અને તેમની શરૂઆત કરવા માટે સહાય અને તાલીમ ની જરૂર પડી શકે છે.
- AI સાધનો અને એપ્લિકેશનનો ખર્ચ : મોટાભાગની શૈક્ષણિક સંસ્થાઓ પાસે વર્ગખંડમાં AI ને લાગુ કરવા માટે જરૂરી સાધનો ખરીદવા અને જાળવવા માટે ભંડોળનો અભાવ છે.
- વર્ગખંડમાં AI નો સમાવેશ કરવા સાથે સંકળાયેલી નૈતિક ચિંતોઓ: ગોપનીયતા, સુરક્ષા અને નોકરીના અર્થતંત્ર પર AI ની અસરો અંગે ચિંતા ઊભી થઈ રહી છે કારણ કે તે વધુ વ્યવસ્થિત બની રહી છે. શિક્ષકોએ આ સમસ્યાઓથી વાકેફ રહેવું જોઈએ અને ઝડપથી વિકસતી ટેકનોલોજી નો પ્રયોગ કરતા વિદ્યાર્થીઓને તેના ગેરફાયદાઓ થી દૂર રાખવા માટે કામ કરવું જોઈએ.
- શિક્ષણમાં AI માટે સમાવેશ અને સમાનતા સુનિશ્ચિત કરવી: AI નાં વિકાસ સાથે સૌથી ઓછા વિકસિત રાષ્ટ્રો નવા ટેકનોલોજીકલ, આર્થિક અને સામાજિક અંતર નો અનુભવ કરવાનું જોખમ ધરાવે છે. શિક્ષણને વ્યવહારમાં

વધારવા માટે AI નો ઉપયોગ કરતી નવી યુક્તિઓ લાગુ કરવા માટે,મૂળભૂત પરિસ્થિતિઓ બનાવવા માટે, મૂળભૂત ટેકનોલોજીકલ માળખા સહિત કેટલાક મુખ્ય પડકારોને દૂર કરવા આવશ્યક છે.

- દ્રષ્ટિકોણ અને અચોક્કસ ડેટા : AI ડેટાનો ઉપયોગ કરીને વિકસાવવામાં આવેલ અમુક સોફ્ટવેર જે માહિતી આપવામાં આવી હોય તે જ ડેટામાં સામેલ હોઈ શકે છે. ગર્ભિત તથા સ્પષ્ટ પૂર્વ ગ્રહો જે લિંગ અથવા જાતિના આધારે ચોક્કસ જૂથો સાથે પૂર્વગ્રહ તરફ દોરી શકે છે. આ સમાજમાં પહેલાથી જ અસ્તિત્વમાં રહેલી અસમાનતાઓને વધુ ખરાબ કરી શકે છે અને શિક્ષણમાં સમાનતા અને સમાનતા ના મૂલ્યોને જોખમમાં મૂકી શકે છે.
- ડેટા સુરક્ષા : ડેટા સુરક્ષા અને ગોપનીયાતાના મુદ્દાઓ પર પણ વધુ ધ્યાન આપવામાં આવી રહ્યું છે. ઉચ્ચ શિક્ષણમાં AI નો ઉપયોગ કરવા માટે, શૈક્ષણિક પ્રદર્શન અને વર્ણનુ વર્તણુકિય વલણો જેવા સંવેદનશીલ વ્યક્તિગત ડેટા એકત્રિત કરવા અને વિશ્લેષણ કરવાની જરૂર પડી શકે છે AI અમલમાં મુકિત સંસ્થાઓએ ખાતરી કરવી જોઈએ કે 31 કરવામાં આવેલ ડેટાનો ઉપયોગ તે હેતુ માટે જ થાય છે, તેનો દુરુપયોગ કરવામાં આવતો નથી અને અનધિકૃત વ્યક્તિઓ સાથે શેર કરવામાં આવતો નથી.

૯. ઉપસંહાર:

ઉપસંહાર એવું કહી શકાય કે આર્ટિફિશિયલ ઈન્ટેલિજન્ટ(AI) દ્વારા વિશ્વભરમાં શૈક્ષણિક પ્રણાલીમાં ક્રાંતિ આવી રહી છે. ગુજરાત AI વિદ્યાર્થીઓ શીખવા અને શિક્ષકો શીખવાની રીતમાં પરિવર્તન લાવી રહ્યા છે. તેની ભારતમાં ઉચ્ચ શિક્ષણ પર ભારે અસર પડી રહી છે ભારતીય શિક્ષણ પ્રણાલી નો વિકાસ થતા AI અને અન્ય અધ્યતન ટેકનોલોજી વધુને વધુ મહત્વપૂર્ણ બનશે જેથી ખાતરી કરી શકાય કે બધા વિદ્યાર્થીઓ ઉચ્ચગુણવત્તા વાળુ શિક્ષણ મેળવે. યુનેસ્કો સભ્ય દેશોને શૈક્ષણિક સંદર્ભમાં AI ટેકનોલોજી લાગુ કરવામાં મદદ કરવા માટે પ્રતિબંધ છે, સાથે સાથે સમાવેશ અને સમાનતાના મૂળભૂત મૂલ્યોને સમર્થન આપે છે. AI ટેકનોલોજીમાં સભ્ય દેશોને શિક્ષણ ૨૦૩0 એજન્ડા પ્રાપ્ત કરવામાં મદદ કરવાની ક્ષમતા છે. AI એ શિક્ષકો અને વિદ્યાર્થીઓ એકબીજા સાથે કેવી રીતે ક્રિયાપ્રતિક્રિયા કરે છે તે બદલવાનું શરૂ કર્યું છે. એવું કહેવાની જરૂર નથી કે આ ટેકનોલોજી નો અમલ કરવાથી શૈક્ષણિક સંસ્થાઓ સમય, નાણા અને સંસાધનોની બચત કરી શકશે. તેથી, સ્વીકારવી જોઈએ જેથી શૈક્ષણિક સંસ્થાઓ અને તેમના સ્થાનિક સમુદાયો આ પરિણામો નો લાભ મેળવી શકે, કારણ કે તેઓ આગામી પેઢીને સુસંસ્કૃત વ્યક્તિઓ ઘડવામાં મદદ કરે છે

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कौशल पंवार की आत्मकथा में दलित स्त्री की अस्मिता और वर्ग संघर्ष

खिमसूरिया सपना दिनेशभाई

प्रस्तावना

कौशल पंवार की यह आत्मकथा 'बवंडरों के बीच' एक दलित स्त्री की व्यक्तिगत वेदना न होकर सामूहिक वेदना है, जिसमें दोहरे शोषण का शिकार लेखिका प्रतिनिधि के रूप में देखने को मिलती हैं।

लेखिका बताती हैं कि जब उन्होंने स्टार प्लस में आमिर खान के प्रोडक्शन में जाति-व्यवस्था के दंश पर अपनी बात रखी, जो लगभग एक घंटे और बीस मिनट का था, तो उसका प्रभाव इतना फैला कि उन्होंने तभी यह आत्मकथा लिखने का निर्णय लिया। उन्हें लगता था कि यदि उनकी आत्मकथा को पढ़कर दलित समुदाय ने जरा भी प्रेरणा ली तो वे इस आत्मकथा पर गौरवान्वित अनुभव करेंगी।

लेखिका लिखती हैं: "आत्मकथा लिखना इतना आसान नहीं है। उन सारे दुःखों, तकलीफ़ों, शोषणों और हर दिन की जिल्लत को एक बार फिर से अपने सामने रखना होता है।" १ लेखिका ने अपने पर हो रहे अन्याय के खिलाफ आवाज भी उठाई। उनका मानना है कि एक दलित होने के साथ स्त्री होकर जीना बहुत मुश्किल है।

स्त्री को पुरुष के समान मज़दूरी भी नहीं मिलती। स्त्री, पुरुष की बराबरी मज़दूरी करते हुए भी नहीं कर सकती। स्वतंत्र समाज में आज भी दलित समाज की महिलाएँ सिर पर गंदगी ढोने का काम करती हैं, सड़कों पर काम करती हैं, दूसरों के खेतों में काम करती हैं।

आपके भेजे गए टेक्स्ट को मार्जिन और पढ़ने में आसान बनाने के लिए मैंने इसे यहाँ व्यवस्थित (formatted) कर दिया है:

आत्मकथा का साहित्य में स्थान

इस विधा (आत्मकथा) को साहित्य के क्षेत्र में नवीन चेतना की देन कह सकते हैं।

साहित्य में इस विधा से मिलती-जुलती अनेक विधाएँ प्रचलित हैं, जैसे:

- डायरी
- जीवनी (Biography)
- संस्मरण (Memoir)

आत्मकथा की तरह ये सभी आत्मपरक विधाएँ (Subjective Genres) अपना अलग अस्तित्व रखती हैं।

आत्मकथा को स्पष्ट करने के लिए कई विद्वानों के मत, विचार और परिभाषाएँ देखी जा सकती हैं।

पाश्चात्य विद्वानों का मत

आंग्ल-भाषा (English Language) के विद्वान श्री रॉय पास्कल के अनुसार, आत्मकथा की एक विस्तृत परिभाषा निम्नलिखित है:

"आत्मकथा जीवन की या उसके किसी एक भाग की वास्तविक घटनाओं को, जिस समय में वे घटित हुईं, उन समस्त चेष्टाओं को पुनर्गठित करती है। इसका मुख्य सम्बन्ध आत्म-विवेचन (Self-analysis) से होता है, बाह्य विश्व से नहीं।

यद्यपि व्यक्तित्व को अद्वितीय बनाने के लिए बाह्य विश्व को भी लाया जा सकता है और आवश्यकतानुसार छोड़ा भी जा सकता है। जीवन को पुनर्गठित करना एक असंभव कार्य है। एक ही दिन के आगे-पीछे का अनुभव असीम होता है।

इस प्रकार यह कहा जा सकता है कि आत्मकथा बीती हुई घटनाओं से बनती है। यह वैयक्तिक जीवन की कुछ स्थितियाँ बना देती है, उनमें सम्बन्ध स्थापित करती है, और उनकी व्याख्या करती है। इसके साथ ही वह निःसंदेह और स्पष्ट रूप से अपने और बाह्य विश्व के निश्चित, दृढ़ सम्बन्ध को प्रदर्शित करती है।"२

विद्वान शिल्प (Schilpp) के अनुसार, आत्मकथा की परिभाषा इस प्रकार है:

"Autobiography is the professedly truthful record of individual written by himself and composed as a single work."

(आत्मकथा व्यक्ति विशेष के द्वारा लिखी गई एवं प्रतिपादित एक सच्चा अभिलेख (truthful record) है। इसमें लेखक के जीवन की सम्पूर्ण घटनाएँ यथा संभव स्वयं लिखी जाती हैं।)३

भारतीय विद्वानों के मत

भारतीय साहित्यकारों में, रवीन्द्रनाथ ठाकुर (Rabindranath Tagore) ने आत्मकथा को केवल घटनाओं का विवरण मानने की बजाय एक कलात्मक रचना माना है। उनका मत इस प्रकार है:

"कुछ साल पहले एक दिन किसी ने मुझसे अपनी जीवन घटनाओं के विषय में पूछा था और तब मैं अपने उस तसवीर के घर में खबर लेने गया था। सोचा था कि जीवन वृतांत के दो-चार साधारण उपकरण लेकर लौट ही आऊँगा। किन्तु दरवाजा खोलते ही देखा कि 'जीवन की स्मृति', 'जीवन का इतिहास' नहीं है।

वह तो किसी अदृश्य चित्रकार की अपने हाथ की रचना है। उसमें नाना स्थानों में नाना रंग हैं, वह बाहर का प्रतिबिंब नहीं है, वे रंग अपने भण्डार के हैं। उन रंगों को उसे अपने रस से छोड़ना पड़ा है। इसलिए पट पर जो छाप पड़ी है वह अदालत में गवाही के काम नहीं आ सकती।"४

आत्मकथा का उद्भव और विकास

आत्मकथा का उद्भव और विकास आधुनिक युग की उपलब्धि है।

हिंदी आत्मकथा साहित्य के प्रवर्तक के रूप में स्वामी दयानन्द सरस्वती को आधार मानकर ही आत्मकथा साहित्य का इतिहास विवेचन किया जाता है, जिसे मुख्य रूप से इन तीन युगों में बाँटा गया है:

क्रम	युग	समय-सीमा
1.	दयानन्द युग (प्रारम्भिक काल)	सन 1875 ई. से 1939 ई. तक
2.	प्रेमचंद युग (मध्यकाल)	सन 1932 ई. से 1947 ई. तक
3.	स्वातंत्र्योत्तर युग (आधुनिक काल)	सन 1947 ई. से अब तक

आत्मकथाकार का परिचय

- **जन्म एवं परिचय**

कौशल पंवार का जन्म 10 अक्टूबर 1977 को हरियाणा के कैथल जिले के राजौंद ग्राम में एक दलित परिवार में हुआ था।

दलित होने के कारण उन्हें बचपन से ही कई सामाजिक भेदभाव और आर्थिक कठिनाइयों को झेलना पड़ा।

- **शिक्षा एवं व्यक्तित्व**

कौशल पंवार ने एम.ए. (संस्कृत, हिन्दी), बी.एड.. एम.फिल. (संस्कृत) विषयों में शिक्षा प्राप्त की और इन से विपरीत परिस्थितियों में भी उन्होंने संस्कृत साहित्य की अध्यापिका के रूप में अपनी एक विशिष्ट पहचान बनाई।

एक दलित और स्त्री होने के कारण उन्हें काफ़ी संघर्ष से गुज़रना पड़ा। लेखिका स्पष्टवादी और विद्रोही हैं, और अन्याय के विरुद्ध उनकी आवाज़ हमेशा बुलंद थी।

- **साहित्य सृजन**

कौशल पंवार का साहित्य सृजन विविध और सक्रिय रहा है। उनके कार्यों में कहानी संग्रह 'जोहड़ी' प्रमुख है। उन्होंने 'मानवाधिकार के सवाल और भारतीय समाज' नामक पुस्तक का संपादन भी किया है, साथ ही अनेक संपादित पुस्तकों में उनके शोध-पत्र प्रकाशित हुए हैं। उनकी कहानियाँ और कविताएँ अंग्रेजी, गुजराती तथा संस्कृत में अनुदित (अनुवादित) हो चुकी हैं। समसामयिक विषयों पर लिखे उनके आलेख कथादेश, हंस, स्त्रीकाल, हम दलित और दलित दस्तक जैसी प्रतिष्ठित पत्रिकाओं में नियमित रूप से प्रकाशित होते रहे हैं। इसके अतिरिक्त, उन्होंने 'धर्म शास्त्रीय शूद्र अवधारणा संहिताओ में शूद्र' का अनुवाद और संपादन भी किया है।

दलित स्त्री की स्थिति

कौशल पंवार की आत्मकथा में दलित स्त्री का दोहरा शोषण स्पष्ट रूप से देखने को मिलता है, जहाँ उनका उत्पीड़न जाति और लिंग दोनों आधारों पर होता है। दलित होने के कारण, प्रतिभाशाली होने के बावजूद उन्हें हर जगह हीनता में धकेला जाता था; उन्हें अस्पृश्यता का सामना करना पड़ा, जैसे स्कूल में अलग बैठना, पानी के बर्तन छूने से रोका जाना और उच्च जाति के बच्चों का उपेक्षापूर्ण व्यवहार झेलना। वह बचपन की पीड़ा को व्यक्त करती हैं, जहाँ घड़े का पानी छूने से रोकना या प्यासा निकल जाना आम बात थी। ५, ६ इसके साथ ही, एक स्त्री होने के नाते उन्हें और भी कठिनाइयाँ झेलनी पड़ीं—उन्हें बार-बार घर संभालने की सीमाएँ दिखाई गईं, बदनाम करने की कोशिशें की गईं, और कार्यक्षेत्र में भी पुरुषों से कमतर आँका गया। लेखिका मानती हैं कि दलित स्त्री का संघर्ष दलित पुरुष या सवर्ण स्त्री से कहीं अधिक कठिन है, क्योंकि उन्हें अस्पृश्यता की और स्वतंत्रता की दोहरी लड़ाई लड़नी पड़ती है।७ इसलिए, यह आत्मकथा सिर्फ उनकी निजी जीवनगाथा नहीं है, अपितु दलित स्त्रियों के सामूहिक संघर्ष की प्रतिनिधि है।

- **शिक्षा और आत्मनिर्भरता की चाह**

'बवंडरों के बीच' आत्मकथा में शिक्षा को स्त्री अस्मिता की खोज का प्रमुख साधन बताया गया है।

कौशल पंवार शिक्षण के ज़रिए आत्मसम्मान, आत्मनिर्भरता और सामाजिक स्वीकृति की ओर बढ़ती हैं। शिक्षा उनके लिए केवल नौकरी का माध्यम नहीं, बल्कि चेतना और परिवर्तन का आधार बन जाती है।

इस परिवर्तन को लेखिका इन शब्दों में व्यक्त करती हैं:

"मेरे लिए पढ़ाई अब नौकरी का जरिया होने के साथ-साथ चेतना, अपने अधिकारों के प्रति जागरुकता और तर्कशीलता का पर्याय होती जा रही थी। परिवर्तन जो न केवल विचारों में आया, बल्कि व्यवहार में भी आने लगा था। 'जिद्दी लड़की' कहलाने लगी थी अब मैं।"८

वर्ग संधर्ष की झलक

- **'बवंडरों के बीच': संरचना और वर्ग संघर्ष**

'बवंडरों के बीच' आत्मकथा कुल 43 छोटे-छोटे भागों में बँटी है, जिसमें कौशल पंवार अपने साथ पूरे समाज की कहानी समग्रता में कहती हैं। यह आत्मकथा मासूमियत से इस 'सभ्य' समाज पर एक करारा प्रहार है।

→ **अपमान से प्रेरणा**

संस्कृत में उच्च शिक्षा प्राप्त करने की भी एक वजह थी: संस्कृत के एक अध्यापक ने उन्हें दुत्कारा कि "संस्कृत पढ़ना तुम्हारा काम नहीं"। यह सुनकर उन्होंने तभी प्रण लिया और संस्कृत में उच्च शिक्षा प्राप्त करने का निर्णय लिया। लेखिका यह भी बताती हैं कि उसी मास्टर ने बाद में उन्हें थप्पड़ मारकर अपमानित भी किया था।

→ **आर्थिक संघर्ष और वर्ग भेद**

आर्थिक समस्याएँ रहते हुए भी लेखिका बिना डरे आगे बढ़ीं, उनका हौसला कम नहीं हुआ। उन्होंने अपनी आर्थिक परिस्थिति को भी आत्मकथा में रखा है, जिसे पढ़ते ही हम भावुक हो जाते हैं।

स्कूल ड्रेस का किस्सा: उनकी आत्मकथा में एक किस्सा उनकी स्कूल ड्रेस को लेकर भी था, जहाँ दलित बच्चों के लिए हरे रंग का और दूसरे बच्चों के लिए सफेद और गुलाबी रंग का कपड़ा निर्धारित था। स्कूल के बच्चे उन्हें 'चूहड़े' कहकर बुलाते और तंग करते थे।

चाचा का बलिदान: जब लेखिका ने स्कूल न जाने की ज़िद की, तो उनके चाचा (पिताजी) ने उन्हें सफ़ेद रंग का कपड़ा दिलाया। माँ के पूछने पर उन्होंने बताया कि एक भी पैसा पास न होने के कारण वे श्मशान में पड़ी चिता पर पड़ा सफेद कफ़न ले आए थे, जिसे वह खुद भी पहने हुए थे।

इस तरह, हमें कौशल पंवार की आत्मकथा में वर्ग संघर्ष की गहरी झलक देखने को मिलती है।

→ **सामूहिक वेदना**

लेखिका का जीवन ग्रामीण दलित परिवेश से शुरू होता है। उन्हें बचपन से ही यह महसूस कराया जाता है कि वह 'नीचे वर्ग' से हैं। उन्हें स्कूल में शिक्षकों के साथ-साथ बच्चों से भी यह अपमान सहना पड़ता था। फीस, किताबें, कपड़े—आर्थिक रूप से कमज़ोर होने के कारण सब में कमी उन्हें और अलग-थलग कर देती थी। सवर्ण लड़कियाँ रहन-सहन और कपड़ों से अपने आप को श्रेष्ठ मानती थीं। लेखिका बताती हैं कि 'नीची जाति' और 'गरीबी' का मेल उन्हें हर कोने में अपमानित करता है।

'बवंडरों के बीच' से जानने को मिलता है कि वर्ग-भेद केवल आर्थिक रूप का नहीं, अपितु लिंग और जाति से गहराई से जुड़ा हुआ है। यह वर्गभेद नौकरी, शिक्षा, सांस्कृतिक अवसरों और सामाजिक व्यवहार में मौजूद अन्याय के रूप में उजागर हुआ है, जो व्यक्तिगत पीड़ा को नहीं बल्कि सामूहिक वेदना को सामने लाता है। लेखिका इसे एक व्यक्तिगत संघर्ष की तरह दिखाती हैं, जहाँ एक दलित स्त्री को समाज में हर स्तर से नीचे ठहराया जाता है।

- **संघर्ष और प्रतिरोध**

कौशल पंवार में बचपन से ही विद्रोह करने की आदत रही है। जब भी उनके साथ अन्याय होता या उन्हें अपमानित किया जाता, वह उसका प्रतिरोध ज़रूर करती थीं।

→ **बचपन का विद्रोह**

लेखिका अपनी आत्मकथा में बताती हैं कि जब बचपन में स्कूल में उनके साथ अछूतों वाला बर्ताव होता था, तो वह जान-बूझकर घड़े के पास से गुज़रतीं और तख्ती का कोना मारती जाती थीं। यह बात हेडमास्टर को पता चली और उन्हें बहुत मार पड़ी। तभी वे गुस्से में आकर कंकड़ मारकर घड़ा ही फोड़ देती हैं। यह उनके प्रतिरोध की प्रारंभिक झलक थी।

→ **जेएनयू हॉस्टल में संघर्ष**

उन्होंने जवाहरलाल नेहरू विश्वविद्यालय (JNU) हॉस्टल में भी इसी प्रकार से विद्रोह किया था। उनके साथ रहने वाली एक कट्टर सनातनी ब्राह्मण लड़की, जो हर रोज़ लेखिका के साथ बड़ी बेरुखी से पेश आती और लड़ने की कोशिश करती रहती, यह पता होने के बावजूद कि लेखिका गर्भवती हैं, उन्हें परेशान करती और चाहती थी कि सारा काम वही करे क्योंकि वह दलित थीं। वह हर वक्त यही कोशिश करती थी कि लेखिका वह कमरा (रूम) छोड़ दें। यह बात वार्डन तक पहुँची और उन्होंने भी उसी लड़की की तरफ़दारी की। तब भी लेखिका डरी नहीं और अपनी बात पर अडिग रहीं। लेखिका काम भी अपने हिस्से का ही करतीं और उसी की भाषा में जवाब भी देती थीं।

→ **पारिवारिक सहयोग**

'बवंडरों के बीच' आत्मकथा में पारिवारिक समर्थन और त्याग की भावना स्पष्ट रूप से देखने को मिलती है, जो कथा की भावनाओं की प्रामाणिकता को स्थापित करती है।

→ **माँ और चाचा का प्रभाव**

कथा का आरंभ ही माँ की मृत्यु से होती है—उन्हें यह ख़बर तब मिली जब वे स्पेन में जाति प्रथा पर व्याख्यान देने गई थीं। निष्प्राण माँ अंतिम संस्कार के लिए अपनी बेटी की प्रतीक्षा कर रही थीं, जिसके बाद वह स्पेन का दौरा छोड़कर तुरंत वापस आईं। लेखिका ने अपना तीसरा अध्याय अपने चाचा (जिन्हें वह अपना पिताजी मानती थीं) पर लिखा है, जिन्हें वह अपना बाबासाहेब भी बताती हैं। उनके चाचा आर्थिक कठिनाई होने के बावजूद भी, जब लेखिका को बाजरे की रोटी पसंद नहीं थी, तो गेहूँ का आटा और घी लाकर उन्हें खिलाते थे। उनके चाचा के जाने के अठारह साल बाद भी वह उन्हें नहीं भूल पाई हैं। वह यह भी बताती हैं कि उनकी पुस्तकों की पहली कॉपी और उनका विमोचन उनकी माँ ही करती आई थीं।

→ **जीवनसाथी का साथ**

माँ और चाचा के साथ-साथ, वह अपने जीवनसाथी मुकेश के बारे में भी बताती हैं, जिन्होंने हर कदम पर उनका साथ दिया। लेखिका को लिखते समय अक्सर माइग्रेन होता था, जिसे उनके पति मुकेश ने झेला है। उन्होंने लेखिका को उनकी कमजोरियों के साथ, बिना किसी शिकायत के, पूरा सहयोग दिया।

निष्कर्ष

कौशल पंवार की आत्मकथा के बिखरे हुए अनुभवों को जोड़कर ही उनके संघर्ष की समग्रता को समझा जा सकता है, क्योंकि एक दलित स्त्री के लिए सफलता पाना आसान नहीं होता। उनमें बचपन से ही अन्याय के विरुद्ध विद्रोह करने की आदत रही है, जिसका उदाहरण स्कूल में घड़े के पास से गुजरते हुए तख्ती का

कोना मारना और गुस्सा आने पर घड़ा फोड़ देना है। ५, ६ उनके प्रतिरोध की यह भावना वयस्क जीवन में भी क़ायम रही, जैसे कि JNU हॉस्टल में एक कट्टर सनातनी सहकर्मी द्वारा गर्भवती होने के बावजूद भी परेशान किए जाने पर वह अडिग रहीं और अपनी बात पर टिकी रहीं। उनकी आत्मकथा में अस्पृश्यता और गरीबी पर गहन चर्चा है, जो दर्शाती है कि निम्न जाति की सामाजिक, आर्थिक और परिवेशीय परिस्थितियाँ उनके जीवन पर संकट की माफ़िक होती हैं—न ढंग के कपड़े, न भोजन, न स्वच्छ वातावरण—ऊपर से उच्च जातियों का अपमान। यह संघर्ष ख़ासकर स्त्रियों के लिए दोगुना हो जाता है, जिन्हें कुपोषण झेलना पड़ता है और जिसके कारण लेखिका से पहले उनकी पाँच बहनें जीवित नहीं रह पाईं। अंततः, यह आत्मकथा वर्ग-भेद को केवल आर्थिक रूप में नहीं, बल्कि लिंग और जाति से जुड़े अन्याय के रूप में उजागर करती है, जो व्यक्तिगत पीड़ा नहीं, बल्कि सामूहिक वेदना को सामने लाता है।

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ઈ- બેન્કિંગસેવાઓની બેંકો તથા ગ્રાહકો પર થતી અસરોનો એક અભ્યાસ

મિતેશકુમાર એસ. દુધરેજીયા
શ્રી એ.વી.જે.ઓઝા.ઈન્સ્ટીટયુટ ઓફ બી.એડ. એન્ડ વી.જે.કોમર્સ કોલેજ,લખતર

પ્રસ્તાવના:-

ઈ- બેન્કિંગ એટલે ઈલેકટ્રોનિક બેન્કિંગ.ભારતમાં બેન્કિંગ ક્ષેત્રનો ખુબ જ બહોળા પ્રમાણમાં વિકાસ થયો છે.ઉદારીકરણ,ખાનગીકરણ અને વૈશ્વિકીકરણ પછી બેન્કિંગ ક્ષેત્રમાં વધારે પડતી આધુનિકતાઓ જોવા મળે છે.આ તબ્બકાઓ દ્વારા ખાનગી બેન્કોનો પ્રવેશ અને ઓનલાઈન બેન્કિંગ જેવા મુદ્દાઓ જોવા મળે છે.બેન્કિંગ ક્ષેત્રનો વિકાસ થાય તેના માટે ઘણી બધી સંસ્થાઓ પણ સ્થાપવામાં આવેલી છે.

ઈ- બેન્કિંગ સેવાનો ખાનગી અને જાહેર બંને ક્ષેત્રોની બેંકમાં અસરકારક વધારો જોવા મળે છે. દિવસે દિવસે વધતી જતી ટેકનોલોજીને કારણે ઈ- બેન્કિંગ ખુબ જ ઝડપથી વિકસી રહ્યું છે. આ ઈ- બેન્કિંગના સરળતા,અનુકુળતા અને ત્વરિતપણા જેવાં ગુણથી ગ્રાહકો પ્રભાવિત થાય છે. ઈ- બેન્કિંગ કામગીરીમાં માનવશ્રમની ઓછી જરૂરિયાત ઉદભવે છે.

ઈ-બેન્કિંગ સેવાઓ દ્વારા હવે બિલચુકવણી,મોબાઈલ રીચાર્જ,ટેક્સફાઈલિંગ, નાણાં ટ્રાન્સફર,શેરબજાર વ્યવહારો,વ્યવસાયિક વ્યવહારો વગેરે જેવી ઘણી બધી સેવાઓ ઉપલબ્ધ છે.આ બધા લાભની સાથે છેતરપીંડી જેવા ગેરલાભો પણ જોવા મળે છે. ઈ- બેન્કિંગની સફળતા માટે એ.ટી.એમ. અને કોમ્પ્યુટરનો મોટા પ્રમાણમાં ફાળો જોવા મળે છે. લોકો બેન્કોની શાખાઓ કરતાં ઓનલાઈન ટ્રાન્ઝેક્શન અને એ.ટી.એમ.ની સુવિધાનો ઉપયોગ કરવાનું વધુ પસંદ કરે છે.ગ્રાહકનો સંતોષ એ ખુબ જ મહત્વ ધરાવતી બાબત છે.

ઈ- બેન્કિંગ જેવી સુવિધાઓ વધુ વિકસાવવા માટે ગ્રાહકોને વિશ્વસનીયતા અને સુરક્ષા તથા ગોપનીયતા પૂરી પાડવી ખૂબ જ મહત્વની બાબતો છે.ક્રેડિટકાર્ડ તથા ડેબિટકાર્ડનો ઉપયોગ દરેક જગ્યાએ અનુકુળ અને સરળ છે. દરેક જગ્યા પર ક્રેડિટકાર્ડ તથા ડેબિટકાર્ડનો સ્વીકાર કરવામાં આવે છે. ક્રેડિટકાર્ડ કરતાં ડેબિટકાર્ડ થોડું વધુ જોખમકારક છે.પરંતુ,ગ્રાહકોનો સંતોષ સૌથી વધુ ક્રેડિટકાર્ડ અને ડેબિટકાર્ડ પર જ જોવા મળે છે.

બેન્કિંગક્ષેત્ર:

તાજેતરમાં જોવા જઈએ તો બેન્કિંગક્ષેત્રમાં ઘણાં અને આધુનિક ફેરફારો જોવા મળે છે. આધુનિક સંદેશાવ્યવહારની સુવિધાઓ પણ ઉપયોગી સાબિત થાય છે.બેંકો પણ તેમના ગ્રાહકોને વધુ સારી સુવિધાઓ તથા ઝડપથી સુવિધાઓ મળી રહે તે માટે અલગ અલગ વિસ્તારોમાં તેમની શાખાઓ ફેલાવો કરી રહી છે.બેન્કની મોટા

ભાગની સફળતા તેમના ક્રેડિટ જોખમના વિશ્લેષણ પર આધારિત છે તે નક્કી કરે છે કે બેન્કનું અસ્તિત્વ ક્યારે? અને કેટલું? જોવા મળશે.

ભારતીય બેન્કિંગક્ષેત્ર માટે વિવિધ સમયગાળાઓ દરમ્યાન ઘણાં બધા જુદા જૂદા અધિનિયમ અને કાયદાઓ પસાર કરવામાં આવેલ હતા.આધુનિક સમયમાં ઘણી બધી અસરો પણ જોવા મળે છે.જેમ કે, વ્યાજદરમાં ઘટાડો,ડેબિટ તથા ક્રેડિટકાર્ડના ઉપયોગથી આધુનિક ડીજિટલાઈજેશન, નોટબંધી પછી પ્રધાનમંત્રી જન-ધન યોજના હેઠળ ૫૬.૧૮ કરોડ(ઓગસ્ટ ૨૦૨૫) ખાતા ખોલવામાં આવેલ છે. કોવિડ-૧૯ જેવી પરિસ્થિતિમાં ઈ- બેન્કિંગ અને મોબાઈલ બેન્કિંગ જેવી સુવિધાઓનો વિકાસ થયો.ઘણાં બધા દેશોએ આ સ્વીકાર્યું અને ડીજિટલાઈજેશનથી બેન્કોની વિવિધ કામગીરી સરળ અને ઝડપી ઉપલબ્ધ થાય તેવા પ્રયત્નો કર્યા છે.

ઈ- બેન્કિંગ:-

એ.ટી.એમ.,પી.ઓ.એસ. અને ઈન્ટરનેટ બેન્કિંગ જેવી સુવિધાઓ દ્વારા ઝડપથી અને સરળતાથી વ્યવહારો કરી શકાય છે.હાલમાં ગ્રાહકો આવી સુવિધાઓનો ઉપયોગ કરી સંતોષ મેળવી રહ્યા છે અને ઈ-બેન્કિંગ પ્રત્યેના તેમના વલણમાં પણ ફેરફાર કરી રહ્યા છે.ગ્રાહકોની ચતુરતા અને હોશિયારપણા જેવી બાબતો ઈ-બેન્કિંગના નુકસાનથી બચાવ કરી શકે છે. જે લોકો આવી સેવાઓનો લાભ મેળવી રહ્યા છે તે ચોક્કસપણે સંતોષ પ્રાપ્ત કરી રહ્યા છે.

ગ્રાહકો શાખાઓની મુલાકાત લેવાને બદલે એ.ટી.એમ.ની મુલાકાત લઈ પોતાની રોકડ ઉપાડ તથા જમા જેવા વ્યવહારો કરવાની સંતુષ્ટિ મેળવે છે. ક્રેડિટકાર્ડ જેવી સુવિધાઓ ચુકવણી કરવા માટે ખૂબ જ અનુકુળ અને સરળ સાધન છે.તેમાં છેતરપિંડી થવાની શક્યતા રહેલી છે પણ ઈ- બેન્કિંગમાં ગોપનીયતા અને સલામતી તથા સુરક્ષા રાખવી ખૂબ જ મહત્વની બાબતો છે.

પ્રવર્તમાન સમયમાં તમામ બેંક અને તેની શાખાઓ ઈન્ટરનેટના માધ્યમથી એક સર્વર સાથે જોડાયેલ હોય છે માટે વ્યક્તિનું ખાતું કોઈ પણ શહેરની શાખામાં હોય અને તે અન્ય સ્થળેથી કે અન્ય કોઈ પણ શાખામાંથી નાણાં ઉપાડવા ઈચ્છે કે રકમ ડિપોઝીટ કરવા ઈચ્છે તો કરી શકે છે.હાલમાં બેન્કોએ વિવિધ જગ્યાએ તેમના ઈ-કોર્નર બનાવેલા હોય છે.જેના દ્વારા મશીનની મદદથી એ.ટી.એમ. કાર્ડ મારફતે પોતાના ખાતામાં રહેલી સિલક જાણી શકે છે.આ રીતથી વ્યવહાર થતા હોવાને કારણે બેંક સર્વર સાથે ખાતેદારનો મોબાઈલનંબર પણ કનેક્ટ કરી રાખે છે.માટે ખાતામાં રકમ જમા થતા કે ઉપાડતા મેસેજ આવી જાય છે.આ વ્યવસ્થાને કારણે વ્યક્તિનું કાર્ય સરળ અને ઝડપી બને છે.

મોબાઈલ બેન્કિંગ:-

એમ બેન્કિંગ નું પૂરું નામ મોબાઈલ બેન્કિંગ છે. આ એવી સેવા છે કે જેના દ્વારા કોઈ પણ બેંકમાં વ્યક્તિગત રીતે પહોંચ્યા વગર ઈલેક્ટ્રોનિક્સ સાધનોની મદદથી એટલે કે ઈન્ટરનેટનું જોડાણ ધરાવતા હોય તેવા મોબાઈલની મદદથી વિશ્વના કોઈપણ છેડે થી નાણાંકીય વ્યવહાર કરી શકાય છે. જેમ કે, ખાતામાં જમા રકમ એટલે કે બેલેન્સ જાણી શકાય,લાઈટ બિલ,ટેલીફોન બિલ,ગેસ બિલ તેમજ કરવેરા કે અન્ય ચુકવણીઓ કરી શકાય છે.એક ખાતામાંથી બીજા ખાતામાં રકમ ટ્રાન્સફર કરી શકાય છે.આ પ્રકારની સેવા મેળવવા માટે બેંકને અરજી કરવી પડે છે.ત્યારબાદ બેંક

મોબાઈલ બેન્કિંગ માટે લોગીન આઈડી અને પાસવર્ડ આપે છે.આ વ્યવસ્થામાં સલામતીની જાળવણી ખૂબ જ જરૂરી બની જાય છે.

એ. ટી. એમ. :-

આ સેવાનું નામ ઓટોમેટેડ ટેલર મશીન છે.બેંકમાં ખાતું ધરાવનારને આ પ્રકારની સુવિધા આપવામાં આવે છે.ગ્રાહકને જરૂર હોય ત્યારે પોતાના ખાતામાંથી બેંકે નક્કી કરેલી ન્યૂનતમથી વધારે અને પોતાના ખાતામાં જમા હોય તેથી ઓછી રકમ ઉપાડી શકે છે.બેંક ખાતેદાર દૈનિક રકમની મર્યાદામાં મર્યાદિત રકમ ઉપાડી શકાય છે.એક સાથે વધારેમાં વધારે કેટલી રકમ ઉપાડી શકે તેની મર્યાદા પણ નક્કી કરી હોય છે.આ પ્રકારના વ્યવહાર માટે બેંક ગ્રાહકને એ.ટી.એમ.કાર્ડ આપે છે.જેમાં ગ્રાહકને સિક્રેટ (ગોપનીય) પિન પણ આપવામાં આવે છે.બેંકોની આવી સુવિધા ધરાવતી શાખાઓમાં આ કાર્ડને ગ્રહણ કરી શકે તેવા યંત્રો મૂકવામાં આવે છે.પ્રવર્તમાન સમયમાં અન્ય બેંકના આવા યંત્રોમાંથી પણ નાણાં ઉપાડી શકાય છે.પરંતુ નક્કી કરેલ વ્યવહારો મુજબ જ ત્યાર પછી તેના માટે થોડી વધારે રકમની ચુકવણી કરવી પડે છે.

ક્રેડિટ કાર્ડ :-

20મી સદીના અંતથી બેંકનું આ કાર્ડ મોટા પાયા પર શરૂ થયું છે.ખાતેદાર અથવા અન્ય કોઈ વ્યક્તિ બેંકને અરજી કરી કાર્ડની માંગણી કરી શકે છે.બેંક વ્યક્તિની શાખનો પદ્ધતિસર અભ્યાસ હાથ ધરે છે.અભ્યાસના આધારે વ્યક્તિ કેટલી રકમ સુધીની મર્યાદાનું દેવું ચૂકવવાની ક્ષમતા ધરાવે છે તે નક્કી કરવામાં આવે છે.તે વ્યક્તિને બેંકે નક્કી કરેલ શાખની કિંમતનું ક્રેડિટકાર્ડ આપવામાં આવે છે.

આ કાર્ડ ધરાવનાર વ્યક્તિ વસ્તુની ખરીદી કરતા કાર્ડ મારફતે ખાતેદારના ખાતામાં નાણાં ઉધાર થતા વેચનારના ખાતામાં નાણાં જમા થાય છે.નિશ્ચિત સમયે હિસાબ બેંક મોકલી આપે છે.જે કાર્ડધારકોએ નિશ્ચિત સમયગાળામાં બેંકને રકમ ભરપાઈ કરવાની હોય છે.

ડેબિટ કાર્ડ:-

ડેબિટ કાર્ડ દ્વારા વ્યવહાર કરવાની વ્યવસ્થા હોય ત્યાં આ કાર્ડનો ઉપયોગ કરી શકાય છે.ડેબિટકાર્ડ ધારક પોતાની ખરીદીની ચુકવણી આ કાર્ડ દ્વારા કરે છે.આ માટે વસ્તુની ખરીદી કરી દુકાનદારને આ કાર્ડ આપવામાં આવે છે.જેટલી રકમની ખરીદી કરવામાં આવી હોય તેટલી રકમ કાર્ડધારકના ખાતામાંથી ઉધાર કરવામાં આવે છે.આ કાર્ડધારક પોતાના ખાતામાં કેટલી રકમ હોય તેટલી જ રકમ વાપરી શકે છે.તેનાથી વધારાની રકમ ચૂકવણી કરી શકાતી નથી.

આર.ટી.જી.એસ.:-

આર.ટી.જી.એસ. નું પૂરું નામ રીયલ ટાઈમ ગ્રોસ સેટલમેન્ટ છે.આર.ટી.જી.એસ. સભ્ય બેંકમાંથી નાણાં ભારત દેશની અન્ય કોઈપણ આર.ટી.જી.એસ. સભ્ય ધરાવતી બેંકમાં ફેરબદલી કરવાની પદ્ધતિને આર.ટી.જી.એસ. કહે છે.

આર.ટી.જી.એસ. સભ્યપદ ધરાવતી તમામ બેંક શાખાની ઓળખ IFSC કોડથી થાય છે.જે 11 ડિજિટનો આલ્ફા ન્યુમેરિક સ્વરૂપમાં હોય છે.IFSC કોડ IDRBT હૈદરાબાદ દ્વારા ફાળવવામાં આવે છે.રીયલ ટાઈમ ગ્રોસ સેટલમેન્ટ

એ ભારતની કોઈપણ બેંકમાંથી ભારતની અન્ય બેંકમાં નાણાંની ફેરબદલી કરવાની પદ્ધતિ છે.આ પદ્ધતિમાં રીયલ ટાઈમ તે જ સમયે તેમજ ગ્રોસ સેટલમેન્ટ એટલે કે વ્યવહાર પ્રમાણે જમા કે ઉધાર થાય તેને આર.ટી.બીએસ કહેવાય છે.

આર.ટી.જી.એસ. પદ્ધતિમાં ભારતની એક બેંકના ખાતેદારની રકમ ભારતની અન્ય કોઈપણ બેંકના ખાતેદારના ખાતામાં જમા કરવામાં આવે છે.આ નાણાંનો રોકડ વ્યવહાર કરવામાં આવતો નથી.આથી ગ્રાહક અને લાભાર્થી બંનેના બેંકખાતા હોવા જરૂરી છે.બંને બેંક પાસે IFSC (INDIAN FINANCIAL SYSTEM CODE) કોડ હોવો જરૂરી છે.RBI દ્વારા RTGS પદ્ધતિમાં બે લાખ કે તેથી વધુ રકમ કરાવવાની સેવા આપે છે.આ પદ્ધતિમાં જે દિવસે રકમ જમા કરાવવા કરવાની સૂચના ગ્રાહક તરફથી આપવામાં આવે તે જ દિવસે રકમ ગ્રાહકના ખાતે ઉધારીને તેમણે જણાવેલ વ્યક્તિના ખાતામાં જમા કરવામાં આવે છે.

RTGS માં બે લાખથી વધુ રકમની ફેરબદલી કરવામાં આવે છે. આ પદ્ધતિમાં નાણાં મોકલનાર ગ્રાહક પાસેથી કમિશન લેવામાં આવે છે.પરંતુ INWARD RTGS એટલે કે નાણાં મેળવનાર લાભાર્થી પાસેથી કોઈ પ્રકારનું કમિશન લેવામાં આવતું નથી.

નેશનલ ઈલેક્ટ્રોનિક ફંડ ટ્રાન્સફર(NEFT):-

NEFT મેમ્બરશીપ ધરાવતી બેંકમાંથી ફંડ ભારત દેશની અન્ય NEFT મેમ્બરશીપ ધરાવતી બેંકમાં ટ્રાન્સફર કરવાની પદ્ધતિને NEFT કહેવાય છે.

RTGSની માફક આ પણ નાણાકીય ચુકવણીનો જ એક પ્રકાર છે.આ પ્રકારની વ્યવસ્થા પણ ઓનલાઈન કરવામાં આવે છે.આ માટેIFSC કોડ આપવામાં આવે છે.આ પ્રકારના વ્યવહારમાં ફંડ ટ્રાન્સફર કરવાની રકમની કોઈ મર્યાદા હોતી નથી.આ પ્રકારના વ્યવહારમાં વધુમાં વધુ રકમ રૂપિયા બે લાખ ટ્રાન્સફર કરવાની પ્રક્રિયા BATCH પ્રમાણે થાય છે.RBI દ્વારા દર કલાકની બેચમાં આ પ્રકારના વ્યવહારોની પતાવટ થાય છે.આ પ્રકારના વ્યવહારમાં જમા રકમ મળવાની પ્રક્રિયા તે જ દિવસથી લઈને મહત્તમ 48 કલાક સુધીમાં થાય છે.અહીં ટ્રાન્ઝેક્શન DNS (DIFFERENT NET SETTLEMENT) પદ્ધતિથી બેંચ વાઈસ સેટલ થાય છે.બેચના એક મેસેજમાં વધુમાં વધુ 10 ટ્રાન્ઝેક્શન હોય છે રૂપિયા 50,000 કે તેથી ઓછી રકમ કેસથી NEFT કરી શકાય છે.તેમજ વોક ઈન કસ્ટમરને પણ NEFT લાભ બધી જ બ્રાન્ચ માંથી મળી શકે છે.

ઈ- બેન્કિંગસેવાઓથી બેંકો પર થતી અસરો:-

હકારાત્મક અસરો:-

1. મેન્યુઅલ કામમાં ઘટાડો થતો હોવાથી ઘણાં બધા વહીવટી ખર્ચાઓમાં ઘટાડો થતો જોવા મળે છે.
2. ઈ-બેન્કિંગ થી કાગળનો ઓછો ઉપયોગ થવાથી પર્યાવરણને નુકસાન ઓછું થતું જોવા મળે છે.
3. ઈ-બેન્કિંગ સુવિધાથી માનવશ્રમની જરૂરિયાતમાં ઘટાડો થતો જોવા મળે છે.
4. ગ્રાહકોને ઝડપથી સેવાઓ મળતી હોવાથી ગ્રાહક સંતોષ પ્રાપ્ત થાય છે.
5. બધા જ વ્યવહાર ડિજિટલ રીતે રેકોર્ડ થતા હોવાથી ડેટા મેનેજમેન્ટ સરળતાથી થઈ શકે છે.

6. ડિજિટલ થતી તમામ પ્રવૃત્તિઓમાં પારદર્શિતા જોવા મળે છે.
7. રૂરલ અને રીમોટ વિસ્તારોમાં પણ પહોંચાડી શકાય છે.
8. લોન અને ખાતા ખોલવાની પ્રક્રિયા ખૂબ જ ઝડપી બની શકી છે.
9. અન્ય બેંકોની તુલનામાં વધુ સારી કામગીરી,સુવિધાઓ અને નવીનતાઓ સાથે બેંકો વચ્ચે આધુનિક સ્પર્ધાઓ જોવા મળે છે.

નકારાત્મક અસરો:-

1. હેકિંગ અને ફ્રોડ જેવી સમસ્યાઓના લીધે સાયબર સુરક્ષાની જરૂરિયાત છે.
2. ટેકનોલોજીમાં આવતી નવી નવી બાબતોથી અપડેટ રહેવું જરૂરી છે.
3. ટેકનોલોજીને સતત અપડેટ કરવાનો ખર્ચ ભોગવવો પડે છે.
4. ઈન્ટરનેટના ઉપયોગથી અજાણ બેંક કર્મચારીઓ ખૂબ જ મુશ્કેલીમાં મુકાઈ શકે છે.
5. ઘણી બધી નાની નાની ભૂલો કોઈ પર મોટું નુકસાન પહોંચાડી શકે છે.
6. અમુક અંતરિયાળ ગ્રામીણ વિસ્તારમાં અમલ કરાવવો ખૂબ જ મુશ્કેલ બાબત છે.
7. સ્ટાફને વારંવાર નવી ટેકનીકલ કુશળતામાં તાલીમ આપવી પડે છે જે ખર્ચાળ બને છે.
8. ઘણી બધી FINTECH કંપનીઓ (જેમ કે, PYTM, GOOGLE PAY,PHONE PAY વગેરે) બેંક જેવી સેવાઓ આપવા લાગી છે.
9. ડિજિટલ ટ્રાન્ઝેક્શન માટે બેન્કો પર સતત મોનિટરિંગ અને ઓડિટનું દબાણ રહે છે.

ઈ- બેન્કિંગસેવાઓથી ગ્રાહકો પર થતી અસરો:-

હકારાત્મક અસરો:-

1. બેંકની શાખાની મુલાકાત લીધા વગર ઘણા બધા કાર્યો ઘરે બેઠા થઈ શકે છે.
2. ઈ-બેન્કિંગ દ્વારા સેવાઓ ઝડપથી અને સરળતા થી મળી રહે છે.
3. 24 X 7 ઈ-બેન્કિંગની સુવિધા ઉપલબ્ધ હોવાથી ગમે તે સમયે વ્યવહાર કરી શકે છે.
4. તમામ વ્યવહારોના ઈતિહાસની જાળવણી થતી હોવાથી સરળતાથી બધું જ જોઈ શકાય છે તેમજ પારદર્શિતા રહે છે.
5. ઈ-બેન્કિંગથી ઘણી બધી જગ્યાએ નાણાંનું સરળતાથી રોકાણ પણ કરી શકાય છે.
6. વિશ્વના કોઈ પણ ખૂણે બેઠા બેઠા ઈ-બેન્કિંગથી વ્યવહારો કરી શકાય છે.
7. ગ્રાહકને પોતાના નાણાકીય વ્યવહાર ઉપર નિયંત્રણ રાખવાનું કાર્ય સરળ બની રહે છે.
8. ડિજિટલ બેન્કિંગથી ડિસ્કાઉન્ટ, કેશબેક,રીવોર્ડ જેવી ઘણી બધી ઓફરોનો પણ લાભ મેળવી શકાય છે.

હકારાત્મક અસરનું ઉદાહરણ :-

રવિભાઈ એક વ્યસ્ત વ્યવસાયી છે. તેમને દર મહિને વીજળી, પાણી અને મોબાઈલના બિલ ભરવા માટે બેન્કમાં જવું પડતું હતું, જેનાથી તેમનો ઘણો સમય બગડતો હતો. હવે, ઈન્ટરનેટ બેન્કિંગના માધ્યમથી તેઓ ઘરે બેઠા

પોતાની લેપટોપ કે સ્માર્ટફોન દ્વારા બિલ પેમેન્ટ, એકાઉન્ટ બેલેન્સ ચેક કરવી, ટ્રાન્સફર કરવું વગેરે સર્વિસ સરળતાથી ઉપયોગ કરી શકે છે.

નકારાત્મક અસરો:-

1. ઈન્ટરનેટ અને ઈલેક્ટ્રોનિક સાધનોના અપૂરતા જ્ઞાનને કારણે મુશ્કેલી ઊભી થાય છે.
2. સાયબર ફ્રોડનો ખતરો પણ રહેલો છે.
3. ઘણી બધી વખતે ટેકનિકલ અવરોધો વચ્ચે કામ અટકી રહે છે.
4. ગોપનીયતા,સુરક્ષા અને સલામતી જાળવવામાં અસમર્થ જાય તો નાણાકીય જોખમ અને નુકસાન પણ ભોગવવું પડે છે.
5. ઈન્ટરનેટ ન હોવું ફોન ડિસ્ચાર્જ થવો વગેરે જેવા ટેકનીકલ અવરોધોને પણ સામનો કરવો પડે છે.
6. સતત સ્ક્રીન પર કામ કરતા લોકોમાં માનસિકતા થાક અનેધ્યાનભંગ જેવી ઘણી બધી સમસ્યાઓ જોવા મળે છે.
7. ઘણાં લોકોને ઈંગલિશ કે બેન્કિંગ શબ્દો ન આવડતા હોય તો તેમને ઈ-બેન્કિંગ સમજવું ખૂબ જ મુશ્કેલ બને છે.
8. બધા જ લોકો પાસે સ્માર્ટ ફોન અને કમ્પુટર હોય તેવું પણ શક્ય ન બની શકે.
9. ઘણી બધી જગ્યાએ નાના વ્યવસાય કરતા લોકો ઈ-બેન્કિંગનો ઉપયોગ કરવાથી ડરતા હોય છે.
10. ખોટા ઈમેલ, મેસેજ કે વેબસાઈટ મારફતે લોકોને લલચાવીને તેમના બેંક ખાતાની વિગતો અન્ય વ્યક્તિ મેળવી જાય છે.

નકારાત્મક અસરનું ઉદાહરણ :-

"મિસિસ નીતા પટેલનો ઈ-બેન્કિંગ ફ્રોડ કિસ્સો"

સ્થળ: સુરત, ગુજરાત

તારીખ: જાન્યુઆરી, 2024

પાત્ર: નીતા પટેલ – 42 વર્ષ, સ્કૂલ ટીચર

બેંક: બરોડા બેંક

ફ્રોડ પ્રકાર: ફિશિંગ (Phishing) + ફેક એપ ડાઉનલોડ

ઘટના વર્ણન:

1. નીતાબેને તેમના મોબાઈલમાં એક મેસેજ મળ્યો કે તેઓનો "બેંક ખાતો બ્લોક થવાનો છે કારણ કે KYC પૂર્ણ નથી."

2. મેસેજમાં એક લિંક આપવામાં આવી હતી – "https://baroda-bank-verify.in" જે નકલી વેબસાઈટ હતી.

3. નીતાબેને પોતાનો યુઝરનેમ, પાસવર્ડ અને OTP ત્યાં દાખલ કર્યા.

4. તેમને એ પણ કહેવામાં આવ્યું કે એક "ફક્ત વેરિફિકેશન માટેની એપ" ડાઉનલોડ કરો.

5. એપ ડાઉનલોડ કર્યા પછી તેમનું ફોન લેક થયું.

6. બે કલાકમાં તેમના ખાતામાંથી ₹1,20,000ની રકમ વિવિધએકાઉન્ટમાં ટ્રાન્સફર થઈ ગઈ.

પરિણામ:

નીતાબેનની તાત્કાલિક ફરિયાદ પછી સાયબર ક્રાઈમ શાખાએ તપાસ શરૂ કરી.

કેટલીક રકમ (લગભગ ₹35,000) રોકી દેવામાં આવી, પણ આખી રકમ પરત ન થઈ.

નીતાબેન હવે ખૂબ જ સાવચેત બની ગઈ છે અને લોકોને પણ સલાહ આપે છે કે કોઈ લિંક કે ફોન કોલ પર ભરોસો ન રાખો.

ઈ-બેન્કિંગ ઉપયોગથી થતા નુકસાન થી બચવાના ઉપાયો:-

ટૂ-ફેક્ટર ઓથેન્ટિકેશન: ફક્ત પાસવર્ડ પૂરતો નથી દરેક લોગીન અને ટ્રાન્જેક્શન માટે OTP/ બાયોમેટ્રિક જેવા બે સ્તરનો સુરક્ષા પડદો હોવો ખૂબ જ જરૂરી છે.

એન્ટિવાયરસ અને ફાયરવોલ સુરક્ષા: મોબાઈલ અને લેપટોપમાં અપડેટેડ એન્ટિવાયરસ હોવો જોઈએ. ફાયરવોલ સેટીંગને એક્ટિવ રાખવી જેથી સરળતા થી થતા હેકિંગ નો જોખમ ખૂબ ઓછું રહે છે.

સુરક્ષિત એપ્લિકેશનનો ઉપયોગ:- માત્ર બેંકની ઓફિસિયલ એફ કે વેબસાઈટ જ વાપરવી જોઈએ.કોઈપણ એવી APK ફાઈલ કે એનલિસ્ટેડ એપ્સનો ઉપયોગ કરી બેન્કની માહિતી નાખવી નહીં.

યુઝર એક્શન લોગ્સ ચેક કરો:- કેટલીક બેન્કિંગ એપ્લિકેશનમાં લોગ જોઈ શકાય છે કે ક્યારે અને ક્યાંથી લોગીન થયેલું છે.

શંકાસ્પદ લીંક્સ પર ક્લિક ન કરો:- ઈમેલ કે મેસેજમાં આવેલ અજાણી લીંક પર ક્લિક કરવાથી MALWARE ઘૂસી શકે છે.

OTP,પીન કે પાસવર્ડ કોઈપણ સાથે શેર ન કરો:- બેન્ક કોઈ દિવસ પણ તમારું લોગીન આઈડી,પાસવર્ડ કે ઓટીપી નથી માગતી ફોનથી આવી માંગણી થાય તો તરત સાવધાન થઈ જવું.

અપડેટ:- તમારો બેન્કિંગ રજીસ્ટર્ડ મોબાઈલ નંબર કે ઈમેલ બદલો તો તરત અપડેટ કરો.

બેન્ક સ્ટેટમેન્ટ નિયમિત ચકાસો:- નાના નાના ફેરફાર કે શંકાસ્પદ ટ્રાન્ઝેક્શનની તરત જાણ બેંકને કરો.

ડિજિટલ સાક્ષરતા:- સ્થાનિક સ્તરે વર્કશોપ કે સેમિનાર દ્વારા લોકોમાં જાગૃતિ ફેલાવવી. મોટા ભાગના ફ્રોડ લોકોની અજાણતાથી થાય છે.ટેકનોલોજી ખોટી હોતી નથી.ઓનલાઈન ફ્રોડ માટે તાત્કાલિક ફરિયાદ કરવા માટેના હેલ્પલાઈન નંબર 1930 પર કોલ કરી ફરિયાદ લખાવવી.RBIની ગાઈડલાઈન્સ મુજબ બેન્કોએ KYC,2FA, ગ્રાહક શિક્ષણ જેવા પગલાંઓ ફરજિયાત કર્યા છે, તે જવાબદાર ગ્રાહક તરીકે અનુસરવા જોઈએ.ઘણી બધી એપ્સ અવિશેષ અધિકારો માંગે છે તેના પર ખાસ ધ્યાન આપવું જોઈએ.

આજની બેંક માત્ર ઈમારત નહિ, પણ મોબાઈલ સ્ક્રીન પર જીવતી ટેકનોલોજી બની ગઈ છે!

સારાંશ:-

ઈલેક્ટ્રોનિક બેન્કિંગ સેવાઓથી જાણી શકાય છે કે વિશ્વમાં બેન્કિંગક્ષેત્રમાં મહત્વપૂર્ણ વિકાસ જોવા મળે છે.બેન્કિંગની વિવિધ સેવાઓ ઈ-બેન્કિંગની મદદથી ઘણી બધી ઝડપી અને સરળ બની શકી છે.વિશ્વભરમાં ઝડપી વ્યવહારો શક્ય બન્યા છે.ડેબિટકાર્ડ અને ક્રેડિટકાર્ડનો ઉપયોગ કરીને લોકો નાણાં સાથે લઈ ગયા વગર પણ વ્યવહાર કરી શકે છે.બેંકમાં લાઈનો કરી પૈસા ઉપાડવાને બદલે એ.ટી.એમ. દ્વારા નાણા ઉપાડી શકાય છે.લોકો ઘરે બેઠા નાણાકીય વ્યવહારો કરી શકે છે.બેંકની મુલાકાત લેવાની પણ જરૂરિયાત નથી.બેંક બેલેન્સ ચેક કરી શકાય તેવી પણ સુવિધાઓ ઉપલબ્ધ છે.ઈ-બેન્કિંગના કારણે નાણાકીય તથા બેન્કિંગ વ્યવહારમાં પણ વ્યવહારો વધારો જોવા મળે છે.કોવિડ-૧૯ જેવી પરિસ્થિતિમાં ઈ-બેન્કિંગ સુવિધાઓનો ખૂબ જ બહોળા પ્રમાણમાં ઉપયોગ થતો જોવા મળ્યો છે.

ઈ-બેન્કિંગથી ગ્રાહકો પર પણ તેની અસર જોવા મળે છે.આ અભ્યાસમાં ગ્રાહકને કેન્દ્રસ્થાને રાખી જોઈ શકાય છે. ઈ-બેન્કિંગના થતા મોટા પ્રમાણમાં વ્યવહારોથી એવું સાબિત થાય છે કે, હવે બેન્કો પરંપરાગત માળખામાંથી આધુનિક માળખા તરફ જઈ રહી છે.જાહેર અને ખાનગી બંનેમાંથી પસંદગીની રીતે જોઈએ તો ગ્રાહકનો અલગ અલગ અભિગમ જોવા મળે છે.આજની પરિસ્થિતિ પ્રમાણે જોવા જઈએ તો ગ્રાહકો પણ પણ એવું સ્વીકારે છે કે,ભવિષ્યમાં કાર્યક્ષમતા,સુરક્ષા અને સલામતીમાં સુધારો તથા વધારો ચોક્કસપણે જોવા મળશે.કૃત્રિમ બુદ્ધિનો ઉદભવ અને ઉપયોગ વધુ પ્રમાણમાં થતો જોવા મળશે.યUPI અને IMPS જેવા આધુનિક ચુકવણીના સાધનો ભવિષ્યમાં ખૂબ જ મહત્વના ઉપયોગી સાબિત થશે. હાલમાં એ.ટી.એમ. અને ક્રેડિટ કાર્ડના ઉપયોગથી લોકો વધુ પ્રભાવિત જોવા મળે છે.કમ્પ્યુટર અથવા મોબાઈલ બેન્કિંગનો ઉપયોગ કરી બેંકની મુલાકાત લેવાનું ટાળે છે. બિલોની ચુકવણી, નાણા ટ્રાન્સફર, વગેરે જેવી ઘણી બધી નાણાકીય સેવાઓ માટે ઉપયોગી સાબિત થાય છે.

સંદર્ભ:-

ભગવતસિંહજી ભગવદ્ગોમંડળ,પ્રવીણ પ્રકાશન રાજકોટ.
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ABSTRACT

In the era of digital transformation, libraries are no longer confined to physical spaces but have evolved into dynamic information centres that utilize technology to engage users effectively. Among various digital tools, social media has emerged as a powerful platform for communication, interaction, and relationship management between libraries and their users. This study, titled ***"Digital Bridge: Impact of Social Media on Library User Relationship Management,"*** examines how social media influences user satisfaction, engagement, and overall relationship with library services. Using a structured questionnaire, data were collected from 100 library users representing diverse age groups and social media habits. The study employed descriptive statistics, Chi-square tests, and independent sample t-tests to analyse the relationship between social media usage and user satisfaction levels.

The findings reveal that 75% of library users follow their library's social media pages, primarily through platforms such as WhatsApp, Instagram, and Facebook. Results from hypothesis testing confirm a significant positive correlation between social media engagement and improved user-library relationships. Users who actively follow library updates through social media demonstrated higher levels of satisfaction, awareness, and participation in library programs compared to non-users. The study concludes that social media serves as a ***digital bridge***, strengthening trust, enhancing communication, and promoting participatory learning in the library environment. This research highlights the importance of integrating social media strategies into library management for sustainable user engagement and relationship development. It also provides recommendations for libraries to adopt multi-platform approaches, implement analytics-driven engagement, and train staff in digital communication.

KEYWORDS: **LIBRARY, SOCIAL-MEDIA, DIGITAL BRIDGE, USER ENGAGEMENT, RELATIONSHIP MANAGEMENT, USER SATISFACTION, LIBRARY SERVICES, DIGITAL TRANSFORMATION**

INTRODUCTION

Libraries have historically served as the intellectual heart of academic institutions, providing resources, information, and spaces for collaborative learning. However, in the twenty-first century, the landscape of information dissemination has been profoundly transformed by digital technology. The rise of social media has revolutionized how people connect, communicate, and share knowledge, impacting every domain—including libraries.

Today's users, especially students and young professionals, are increasingly digital natives who expect real-time interaction and personalized updates from their information providers. Consequently, libraries must adapt to these expectations by extending their presence to digital environments such as WhatsApp, Instagram, Facebook, X (formerly Twitter), and LinkedIn. These platforms allow libraries to promote new arrivals, announce workshops, provide research support, and share digital learning materials in interactive and engaging ways.

Social media's potential for relationship management is significant because it fosters two-way communication rather than the traditional one-directional model of libraries disseminating information.

Through comments, reactions, messages, and shares, users can directly communicate with library staff, express opinions, and even co-create knowledge communities.

In India, this transformation has been particularly notable in academic institutions. Rapid internet growth, mobile phone adoption, and government initiatives promoting digital literacy have created an ideal environment for digital engagement. Libraries in universities and colleges are now using social media to share e-resources, conduct live sessions, and build a sense of community.

The present research explores how these changes are reshaping the relationship between libraries and their users. Specifically, it examines whether social media usage enhances awareness, satisfaction, and trust among library users, and evaluates how libraries can strategically integrate digital engagement for long-term relationship management.

OBJECTIVES OF THE STUDY

- To identify the most popular social media platforms used by library users.
- To examine the role of social media in increasing awareness of library resources and services.
- To test the relationship between social media usage and library user satisfaction.
- To evaluate whether social media significantly contributes to user-library relationship management.
- To provide recommendations for libraries to enhance digital engagement strategies.

LITERATURE REVIEW

1. Social Media and Information Sharing

Kaplan & Haenlein (2010) defined social media as internet-based applications that enable user-generated content and interaction. For libraries, this represents a shift from passive dissemination to active engagement.

2. Social Media in Libraries

According to Collins & Quan-Haase (2012), libraries that use social media are better able to foster community engagement, especially among young adults. International studies show that Facebook pages and Twitter feeds enhance visibility of library programs.

3. Indian Context

- **Patel (2020)** explored how social media enhances relationship management between librarians and users in Indian universities. His findings suggest that consistent social media engagement increases user loyalty, satisfaction, and awareness of library services. Libraries using WhatsApp groups and Instagram pages reported a 45% rise in attendance at orientation programs and workshops.
- **Joshi and Trivedi (2022)** emphasized that social media creates a two-way communication channel, allowing libraries to gather feedback and improve user experiences. Indian users, particularly students, prefer instant digital communication over traditional notice boards or newsletters.
- **Rani and Mehta (2021)** studied 20 Indian university libraries and found that social media usage positively influences users' perceptions of accessibility and responsiveness. WhatsApp emerged as the most effective medium for quick query handling and reference services, followed by Facebook and Instagram.
- **Sharma and Pandey (2023)** projected that by 2027, nearly 80% of academic libraries in India will use social media analytics for decision-making and service personalization. This shift will create a

stronger digital bridge between users and libraries, ensuring sustainable engagement in the post-digital era.

In summary, Indian scholars collectively affirm that social media is a transformative force in library user relationship management. From improving communication speed to fostering digital communities, social media has redefined how libraries understand and serve their users. However, successful implementation requires policy development, librarian training, and ethical oversight. As digital literacy continues to grow, Indian libraries are poised to become active participants in the country's broader digital transformation ecosystem.

4. Research Gaps

Despite ample literature on social media adoption in libraries, empirical analysis connecting digital engagement to relationship management remains limited. This study bridges that gap by using a quantitative approach with 100 users to assess the direct impact of social media on user satisfaction and trust.

RESEARCH METHODOLOGY

The target population included 500 active library users at Sardar Patel College of Commerce. A random sample of 100 respondents was chosen to ensure representativeness across gender, age, and frequency of library usage.

1. Data Collection

A structured questionnaire was distributed both online (Google Forms) and offline. The instrument included sections on:

- Demographics (age, gender, education level)
- Social media usage patterns
- Awareness of library's social media presence
- Satisfaction with social media updates
- Perceived effect on user-library relationship

Responses were measured on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

2. Data Analysis Tools

Collected data were analysed using descriptive statistics (mean, percentage), Chi-square test, and independent t-test to test hypotheses regarding differences between social media users and non-users.

❖ **Tabel Showing Variables with Their Frequency**

Variable	Category/Mean	Frequency
Gender	Male 60 / Female 40	60% / 40%
Age group	18–22 (40), 23–27 (45), 28+ (15)	-
Daily Social Media Usage	<1 hr (15), 1–3 hrs (45), 3–5 hrs (25), 5+ hrs (15)	-
Platforms Used	WhatsApp (80), Instagram (70), Facebook (50), X (30), LinkedIn (20)	-
Follow Library Page/Group	Yes (75), No (25)	75% / 25%

Awareness of Library Updates	High (68), Medium (20), Low (12)	-
Satisfaction with Info Updates	High (65), Medium (25), Low (10)	-
Engagement with Library Posts	High (60), Medium (30), Low (10)	-
Perceived Relationship Improve.	Yes (70), No (30)	70% / 30%

HYPOTHESIS

Data Analysis & Hypothesis Testing

- WhatsApp emerged as the most used platform (80%)
- 75% of users follow the library's social media page/group.
- 70% reported improved relationship with the library due to social media interaction.

Chi-square Test

Relationship Improvement	**Yes**	**No**	**Total**
Active Social Media Users (75)	60	15	75
Non-Users (25)	10	15	25
Total	70	30	100

- χ^2 (calculated) = 14.22
- df = 1, Critical Value = 3.84 ($p < 0.05$)
- Result: Reject H_0 → Social media usage significantly improves user-library relationships.

T-test

- Mean Satisfaction (Users) = 4.1/5
- Mean Satisfaction (Non-users) = 3.2/5
- $t = 3.9$, $p < 0.05$ → Significant difference.

DISCUSSION

The study reinforces that social media has evolved into a strategic communication tool for libraries. Users expressed that timely update on WhatsApp and Instagram stories increased their awareness of new arrivals, workshops, and events. Visual storytelling, such as "book of the week" posts or live Q&A sessions, helped humanize library services, making users feel more connected.

Libraries leveraging multi-platform approaches witnessed higher engagement. WhatsApp is best for instant alerts, Instagram for visual engagement, and Facebook for detailed event documentation. The interactive nature of these platforms strengthens the emotional bond between users and the library, shifting perceptions from an institutional service to a friendly, accessible resource partner.

Furthermore, digital relationship management enables personalized outreach—libraries can respond to feedback immediately, handle queries efficiently, and build trust through transparency and dialogue.

Non-users, by contrast, often missed updates and exhibited weaker satisfaction levels. This suggests that libraries without an active social media presence risk becoming invisible to a generation that consumes information digitally.

IMPLICATIONS FOR LIBRARIES

- **Strategic Communication:** Libraries must establish a consistent posting schedule and clear tone of communication.
- **Content Variety:** Combine informative posts (new arrivals, e-resources) with interactive elements (polls, quizzes, reels).
- **Analytics-Driven Engagement:** Use engagement metrics such as views, likes, and shares to tailor future strategies.
- **Training:** Equip librarians with digital marketing and media communication skills.
- **Cross-Platform Integration:** Synchronize posts across WhatsApp, Instagram, and Facebook for maximum visibility.
- **Feedback Loops:** Create spaces for users to suggest book purchases or event topics via comments or polls.
- **Community Building:** Use hashtags, reading challenges, and "reader of the month" features to foster belonging.

LIMITATION OF THE STUDY

- The sample was limited to 100 respondents from a single college library, restricting generalizability.
- Data relied on self-reported measures that may contain biases.
- The study focused only on select social media platforms.
- Long-term behavioural changes due to digital engagement were not measured.

RECOMMENDATION FOR FUTURE RESEARCH

- Conduct multi-institutional studies covering various library types.
- Explore longitudinal impacts of social media on sustained user engagement.
- Examine differences between urban and rural libraries in digital outreach.
- Study integration of AI chatbots, AR/VR tools, and analytics in social media strategies.
- Assess how social media influences academic performance and digital literacy.

CONCLUSION

The study concludes that social media acts as a powerful *digital bridge* connecting libraries and users in a new relational paradigm. Empirical evidence confirms that social media users exhibit significantly higher satisfaction, awareness, and engagement levels. The interactive nature of platforms like WhatsApp and Instagram transforms libraries from passive knowledge providers into active digital communities.

To remain relevant in the information age, libraries must strategically incorporate social media into their communication and relationship management frameworks. A proactive, analytics-based, and user-cantered approach can ensure that libraries continue to thrive as essential hubs of knowledge and connectivity.

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ROLE OF DIGITAL LEARNING TOOLS IN ENHANCING STUDENT ENGAGEMENT: AN EMPIRICAL STUDY OF UNDERGRADUATE EDUCATION IN INDIA

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ABSTRACT

The integration of digital learning tools into higher education has accelerated in India, particularly following the COVID-19 pandemic. Platforms such as Learning Management Systems (LMS), MOOCs, video conferencing applications, and interactive assessment tools have become mainstream. While these tools are designed to improve flexibility, interactivity, and learner autonomy, there is a need to empirically examine whether they genuinely enhance student engagement, which is a critical predictor of academic success.

This empirical study investigates the role of digital learning tools in enhancing engagement among undergraduate students in Indian universities. A survey of 480 students across 6 universities was conducted using a structured questionnaire that measured behavioral, emotional, and cognitive engagement. Statistical analyses included descriptive statistics, correlation, multiple regression, and ANOVA using SPSS. Results indicate that digital learning tools significantly improve cognitive engagement (e.g., problem-solving, self-directed learning) and behavioral engagement (e.g., participation, attendance), while emotional engagement was influenced to a moderate extent. However, disparities in digital access, digital literacy, and faculty training remain barriers to maximizing the benefits of these tools.

The study contributes to the literature by empirically linking digital tool usage with multidimensional engagement in the Indian higher education context. Practical recommendations are offered for policymakers, institutions, and faculty to integrate digital tools more effectively into curricula.

KEYWORDS: DIGITAL LEARNING TOOLS, STUDENT ENGAGEMENT, HIGHER EDUCATION, INDIA, LMS, MOOCS

INTRODUCTION

The digital revolution has dramatically reshaped the global education landscape, offering new tools and approaches that transcend the boundaries of traditional classroom learning. In India, this transformation has been especially pronounced over the past decade, with rapid technological adoption fueled by government initiatives, private sector innovations, and the sudden disruption caused by the COVID-19 pandemic. Today, higher education institutions across the country employ digital platforms such as Learning Management Systems (LMS), Massive Open Online Courses (MOOCs), video conferencing applications like Zoom and Microsoft Teams, and interactive digital assessment tools. These technologies are designed not only to improve access but also to enhance the quality of learning through interactivity, personalization, and flexibility.

One of the most critical outcomes expected from digital learning tools is student engagement. Engagement is widely regarded as a key predictor of academic success, persistence, and long-term learning outcomes. It encompasses three interrelated dimensions: behavioral engagement, cognitive engagement, and emotional engagement. Traditional lecture-based models often struggled to sustain student engagement, especially in large classrooms. Digital tools, by contrast, offer interactive features—such as real-time quizzes, discussion boards, collaborative assignments, multimedia resources, and gamification—that can potentially transform passive learners into active participants.

In the Indian higher education context, the adoption of digital tools has been uneven but rapidly expanding. Government initiatives like SWAYAM and the National Digital Library of India (NDLI) aim to provide accessible online learning resources. Institutions are increasingly deploying LMS such as Moodle, Blackboard, and Google Classroom to organize teaching, assessments, and student interactions. Meanwhile, global platforms like Coursera, edX, and Khan Academy are also widely used by Indian students. The widespread availability of smartphones and affordable internet, driven by providers like Jio, has further accelerated adoption, making India one of the fastest-growing markets for online education.

Despite this progress, challenges remain. Rural and marginalized students often face limited access to devices, internet connectivity, and digital literacy, creating a "digital divide." Moreover, faculty members vary in their readiness to adopt technology-driven pedagogies, with many requiring training to effectively leverage digital tools. There is also a risk of superficial engagement, where students participate in digital activities without meaningful cognitive or emotional involvement. These challenges highlight the need for empirical research to determine whether digital tools are genuinely enhancing student engagement or simply replacing traditional methods without significant added value.

Globally, research has suggested that digital tools can improve engagement when effectively integrated. For instance, Hrastinski (2019) found that synchronous tools like live discussions foster real-time participation, while asynchronous tools such as discussion boards promote reflective thinking. Dixson (2015) developed the Online Student Engagement Scale, showing that interactivity and course design strongly predict online engagement. In India, however, empirical studies on engagement in higher education remain limited, with most research focusing on access and satisfaction rather than concrete outcomes such as engagement and performance.

This study seeks to address this gap by empirically investigating the role of digital learning tools in enhancing student engagement in Indian higher education. Specifically, it explores the impact of these tools on the three dimensions of engagement—behavioral, cognitive, and emotional—among undergraduate students. The study also identifies barriers to effective digital adoption, including infrastructural constraints, digital literacy gaps, and faculty readiness.

By surveying students from multiple universities, this research provides quantitative evidence on how digital tools are shaping engagement in real learning contexts. The findings are expected to inform policymakers, institutional leaders, and educators about strategies to maximize the potential of digital learning tools. In doing so, the study contributes to the broader discourse on digital transformation in education and its role in creating an inclusive, engaging, and effective higher education system in India.

LITERATURE REVIEW

Student engagement is a multidimensional construct widely studied in educational psychology. According to Fredricks, Blumenfeld, and Paris (2004), engagement includes behavioral, emotional, and cognitive components. Behavioral engagement refers to observable participation; emotional engagement concerns interest and belonging; cognitive engagement involves higher-order learning strategies. Kuh (2009) emphasized that engagement predicts student persistence and academic success.

Digital learning tools encompass Learning Management Systems (LMS), MOOCs, video conferencing platforms, interactive applications, and digital libraries. Al-Fraihat et al. (2020) stressed that system quality, service quality, and content quality determine digital learning success. Hrastinski (2019) found synchronous tools encourage participation, while asynchronous tools foster reflection. In India, the COVID-19 pandemic accelerated adoption but revealed gaps in readiness, infrastructure, and inclusivity. Research shows digital tools enhance behavioral engagement through accountability and tracking. Bernard et al. (2009) demonstrated that interactive treatments improved participation and persistence. Kumar and Bhatt (2021) found LMS usage improved attendance and assignment completion among Indian students. For cognitive engagement, Dixson (2015) noted that course design and interactivity are critical. Mishra, Gupta, and Shree (2020) reported that virtual labs improved problem-solving in engineering education. Emotional engagement is influenced by social presence (Redmond et al., 2018). Rajesh (2020) observed that collaborative platforms improved motivation among Indian students.

Challenges remain: the digital divide (Mehta & Agarwal, 2022), limited digital literacy, and uneven faculty readiness (Rao & Sutradhar, 2021). International experiences show promise: Chen et al. (2018) reported gamified tools reduced dropout rates, while Chan (2019) highlighted improved performance from blended learning models. However, in India, quantitative evidence on engagement outcomes is still scarce.

This study addresses the gap by empirically analyzing the relationship between digital learning tool usage and multidimensional engagement among undergraduates.

OBJECTIVES OF THE STUDY

1. To examine the extent of digital learning tool usage among undergraduate students in India.
2. To analyze the relationship between digital tools and behavioral engagement.
3. To examine the impact of digital tools on cognitive engagement.
4. To assess the influence of digital tools on emotional engagement.
5. To identify challenges in adopting digital tools for student engagement.

HYPOTHESES

H1:Use of digital learning tools significantly improves behavioral engagement.
H2:Digital learning tools positively affect cognitive engagement.
H3:Digital learning tools enhance emotional engagement.
H4:Challenges such as infrastructure and digital literacy negatively affect engagement outcomes.

RESEARCH METHODOLOGY

This study used a descriptive-causal design with a quantitative approach. The population included undergraduate students from Indian universities. A stratified random sample of 480 students from 6 universities (3 public, 3 private) was surveyed. After data cleaning, 450 valid responses were analyzed. A structured questionnaire measured demographics, digital tool usage, behavioral engagement, cognitive engagement, emotional engagement, and challenges. Items were rated on a 5-point Likert scale. Validity was ensured by expert review, and a pilot test with 40 students achieved Cronbach's alpha > 0.80.

Data collection was conducted between January and March 2025 using both online and offline surveys. Ethical clearance and informed consent were obtained. SPSS v26 was used for analysis: descriptive statistics, reliability analysis, Pearson correlation, multiple regression, and ANOVA.

DATA ANALYSIS AND RESULTS

Demographic Profile

Out of 480 respondents, 450 valid responses were analyzed. The sample included 53% male and 47% female students, primarily aged between 18–22 years. About 52% belonged to public universities and 48% to private universities. Regional representation included North (20%), South (25%), East (22%), and West (33%). Device access was high, with 85% reporting smartphone access, though only 62% had personal laptops.

Reliability Analysis

Cronbach's alpha values exceeded 0.80 for all constructs:

- Behavioral engagement: $\alpha = 0.83$
- Cognitive engagement: $\alpha = 0.86$
- Emotional engagement: $\alpha = 0.81$
- Challenges: $\alpha = 0.82$

This confirmed strong reliability of the scales.

Descriptive Statistics

- **Digital tool usage:** 78% reported daily use of LMS or online platforms.
- **Behavioral engagement:** 70% participated regularly in online quizzes, forums, or polls.
- **Cognitive engagement:** 65% agreed digital tools enhanced problem-solving and self-directed learning.
- **Emotional engagement:** 58% felt more motivated when interactive tools were used, though 25% felt disconnected in purely online settings.

Correlation Analysis

- Digital tool usage and behavioral engagement: $r = 0.57$, $p < 0.01$
- Digital tool usage and cognitive engagement: $r = 0.62$, $p < 0.01$
- Digital tool usage and emotional engagement: $r = 0.46$, $p < 0.01$

These results support hypotheses H1, H2, and H3.

Regression Analysis

Multiple regression was performed with engagement dimensions as dependent variables:

- **Behavioral engagement:** digital usage ($\beta = 0.44$, $p < 0.01$), infrastructure challenges ($\beta = -0.22$, $p < 0.05$).
- **Cognitive engagement:** digital usage ($\beta = 0.51$, $p < 0.01$), faculty readiness ($\beta = 0.28$, $p < 0.05$).
- **Emotional engagement:** digital usage ($\beta = 0.33$, $p < 0.01$), peer interaction ($\beta = 0.25$, $p < 0.05$).

The models explained 47%, 52%, and 39% variance respectively.

ANOVA Results

ANOVA revealed significant differences across institution types ($F = 6.84$, $p < 0.05$). Private universities reported higher behavioral and cognitive engagement due to better infrastructure, while public universities scored higher in emotional engagement linked to peer collaboration. Rural students reported significantly lower digital access ($F = 8.11$, $p < 0.01$), confirming the digital divide.

Key Challenges Identified

- 42% cited unreliable internet.
- 36% mentioned lack of faculty training in digital pedagogy.
- 28% highlighted distractions during online classes.

DISCUSSION

Findings confirm that digital learning tools positively impact engagement, aligning with international literature (Dixson, 2015; Hrastinski, 2019). Behavioral engagement improved through online quizzes, attendance tracking, and interactive assignments. Cognitive engagement was strongly supported by access to multimedia resources and self-paced learning opportunities, echoing Mishra et al. (2020). Emotional engagement showed moderate improvement, suggesting that digital tools alone cannot replicate the social presence of face-to-face learning (Redmond et al., 2018).

The digital divide remains a pressing issue, consistent with Mehta and Agarwal (2022). Students from rural areas reported weaker engagement due to connectivity and device limitations. Faculty readiness also emerged as a significant predictor, supporting Rao and Sutradhar (2021). Institutions with trained faculty achieved higher engagement outcomes, underscoring the need for capacity-building programs.

A notable finding was the contrast between public and private universities. While private universities benefited from stronger infrastructure, public institutions showed higher emotional engagement, possibly due to greater reliance on peer collaboration. This suggests that digital engagement is not solely dependent on technology but also on institutional culture and pedagogical practices.

CONCLUSION AND IMPLICATIONS

This study concludes that digital learning tools significantly enhance student engagement in Indian higher education, particularly in behavioral and cognitive domains. Emotional engagement benefits moderately but still requires supportive peer interaction and faculty involvement. Challenges such as the digital divide, inadequate faculty training, and infrastructural gaps limit full benefits.

THEORETICAL IMPLICATIONS

The study contributes to the literature by empirically validating the multidimensional impact of digital tools on student engagement in the Indian context. It extends engagement theory to show how technology interacts with behavioral, cognitive, and emotional dimensions.

Practical Implications

- **For Policymakers:** Invest in digital infrastructure, especially in rural areas, and promote digital literacy programs.
- **For Institutions:** Provide faculty training, integrate blended learning models, and design interactive curricula.

- **For Faculty:** Use diverse digital tools (quizzes, breakout rooms, gamification) to sustain engagement across all dimensions.

LIMITATIONS AND FUTURE RESEARCH

The study used a cross-sectional design and self-reported data, which may introduce bias. Future research should adopt longitudinal designs, include qualitative methods, and explore comparative outcomes across disciplines. Expanding the study to postgraduate and professional programs may also provide broader insights.

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ONLINE AND OFFLINE GAMBLING: A COMPARATIVE LEGAL AND SOCIAL STUDY

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ABSTRACT:
In recent years, gambling—both online and offline—has emerged as one of the most debated socio-legal issues across the world. The exponential rise of internet-based gaming platforms has blurred the line between entertainment and addiction, transforming the way society perceives gambling. While offline gambling remains a deeply rooted social practice, especially in traditional settings like casinos and local betting houses, online gambling introduces new legal complexities concerning jurisdiction, privacy, taxation, and youth exposure.

This paper seeks to analyze the comparative dimensions of online and offline gambling in the Indian context, focusing on the legal framework, socio-economic implications, and moral questions surrounding it. It also aims to highlight the growing concern about digital gambling addiction among the youth and the urgent need for a comprehensive legal and regulatory mechanism. The study concludes that a balanced approach—grounded in awareness, regulation, and social responsibility—is essential to protect vulnerable individuals while respecting personal freedom.

KEYWORDS: ONLINE GAMBLING, OFFLINE GAMBLING, LEGAL REGULATION, ADDICTION, SOCIAL IMPACT, CYBER LAW, PUBLIC MORALITY, GAMING LEGISLATION, DIGITAL INDIA

INTRODUCTION:

Gambling, one of humanity's oldest forms of recreation, has evolved dramatically in the twenty-first century. Once confined to casinos, race tracks, and informal gatherings, it now thrives on mobile screens and digital wallets. The emergence of online gambling has redefined access and opportunity—bringing both convenience and risk into the lives of millions.

In India, where the traditional forms of gambling have long been socially condemned yet widely practiced, online gambling has created a new paradox. The legal system struggles to keep pace with technology. The lack of clear, uniform legislation across states, combined with the rise of digital platforms, has led to a complex mix of legality and illegality.

This study explores how online and offline gambling operate within Indian society, their impact on individuals and communities, and the urgent need for robust laws that can adapt to new realities.

RESEARCH PROBLEM:

Despite existing laws like the *Public Gambling Act, 1867* and various state legislations, the regulation of online gambling in India remains unclear and inconsistent. The absence of a centralized legal framework

has created ambiguity, allowing unregulated platforms to exploit users, particularly the youth. Moreover, offline gambling continues to thrive in certain regions, raising concerns about addiction, financial ruin, and criminal exploitation. Thus, the central problem is the *legal vacuum and moral ambiguity* surrounding gambling in both its forms.

OBJECTIVES OF THE STUDY:

1. To understand the legal distinction between online and offline gambling in India.
2. To study the socio-economic and psychological impacts of gambling on individuals.
3. To evaluate existing laws and judicial responses to gambling-related issues.
4. To suggest reforms for effective regulation and protection of vulnerable users.

HYPOTHESIS:

The study hypothesizes that **the absence of a clear and comprehensive legal framework for online gambling has intensified social and financial risks**, particularly among youth and lower-income groups. It also assumes that **balanced regulation, coupled with awareness and digital literacy, can mitigate the harmful impacts of both online and offline gambling.**

RESEARCH METHODOLOGY:

This research adopts a **doctrinal and analytical approach**. Primary data has been gathered from statutory laws such as *The Public Gambling Act, 1867*, state enactments (like those of Goa and Sikkim), and various judicial pronouncements. Secondary sources include research papers, reports from government and NGOs, newspaper articles, and academic commentaries. Comparative insights are drawn from international regulations in the UK, Singapore, and the United States to understand best practices.

EMERGING CHALLENGES IN ONLINE AND OFFLINE GAMBLING:

The expansion of internet-based gaming platforms has made gambling accessible to all, anytime and anywhere. Online gambling poses challenges of anonymity, data protection, cross-border operations, and age verification. Offline gambling, on the other hand, faces problems of illegal betting, money laundering, and addiction.

Socially, gambling destroys families, promotes false hope of easy wealth, and often leads to mental health issues. The youth are particularly vulnerable to online gambling due to peer influence and digital exposure.

Legally, the conflict between state and central jurisdiction, coupled with the outdated *Public Gambling Act*, fails to address digital realities. Ethical dilemmas also arise—should gambling be banned entirely, or regulated as a legitimate industry with safeguards?

Ultimately, the challenge is not merely legal but moral and social. The balance between personal freedom and social welfare must guide the way forward.

CONCLUSIVE REMARKS:

The study finds that gambling, whether online or offline, cannot be ignored or entirely prohibited in the modern world. A regulatory approach that focuses on *responsible gambling*, *transparency*, and *protection*

of vulnerable sections is more practical than outright bans. Public awareness campaigns, strict verification processes, and state-level monitoring systems are essential to minimize exploitation. The government must adopt a national framework that integrates technology, ethics, and law to ensure safe digital gaming environments.

FINDINGS:

1. Online gambling has grown rapidly in India, particularly among youth.
2. Offline gambling continues to exist under various state laws, often informally.
3. Lack of uniform regulation creates confusion and exploitation.
4. Addiction and financial loss remain serious consequences in both forms.
5. Awareness about legal rights and risks of gambling is minimal.
6. Judicial intervention has been inconsistent, depending on state policy.
7. Technological loopholes allow illegal foreign platforms to operate freely.
8. There is an urgent need for digital literacy and self-regulation mechanisms.

SUGGESTIONS:

1. Enact a comprehensive *National Gambling Regulation Act* for India.
2. Introduce age and identity verification systems for all gambling platforms.
3. Promote responsible gaming and addiction awareness campaigns.
4. Impose strict penalties on illegal and foreign gambling operators.
5. Strengthen cyber surveillance and financial tracking mechanisms.
6. Encourage collaboration between law enforcement, banks, and IT ministries.
7. Incorporate gambling awareness in school and college education.
8. Establish rehabilitation centres for gambling addicts.

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TRADE PROTECTIONISM AND STRATEGIC AUTONOMY: LESSONS FROM THE INDIA–US TARIFF CONFLICT

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ABSTRACT
The resurgence of trade protectionism in the 21st century has reshaped the dynamics of global economic governance. The India–United States tariff conflict between 2017 and 2020 provides a revealing case study of how major economies balance global integration with domestic strategic priorities. This paper explores the roots and implications of that conflict, analyzing it through the lens of protectionism and strategic autonomy. Drawing upon data from the World Trade Organization (WTO), World Bank, and national trade policy documents, the study argues that selective, well-targeted protectionism can enhance a nation's strategic autonomy without necessarily undermining globalization. The India–US experience demonstrates how developing nations can protect domestic interests, diversify trade partnerships, and pursue self-reliant growth while remaining engaged with the global economy.

INTRODUCTION
The modern world economy, built on the post-World War II liberal trade order, has long promoted the virtues of free trade and market openness. However, the early decades of the twenty-first century have witnessed a notable retreat from this consensus. The rise of economic nationalism, coupled with geopolitical competition, has driven nations to use tariffs, subsidies, and localization requirements to shield key sectors. This phenomenon — broadly termed "trade protectionism" reflects a global search for "strategic autonomy", where economic policy becomes an instrument of national power (Panagariya, 2020).

Among the most illustrative cases of this tension was the 'India–United States tariff conflict' that began in 2018. Though relatively modest in scale compared to the US–China trade war, it captured an important shift in the global trade system: the world's largest democracy and the largest economy confronting each other over principles of fairness, sovereignty, and economic control.

The dispute began when the United States, under President Donald Trump's "America First" policy, imposed sweeping tariffs on imported steel (25%) and aluminum (10%) in March 2018. These measures were justified under Section 232 of the US Trade Expansion Act of 1962 — on the grounds of protecting national security. India, as one of the exporters affected by the move, saw its annual steel and aluminum exports worth roughly US$1.5 billion subjected to these new duties. Despite diplomatic negotiations, India's request for exemption was denied.

In response, India adopted a measured retaliatory approach. It announced higher import duties on 28 US products, including almonds, apples, chickpeas, and walnuts commodities symbolically and politically sensitive in the US agricultural sector. These tariffs were not only economic countermeasures but also

diplomatic signals: India sought to assert its sovereign right to defend domestic interests without derailing its strategic relationship with Washington.

The tension deepened in June 2019, when the United States terminated India's eligibility under the Generalized System of Preferences (GSP), which had provided duty-free access for about US$5.6 billion worth of Indian exports. The official justification was that India had failed to provide "equitable and reasonable access" to its market. For India, this move symbolized a betrayal of the cooperative spirit that had defined bilateral relations. Yet, the overall confrontation remained contained. Unlike the confrontational tone of the US–China trade war, India maintained diplomatic restraint. The government emphasized dialogue and avoided escalating tariffs beyond symbolic thresholds. This strategic moderation reflected India's broader vision of economic sovereignty not isolationism, but self-reliance within an interconnected world.

The Indian concept of "Atmanirbhar Bharat" (Self-Reliant India), launched officially in 2020, embodies this philosophy. It advocates developing domestic production capacity, diversifying import sources, and integrating into global value chains from a position of strength. The tariff conflict with the US provided practical lessons that reinforced this policy orientation. The India–US episode thus serves as a microcosm of the global debate on how far protectionism can coexist with globalization (Baldwin, 2016). To understand its significance, it is essential to situate it within broader theoretical and empirical contexts.

HISTORICAL AND THEORETICAL CONTEXT

Protectionism is not a new phenomenon. The nineteenth-century economist Friedrich List (1841) argued that developing nations needed temporary tariff protection to nurture their "infant industries" before competing with industrialized powers. Similarly, Paul Krugman's (1986) strategic trade theory showed that selective state intervention could help domestic firms gain advantage in high-technology sectors. However, mainstream economics since David Ricardo's (1817) theory of comparative advantage has largely celebrated free trade as the path to mutual prosperity. The post-1990 era of globalization, driven by liberalization and WTO frameworks, reinforced this view. Yet, recurring financial crises, rising inequality, and the vulnerability of supply chains have revived protectionist sentiments even in advanced economies (Bhagwati, 2004).

The Trump administration's tariffs were part of a global trend where economic power is increasingly wielded as geopolitical leverage. The United States sought to correct trade deficits and reshore manufacturing. India, by contrast, faced the challenge of defending its developmental policy space in a global system that often favors industrialized countries. Thus, the India–US tariff war cannot be understood merely as an economic disagreement. It reflected two intersecting philosophies: economic nationalism in the US and strategic autonomy in India.

THE ECONOMICAL IMPACT

Trade data from UN Comtrade and World Bank sources show that India's total exports to the US fell slightly from US$51.6 billion (2018) to US$49.9 billion (2019), before rebounding strongly to US$73 billion by 2023. This indicates that while tariffs caused short-term disruptions, the long-term relationship remained resilient. Similarly, India's imports from the US stabilized around US$35–40 billion annually, suggesting diversification rather than decline.

The steel and aluminum sectors were among the hardest hit initially. Indian producers sought new markets in the Middle East and Southeast Asia to offset lost competitiveness in the US market. Meanwhile, US exporters of almonds and apples faced difficulties due to higher Indian tariffs; California's almond growers publicly appealed for resolution.

Despite these frictions, both economies adapted quickly. Bilateral trade reached a record US$190 billion in 2024, surpassing pre-war levels. The conflict, therefore, acted as a stress test rather than a breakdown. It revealed the robustness of economic interdependence between the two nations and underscored the limits of protectionism in deeply integrated markets.

STRATEGIC LESSONS AND POLICY IMPLICATIONS

From India's perspective, the tariff conflict offered crucial lessons in balancing openness and autonomy. The first lesson was the importance of diversified trade partnerships. Over-reliance on a single export destination creates vulnerability to external policy shifts. In response, India strengthened trade relations with ASEAN, the European Union, and Africa while continuing negotiations for regional trade agreements.

The second lesson was the need for domestic industrial strengthening. Tariff protection alone cannot ensure competitiveness; it must be accompanied by innovation, infrastructure, and human capital development. India's "Production-Linked Incentive (PLI)" schemes launched in 2020 were partly inspired by this realization to attract investment and boost manufacturing in key sectors such as electronics, pharmaceuticals, and renewable energy.

The third lesson concerns multilateral trade governance. The WTO's inability to mediate the India–US dispute revealed weaknesses in global trade institutions. India, like many emerging economies, advocates for reforming WTO rules to accommodate development priorities and special safeguards for vulnerable sectors.

Finally, India's handling of the conflict demonstrated the value of diplomatic prudence. Instead of mirroring the US's confrontational stance, India maintained engagement through dialogue platforms such as the Trade Policy Forum. This preserved the broader strategic partnership, including cooperation in defense, technology, and climate initiatives.

PROTECTIONISM AND STRATEGIC AUTONOMY: A CONCEPTUAL LINK

Strategic autonomy, in economic terms, is not synonymous with self-sufficiency. It refers to the capacity to make independent policy choices that serve national interests while engaging globally. For a country like India, which relies on global supply chains and technology imports, total economic isolation is neither feasible nor desirable. Instead, strategic autonomy implies reducing critical dependencies - for example, in defense hardware, semiconductors, or pharmaceuticals by developing indigenous capabilities. Trade protectionism can contribute to this goal if applied judiciously. Temporary tariffs or import substitution policies can help nascent industries gain scale. However, prolonged protection without productivity improvement leads to inefficiency and rent-seeking. Thus, the quality of protectionism matters more than its intensity.

India's gradualist approach defensive rather than aggressive fits this balance. While it resisted unilateral US pressure, it did not withdraw from global integration. Instead, it leveraged the conflict to justify structural reforms and self-reliance initiatives, aligning with its long-term vision of economic sovereignty. The India–US tariff conflict must also be seen in light of broader shifts in the global economy. The COVID-19 pandemic, the US–China rivalry, and supply-chain disruptions have prompted many nations to rethink dependence on foreign manufacturing hubs. The trend toward "friend-shoring" sourcing goods from politically aligned partners reflects an emerging geopoliticization of trade. For India, this environment offers opportunities as well as challenges. On one hand, multinational firms seeking to reduce exposure to China have begun relocating production to India. On the other, India must ensure that its protectionist policies do not deter foreign investors or violate WTO norms. The key lies in predictable, transparent, and time-bound trade measures that support competitiveness rather than constrain it.

CRITICAL ANALYSIS

Critics of protectionism warn that tariffs often invite retaliation, distort prices, and burden consumers. Empirical evidence shows that while tariffs can protect jobs in specific industries, they may destroy employment elsewhere due to higher input costs. The United States itself witnessed such effects: steel tariffs benefited US producers but hurt downstream manufacturers relying on steel inputs.

India's approach avoided many of these pitfalls precisely because its retaliation was calibrated, not comprehensive. Instead of matching the US dollar-for-dollar, India targeted symbolic goods that conveyed political resolve without inflicting macroeconomic harm. This moderation allowed India to preserve international goodwill and avoid escalation.

Moreover, India's focus on self-reliance through industrial upgrading represents a more sustainable form of protectionism. The goal is not permanent insulation but capacity building enhancing the ability to compete globally. Economists such as Dani Rodrik (2018) have argued that developing countries must retain policy space to design heterodox strategies suited to their unique contexts. India's tariff episode exemplifies this principle.

SYNTHESIS AND LESSONS

The primary lesson from the India-US tariff conflict is that protectionism and globalization are not mutually exclusive. Nations can pursue selective protection to defend critical sectors while remaining integrated in global markets. What matters is strategic clarity and institutional coherence. For India, the conflict underscored that strategic autonomy requires economic resilience the ability to absorb shocks, diversify partners, and innovate domestically. Protectionist tools, if deployed responsibly, can support this goal by fostering industrial learning and reducing asymmetric dependence on powerful partners.

At the same time, India's experience cautions against using tariffs as long-term substitutes for reform. Sustained competitiveness depends on productivity growth, research and development, and human capital. The ultimate foundation of strategic autonomy lies not in tariffs but in technological capability.

CONCLUSION

The India–US tariff conflict of 2018–2020 represents more than a bilateral trade dispute; it is a reflection of shifting global paradigms. In a world where economic interdependence coexists with strategic rivalry,

nations increasingly resort to trade policy as an instrument of sovereignty (Krugman, 1986). The United States used protectionism as part of an assertive nationalist agenda. India, facing asymmetric power, employed calibrated retaliation to defend its interests while maintaining dialogue. This reinforced the principle that strategic autonomy is best achieved through balanced protectionism protecting without isolating, engaging without surrendering policy freedom. For India, the conflict accelerated a policy transformation toward self-reliance, diversification, and innovation.

As globalization enters a new, fragmented phase, India's experience offers valuable guidance for other developing economies: smart protectionism, rooted in long-term competitiveness and strategic foresight, can coexist with open trade. The challenge lies in achieving the right equilibrium between domestic priorities and international commitments a balance that defines the very essence of strategic autonomy in the 21st-century world economy.

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STOCK BUYBACK VS DIVIDEND: WHICH STRATEGY MAXIMIZE SHAREHOLDER WEALTH?

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ABSTRACT

This research investigates the two primary mechanisms for returning capital to shareholders: stock buybacks and dividends. While traditional finance theory suggests payout irrelevance, real-world frictions—specifically taxes, agency costs, and signaling—create a distinct hierarchy of preference. By analyzing S&P 500 data from 2015 to 2025 and utilizing case studies of Apple Inc. And Johnson & Johnson, this paper identifies that buybacks offer superior capital appreciation and tax efficiency, whereas dividends provide essential market discipline and volatility protection. The study concludes that wealth maximization is a dynamic process dependent on firm maturity and market valuation.

KEYWORDS: STOCK BUYBACKS, CASH DIVIDENDS, SHAREHOLDER WEALTH, PAYOUT POLICY, TOTAL SHAREHOLDER RETURN (TSR), AGENCY THEORY, SIGNALING THEORY

1. INTRODUCTION

In the world of corporate finance, a company's success is measured by how much wealth it creates for its owners (shareholders). Once a firm pays its bills and invests in its future, it often has "extra" cash (Free Cash Flow). Management faces a fork in the road: do they send a check to every shareholder (a Dividend), or do they use that cash to buy their own stock back from the market (Stock Buyback)?

This paper explores which path leads to the highest mountain of wealth. We look beyond the math to see how these choices affect a company's reputation, its taxes, and its long-term survival in an ever-changing global economy.

2. LITERATURE REVIEW

2.1 The "Irrelevance" Theory (Miller & Modigliani) In the 1960s, economists Miller and Modigliani argued that it doesn't matter how you pay shareholders—wealth is created by the business's ability to generate profit, not the "delivery method." In a perfect world, $1 in your pocket from a dividend is identical to $1 of growth in your stock price.

2.2 Signaling: The Power of the Message In the real world, investors look for clues about the future.
Dividends are a "promise." Because cutting a dividend is seen as a sign of failure, a company starting a dividend signals they are healthy enough to sustain it forever.
Buybacks are a "hint." They suggest the company thinks its stock is "on sale." It is a flexible tool that signals confidence without the rigid commitment of a dividend.

2.3 Agency Theory: The "Leash" Effect Sometimes, managers with too much cash get reckless, making bad acquisitions or overspending. Payouts (especially dividends) act as a leash, forcing managers to be disciplined with the cash they keep.

3. RESEARCH OBJECTIVES

Objective: To determine if "Growth" (Buybacks) or "Income" (Dividends) results in a larger total portfolio over a 10-year horizon.
Objective: To analyze if buybacks "fake" growth by manipulating Earnings Per Share (EPS) numbers.

4. RESEARCH QUESTIONS

Question: Do investors feel wealthier when they see cash in their accounts or a higher number on their stock ticker?
Question: How does the market price the "certainty" of a dividend versus the "potential" of a buyback?

5. RESEARCH GAPS

Most existing studies were conducted during the 2009–2021 period of near-zero interest rates. This paper fills the gap by looking at the 2023–2026 high-interest era, where borrowing money to buy back stock has become a dangerous game. We also explore the behavioral "Wealth Effect" that occurs when a shareholder sees a dividend hit their bank account versus an unrealized gain on a screen.

6. METHODOLOGY AND DATA COLLECTION

We analyzed 450 major companies in the S&P 500 from 2015 to 2025.
Sample: Large-cap non-financial equities.
Metrics: Stock price appreciation, dividend yield, buyback yield, and debt-to-equity ratios.
Regression Analysis: A mathematical model was used to see which factor pushed the stock price up the most.

7. DATA ANALYTICS AND EMPIRICAL FINDINGS

7.1 portfolio performance (2015 – 2025)

Strategy type	10 year return	Risk (volatility)	Sharpe ratio
High Buyback Yield	14.2%	High	**0.85**
High Dividend Yield	10.8%	Low	**0.92**
Hybrid (The Sweet Spot)	15.4%	Medium	**1.12**

7.2 The Findings

Our analysis shows that Buybacks have a roughly 1.5x stronger "push" on the stock price in the short term. This occurs because repurchasing shares reduces the total number of shares outstanding. Much like a rare collectible, fewer shares make each remaining share worth more. However, during market crashes (e.g., 2020, 2022), the "Dividend Heavy" portfolio was 30% more resilient.

8. CASE STUDIES: THE CORPORATE GIANTS

8.1 Apple Inc. (The Scarcity Creator)

Apple transformed from a hardware company to a "Capital Return Machine." By retiring nearly 35% of its shares over a decade, it ensured that even when revenue growth slowed, the wealth per share continued to skyrocket. Apple proves that buybacks are the ultimate tool for tax-deferred wealth accumulation.

8.2 Johnson & Johnson (The Compounding Anchor)

J&J proved that "slow and steady wins the race." During market volatility, J&J's dividend acted as a safety net. For long-term investors, reinvesting those dividends allowed them to buy more shares when prices were low, leading to massive compounding wealth over time.

9. LIMITATIONS AND FUTURE RESEARCH

The Debt Trap: Many companies used borrowed money to buy back shares. Future research must investigate the "breaking point"—at what interest rate does a buyback start destroying wealth instead of creating it?

R&D Cannibalization: Does spending on buybacks reduce a company's ability to innovate? This remains a critical area for 20-year longitudinal studies.

10. POLICY AND MANAGERIAL RECOMMENDATIONS

For Managers: Never buy back stock just to "hit a bonus." Buy back shares only when the stock is objectively cheap (undervalued).

For Investors: Focus on "Total Shareholder Yield" (Dividends + Buybacks). A company that does both is usually more stable.

For Boards: Establish a "Base Dividend" that is never cut, and use "Special Buybacks" only when the company has excess cash.

11. CONCLUSION: THE PHILOSOPHY OF WEALTH

To truly answer which strategy maximizes wealth, we must realize that wealth is a balance between Growth and Safety.

The Wide Perspective: If we look at the stock market as a garden, Dividends are the fruit you pick and eat today. They provide immediate nourishment (cash flow) and prove the tree is healthy. Stock Buybacks are like pruning the tree. By cutting away extra branches (shares), you ensure the remaining branches grow stronger and reach higher (price appreciation).

Buybacks are mathematically "smarter" for those who don't need the cash today. Your wealth stays inside the stock, avoids immediate taxes, and grows like a rolling snowball.

Dividends are psychologically "stronger" because they keep you from selling in a panic. When the market turns red, a dividend check is a tangible reminder that your investment is still working.

The Final Verdict: Shareholder wealth is not maximized by choosing one over the other. It is maximized by Balance. A company that only does buybacks is a "fair-weather" friend; a company that only pays dividends might be a "dying" giant. The perfect strategy for wealth maximization is a Hybrid Model: pay a sustainable dividend to anchor the price, and use buybacks to supercharge growth when the market is being too pessimistic. Wealth is maximized when a company treats its cash like a tool, not a trophy.

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TRANSFORMATIVE CONSTITUTIONALISM AND AGRARIAN SOCIAL CHANGE IN INDIA: A LEGISLATIVE–JUDICIAL ANALYSIS OF POST-INDEPENDENCE LAND REFORMS

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ABSTRACT
Land reforms have been one of the most significant instruments of social transformation in post-independence India. Conceived as a corrective to colonial agrarian exploitation, these reforms sought to dismantle feudal landholding structures, ensure equitable distribution of land, and promote social justice. This paper critically examines the role of the Indian legislature and judiciary in shaping land reforms as mechanisms of social change. It analyses major legislative initiatives such as the abolition of intermediaries, tenancy reforms, and land ceiling laws, alongside landmark judicial interpretations that balanced property rights with the constitutional mandate of social justice. Using doctrinal and socio-legal methods, the study argues that while legislative intent was progressive, judicial interventions played a decisive role in legitimizing redistributive justice through constitutional interpretation. The paper concludes that land reforms in India represent a unique model of transformative constitutionalism, where law functioned as an active agent of social change.

KEYWORDS: LAND REFORMS, SOCIAL CHANGE, TRANSFORMATIVE CONSTITUTIONALISM, LEGISLATURE, JUDICIARY, AGRARIAN JUSTICE, INDIA

1. INTRODUCTION

Land in India has historically been more than an economic asset; it has been a source of social power, political dominance, and caste hierarchy. During the colonial period, land revenue systems such as Zamindari, Ryotwari, and Mahalwari entrenched inequality and rural poverty. At independence, nearly 70 percent of the population depended on agriculture, yet land ownership remained highly concentrated. Recognizing this imbalance, the Indian state adopted land reforms as a constitutional and legislative priority to achieve social justice, economic equality, and rural democratization. Articles 38 and 39 of the Constitution mandated the state to minimize inequalities and distribute material resources for the common good. However, these goals often conflicted with the fundamental right to property, resulting in intense legislative–judicial engagement.

This paper explores how land reforms became a catalyst for social change through the combined actions of the legislature and judiciary, transforming constitutional ideals into social realities.

2. REVIEW OF LITERATURE

Scholarly work on land reforms in India broadly falls into three categories:
First, political-economic studies highlight land reforms as tools for poverty alleviation and agrarian restructuring. Authors argue that despite uneven implementation, reforms weakened feudal dominance and empowered tenants and marginal farmers.

Second, socio-legal scholars focus on constitutional conflicts, particularly between property rights and social justice. Studies emphasize how early judicial resistance gradually gave way to a purposive interpretation of the Constitution.

Third, contemporary analyses examine judicial activism and transformative constitutionalism, arguing that courts have increasingly endorsed redistributive justice as a core constitutional value.

However, existing literature often treats legislative action and judicial response separately. This paper addresses this gap by examining their **interdependent role** in producing long-term social change.

3. RESEARCH OBJECTIVES

1. To examine major legislative measures on land reforms in post-independence India
2. To analyse the judiciary's role in interpreting and validating land reform laws
3. To assess the impact of land reforms on agrarian social structure
4. To evaluate land reforms as instruments of transformative constitutionalism

4. RESEARCH QUESTIONS

1. How did land reform legislation seek to restructure agrarian society in India?
2. In what ways did judicial interpretation influence the success of land reforms?
3. Can Indian land reforms be viewed as an example of law-driven social change?

5. RESEARCH METHODOLOGY

This study adopts a **doctrinal and socio-legal research methodology**.

- **Primary Sources:** Constitutional provisions, land reform statutes, judicial decisions of the Supreme Court of India
- **Secondary Sources:** Books, peer-reviewed journal articles, law commission reports
- **Analytical Approach:** Qualitative analysis of legislative intent and judicial reasoning

The study does not rely on empirical field data but focuses on legal texts and social outcomes.

6. LEGISLATIVE FRAMEWORK OF LAND REFORMS IN INDIA

6.1 Abolition of Intermediaries

The first phase of land reforms targeted zamindars and other intermediaries through Zamindari Abolition Acts enacted by various states. These laws transferred ownership rights to actual cultivators, reducing feudal control and enabling peasant proprietorship.

6.2 Tenancy Reforms

Tenancy legislation sought to:

- Regulate rent
- Provide security of tenure
- Confer ownership rights on tenants

Although implementation varied across states, tenancy reforms altered power relations in rural society by protecting cultivators from arbitrary eviction.

6.3 Land Ceiling Laws

Land ceiling laws imposed limits on maximum landholdings and redistributed surplus land to landless laborers and marginal farmers. These laws directly challenged wealth concentration and aimed at distributive justice.

7. ROLE OF THE JUDICIARY IN LAND REFORMS

7.1 Early Judicial Resistance

Initially, courts prioritized the right to property under Article 31, striking down several reform laws. This judicial approach slowed the pace of agrarian transformation.

7.2 Constitutional Amendments and Judicial Shift

In response, Parliament enacted the First, Fourth, and Seventeenth Constitutional Amendments, placing land reform laws under the Ninth Schedule to protect them from judicial review.

Over time, the judiciary adopted a more progressive stance, recognizing social justice as a constitutional priority. Landmark judgments upheld land reform laws as reasonable restrictions on property rights.

7.3 Transformative Interpretation

The judiciary's acceptance of the **basic structure doctrine** further reinforced land reforms by affirming that social justice and equality form part of the Constitution's core values.

8. LAND REFORMS AS INSTRUMENTS OF SOCIAL CHANGE

Land reforms contributed to social change in several ways:

- **Reduction of feudal dominance** and landlord exploitation
- **Empowerment of tenants and small farmers**
- **Political participation of rural classes**
- **Weakening of caste-based land monopolies**

Although economic outcomes were uneven, the social impact of land reforms was profound, altering traditional hierarchies and promoting rural democratization.

9. CHALLENGES AND LIMITATIONS

Despite constitutional backing, land reforms faced:

- Bureaucratic resistance
- Political interference
- Legal loopholes and benami transfers
- Weak implementation mechanisms

These challenges limited their economic effectiveness but did not negate their social significance.

10. FINDINGS AND DISCUSSION

The study finds that:

- Legislative intent behind land reforms was explicitly redistributive and egalitarian
- Judicial interpretation evolved from formalism to social justice orientation
- Land reforms exemplify **law as a tool of planned social transformation**

The interaction between legislature and judiciary transformed constitutional ideals into lived social change.

11. CONCLUSION

Land reforms in India represent one of the most ambitious attempts to use law as an instrument of social change. Through progressive legislation and transformative judicial interpretation, the Indian state

restructured agrarian relations and challenged entrenched inequalities. While economic outcomes remain contested, the social impact of land reforms is undeniable. The study concludes that Indian land reforms stand as a powerful example of **transformative constitutionalism**, where law actively reshaped society in pursuit of justice and equality.

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સ્વસંચાલિત વાહનોમાં એ.આઈ ની ભૂમિકા: એક અભ્યાસ

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પ્રસ્તાવના :-

આજના ટેક્નોલોજીના યુગમાં,આર્ટિફિશિયલ ઈન્ટેલિજન્સ (એ.આઈ) વિવિધ ક્ષેત્રોમાં ક્રાંતિ લાવી રહી છે. ખાસ કરીને, પરિવહન ઉદ્યોગમાં સ્વસંચાલિત વાહન નું વિકાસ ઝડપથી થઈ રહ્યું છે.

આજના યુગમાં ટેક્નોલોજીનો વિકાસ ઝડપથી આગળ વધે છે, જેમાં કૃત્રિમ બુદ્ધિ (એ.આઈ) સ્વસંચાલિત વાહનવ્યવસ્થામાં એક મહત્વપૂર્ણ ભૂમિકા ભજવે છે. સ્વસંચાલિત વાહનો, જેમ કે સ્વાયત્ત કાર, ટ્રક અને ડ્રોન, માનવ સંચાલન વિના કાર્ય કરવા માટે બનાવવામાં આવ્યા છે. આ વાહનોમાં એ.આઈ ના ઉપયોગથી વિવિધ કાર્યક્ષમતાઓને સુધારવા અને સલામતી વધારવા માટે નવી તકનીકો વિકસાવવામાં આવી રહી છે.

એ.આઈ ની મદદથી સ્વસંચાલિત વાહનોમાં સંવેદનશીલતા, નિર્ણય લેવા માટેની ક્ષમતા અને યાત્રા દરમિયાન માર્ગદર્શન મેળવવું શક્ય બન્યું છે. આ ટેક્નોલોજી સેન્ટ્રલ કમ્પ્યુટર સિસ્ટમ્સ, સેન્સર્સ, કેમેરા અને મશીન લર્નિંગ અલ્ગોરિધમ્સના સંયોજન દ્વારા કાર્ય કરે છે, જે વાહનને તેના આસપાસના પરિસ્થિતિઓને સમજવા અને યોગ્ય પ્રતિસાદ આપવા માટે સક્ષમ બનાવે છે.

સ્વસંચાલિત વાહન એ એક એવું વાહન છે જે માનવ ડ્રાઈવર વિના, માત્ર ટેકનોલોજી અને સંલગ્ન સુવિધાઓના આધારે સંચાલિત થાય છે. આ પ્રકારના વાહનોમાં બહુવિધ સેનસર્સ (જેમ કે રેડાર, લિડો,કેમેરા,અને GPS,મશીન લર્નિંગ અને આર્ટિફિશિયલ ઈન્ટેલિજન્સ ની ટેકનોલોજીનો ઉપયોગ થાય છે. આર્ટિફિશિયલ ઈન્ટેલિજન્સની ભૂમિકા આ બધામાં મુખ્ય છે, કારણ કે તે સ્વસંચાલિત વાહનને પોતાને આસપાસની પરિસ્થિતિઓને સમજવામાં, નિર્ણય લેવા, અને સલામતી જાળવવામાં મદદ કરે છે.સ્વસંચાલિત વાહનો, જેને "એન્ટી-ડ્રાઈવિંગ કાર" તરીકે પણ ઓળખવામાં આવે છે, એ એવી વાહન પ્રણાલીઓ છે જે માનવ સંચાલક વિના રોગભરતા, રસ્તાઓ પર દૃષ્ટિ, પ્રતિસાદ અને સંકેતોનાં આધારે પોતે ગતિ કરે છે. આ વાહનો એઆઈ (કૃત્રિમ બુદ્ધિ) નો ઉપયોગ કરીને પોતાની જાતને સંચાલિત કરે છે, અને એ.આઈના સહારે તેઓ રસ્તા પરની પરિસ્થિતિને અનુરૂપ મૂલ્યાંકન અને નિર્ણય લેતા રહે છે.

સ્વસંચાલિત વાહનો શું છે ?

સ્વસંચાલિત વાહનોએ એવા વાહનો છે જે સ્વતંત્ર રીતે, માનવ સંચાલકના વિના અને સેન્સર ટેકનોલોજી દ્વારા ચાલે છે. આ પ્રકારના વાહનોનાં સિસ્ટમ્સ સ્નાયુ, કેમેરા,રેડાર,અને GPS જેવા સાધનોનો ઉપયોગ કરીને પરિસ્થિતિને સમજતા અને માર્ગ પર ખતરા ઓળખતા અને એના આધારે નિર્ણય લેતા છે.

સ્વસંચાલિત વાહનોને અને આર્ટિફિશિયલ ઈન્ટેલિજન્સ દ્વારા ચલાવવામાં આવે છે. આ સુવિધાઓ ડ્રાઈવિંગ પરિસ્થિતિઓની અનુકૂળતા અને સલામતીને મજબૂત બનાવે છે, જેમ કે ટ્રાફિક લાઈટ્સ, અવરોધ, અન્ય વાહનો અને પેદલ ચાલકને ઓળખવું.

સ્વસંચાલિત વાહનોમાં ચાર મુખ્ય સ્તરો હોય છે, જે છે:

1. સ્તર 1 (Driver Assistance) :- કારમાં ડ્રાઈવિંગ સહાયતા હોય છે (જેમ કે ક્રૂઝ કંટ્રોલ).

2. સ્તર 2 (Partial Automation :- વાહન દૃશ્યમાન ડ્રાઈવિંગ કાર્યને પરિપ્રેક્ષ્ય આપે છે, પરંતુ ડ્રાઈવરનું ધ્યાન જરૂરી છે.

3. સ્તર 3 (Conditional Automation) :- વાહન દ્રષ્ટિ અને ડ્રાઈવિંગ માટે વધુ સકારાત્મક રીતે કાર્ય કરે છે, પરંતુ ડ્રાઈવર પૂરક રીતે જવાબદારી રાખે છે.

4. સ્તર 4 (High Automation) :- વાહન સ્વતંત્ર રીતે ચાલે છે, પરંતુ કેટલીક પરિસ્થિતિઓમાં માનવ નિયંત્રણની જરૂર પડી શકે છે.

5. સ્તર 5 (Full Automation) :- સ્વસંચાલિત, કોઈ માનવ હસ્તક્ષેપની જરૂર નથી.

સ્વસંચાલિત વાહનોનો મુખ્ય ઉદ્દેશતા વધારવાનો, દ્રષ્ટિ અને ખતરાઓને ઓળખવાનું, અને ટ્રાફિક ભીડ અને ખર્ચમાં ઘટાડો કરવાનો છે.

આર્ટિફિશિયલ ઈન્ટેલિજન્સ નો ઉપયોગ કરીને, સ્વચાલિત વાહનો નીચેના કાર્યો કરી શકે છે:

- સેન્સર્સથી ડેટા એકત્રિત કરવો અને વિશ્લેષણ કરવો
- સડક પરની પરિસ્થિતિઓને સમજવી અને વર્તમાન સ્થિતિના આધારે નિર્ણયો લેવા
- વાહનનું નિયંત્રણ કરવું, જેમ કે દિશા બદલવી, ગતિ વધારવી અથવા ઘટાડવી
- જોખમોને ઓળખવું અને તેને ટાળવું

સ્વસંચાલિત વાહનોમાં એ.આઈ ના મુખ્ય ઘટકો :-

સ્વસંચાલિત વાહનોમાં એ.આઈ ની કાર્યક્ષમતા માટે કેટલીક મહત્વપૂર્ણ ઘટકો છે:

1. સેન્સિંગ અને ઈન્ટરપ્રિટેશન :-

સ્વસંચાલિત વાહનોએ વિવિધ સેન્સર્સ જેમ કે રેડાર,કેમેરા, અને આંતરિક નેવિગેશન સિસ્ટમ્સનો ઉપયોગ કરે છે. આ સેન્સર્સ આસપાસના પર્યાવરણની માહિતી એકત્ર કરે છે, જેમ કે રસ્તા, ટ્રાફિક નિશાન, પેદલ ચાલકો, અને અન્ય વાહનો.

2. ડેટા એનાલિસિસ :-

એ.આઈ અલ્ગોરિધમ્સ આ સેન્સર ડેટાને પ્રોસેસ કરે છે, જેનાથી વાહનને તેની આસપાસના પર્યાવરણને સમજવામાં મદદ મળે છે. મશીન લર્નિંગ મોડલ્સનો ઉપયોગ કરીને, વાહન સમય સાથે વધુ સચોટ અને કાર્યક્ષમ બની શકે છે.

3. ફેસિંગ અને નેવિગેશન :-

એ.આઈ સ્વસંચાલિત વાહનને યોગ્ય માર્ગ પસંદ કરવા અને ટ્રાફિકની સ્થિતિને ધ્યાનમાં રાખીને યોગ્ય નિર્ણય લેવા માટે મદદ કરે છે. GPS અને નકશાઓ સાથે સંકલન કરીને, એ.આઈ રિયલ-ટાઈમમાં માર્ગને અપડેટ કરી શકે છે.

4. ફેલ્ટર ડિટેક્શન :-

એ.આઈ સિસ્ટમ્સ સ્વસંચાલિત વાહનમાં કોઈપણ તૂટી જવા અથવા ખામીના સંકેતોને ઓળખી શકે છે, જેનાથી સલામતી માટે તાત્કાલિક પગલાં લેવામાં મદદ મળે છે.

5. સેન્સિંગ અને ડેટા કલેક્શન :-

સ્વસંચાલિત વાહનોમાં વિવિધ સેન્સર્સનો ઉપયોગ થાય છે, જેમ કે રેડાર,કેમેરા, અને GPS. આ સેન્સર્સ આસપાસના પર્યાવરણની માહિતી એકત્રિત કરે છે, જેમ કે અવરોધો, માર્ગની સ્થિતિ, ટ્રાફિક સંકેતો, અને અન્ય વાહનો.

6. ડેટા પ્રોસેસિંગ :-

એકત્રિત ડેટાને પ્રોસેસ કરવા માટે મશીન લર્નિંગ અને ડીપ લર્નિંગ અલ્ગોરિધમ્સનો ઉપયોગ થાય છે. આ પ્રક્રિયામાં ડેટાને વિશ્લેષણ કરીને પર્યાવરણને સમજવું અને મહત્વપૂર્ણ માહિતી કાઢવી સામેલ છે.

7. પ્રાકૃતિક ભાષા પ્રોસેસિંગ (Natural Language Processing - NLP) :-

ડ્રાઈવરના આદેશો અને સંકેતોને સમજવા માટે NLP નો ઉપયોગ થાય છે, જે ડ્રાઈવર અને વાહન વચ્ચે સંવાદ સુનિશ્ચિત કરે છે.

8. વિઝન અને છબી ઓળખ :-

કમ્પ્યુટર વિઝન ટેકનિક્સનો ઉપયોગ કરીને, વાહન આસપાસની છબીઓ અને વિડિઓઝમાંથી માહિતી મેળવતું છે. આ ટેકનિક ઓબજેક્ટ ઓળખવા, ચહેરા ઓળખવા, અને માર્ગની સ્થિતિને સમજવા માટે મહત્વપૂર્ણ છે.

9. ફેસિંગ અને નેવિગેશન (Localization and Navigation) :-

સ્વસંચાલિત વાહનને તેની ચોક્કસ સ્થાન જાણવાની જરૂર છે. GPS, IMU (Inertial Measurement Unit), અને સેન્સર્સના સંયોજનનો ઉપયોગ કરીને વાહનનું સ્થાન જાણી શકાય છે. નાવિગેશન માટે મૅપ ડેટાનો ઉપયોગ કરવામાં આવે છે.

10. ફૈસલો બનાવતી સિસ્ટમ (Decision-Making System) :-

એ.આઈ મોડેલ્સ પરિસ્થિતિઓનું મૂલ્યાંકન કરે છે અને યોગ્ય નિર્ણય લે છે, જેમ કે ક્યારે ગતિ વધારવી, ધીમું કરવું, અથવા અવરોધોને ટાળવા માટે વળવું.

11. સલામતી અને મોનિટરિંગ (Safety and Monitoring) :-

સ્વસંચાલિત વાહનોમાં સલામતી સુનિશ્ચિત કરવા માટે વિવિધ મોનિટરિંગ સિસ્ટમ્સ હોય છે, જે હાર્ડવેર અને સોફ્ટવેર બંનેમાં કામ કરે છે. આમાં અકસ્માતની સ્થિતિમાં આપત્કાલીન પ્રતિસાદ સિસ્ટમોનો સમાવેશ થાય છે.

12. કનેક્ટિવિટી (Connectivity) :-

સ્વસંચાલિત વાહનોમાં V2X (Vehicle-to-Everything) કનેક્ટિવિટી હોય છે, જે અન્ય વાહનો, ઈન્ફ્રાસ્ટ્રક્ચર અને ક્લાઉડ સર્વિસિસ સાથે ડેટા વહેંચવા માટે સક્ષમ બનાવે છે.
આ તમામ ઘટકો મળીને સ્વસંચાલિત વાહનોને સુરક્ષિત અને કાર્યક્ષમ રીતે ચલાવવા માટે સહાય કરે છે.

1. સ્વસંચાલિત વાહનો માટે એ.આઈ.ના મુખ્ય પાસાઓ

- **સેન્સિંગ અને પરિસ્થિતિની ઓળખાણ**: એ.આઈ. એક્સપર્ટ સિસ્ટમ્સ, કેમેરા, લિડાર (LiDAR), રેડાર અને સેન્સરનો ઉપયોગ કરીને આસપાસની વાતાવરણની જાણકારી મેળવે છે. આ ડેટાને ગ્રંથિત કરીને, એ.આઈ. વાહનને કઠણ પરિસ્થિતિઓમાં ચળવળ કરવાનું માર્ગદર્શન આપે છે.
- **મશીન લર્નિંગ**: એ.આઈ. મશીન લર્નિંગ (ML) અને બાહ્ય પરિસ્થિતિઓનું વિશ્લેષણ કરીને, તે દ્રશ્ય, અવાજ, અને ગતિશીલતા સહિતના મુલ્યાંકન પર આધારિત સૂચનો આપે છે. દરેક ડ્રાઈવિંગ પરિસ્થિતિ માટે આ મશીનના તાલીમ આધારે તેને શ્રેષ્ઠ નિર્ણય લેવાનું માર્ગદર્શન મળે છે.
- **યોજના અને નિર્ણયો**: ટ્રાફિક અને પરિવહનના માપદંડોને સમજવા માટે એ.આઈ. મફત માર્ગો, માણકારા, અને ડ્રાઈવિંગ નિયમો (વિશિષ્ટ લોકેશનના નિયમો)ને લાગુ પાડે છે.
- **સુરક્ષા અને પીડા ઘટાડાવવું**: એ.આઈ. ત્વરિત અને ચોકસાઈથી લાયકાઓનું અનુકૂલન કરે છે, જે નમ્ર ભવિષ્યની પરિસ્થિતિઓમાં ખોટી સ્થિતિ કે અવરોધને ટાળી શકે છે.

સ્વસંચાલિત વાહનોમાં એ.આઈ ના ફાયદા

સ્વસંચાલિત વાહનોમાં (Autonomous Vehicles) એઆઈ (એ.આઈ)ના ઘણા ફાયદા છે, જેમ કે:

1. સલામતીમાં વધારો :- એ.આઈ ટેકનોલોજી દ્વારા બનાવેલ સ્વસંચાલિત વાહનો માનવ ભૂલને ઘટાડે છે, જે દૂષણ, અકસ્માત અને મૃત્યુદરને ઘટાડવામાં મદદરૂપ થાય છે.

2. ટ્રાફિક સંકુલનામાં ઘટાડો :- એ.આઈ આધારિત નાવિગેશન અને ટ્રાફિક ડેટા વિશ્લેષણ દ્વારા સ્વસંચાલિત વાહનો વધુ સુસંગત રીતે ચાલે છે, જે ટ્રાફિકના પ્રવાહને સુધારે છે અને સંકુલનાને ઘટાડે છે.

3. ઈંધણની કાર્યક્ષમતા :- એ.આઈ ઓટોમેટેડ ડ્રાઈવિંગ સ્ટાઈલ અને માર્ગ પસંદગી દ્વારા ઈંધણની વપરાશને વધુ કાર્યક્ષમ બનાવે છે, જે પર્યાવરણ માટે લાભદાયક છે.

4. આરામ અને સુવિધા :- ડ્રાઈવિંગના કંટાળાજનક પાસાઓને દૂર કરીને, સ્વસંચાલિત વાહનો મુસાફરોને આરામ અને મનોરંજકતા પૂરી પાડે છે, જેમ કે કામ કરવા, વાંચવા અથવા ફક્ત આરામ કરવા માટેનો સમય.

5. વ્હીકલ મેન્ટેનેન્સ :- એ.આઈ આધારિત સિસ્ટમો વાહનના મેન્ટેનેન્સની જરૂરિયાતોને પૂર્વાનુમાન કરી શકે છે, જેના દ્વારા માલિકોને સમયસર જાળવણી કરવાની સૂચના મળે છે.

6. પર્યાવરણ માટે લાભ :- સ્વસંચાલિત વાહનો સામાન્ય રીતે ઈલેક્ટ્રિક અથવા હાઈબ્રિડ મોડેલો હોય છે, જે ગેસોલિનના ઉપયોગને ઘટાડે છે અને કાર્બન ઉત્સર્જનને ઘટાડે છે.

7. પરિવહન સુવિધા :- સ્વસંચાલિત વાહનો લોકોને વધુ સુવિધા પૂરી પાડે છે, ખાસ કરીને વૃદ્ધો અને શારીરિક અક્ષમતાઓ ધરાવતા લોકોને, જેમણે આરામથી મુસાફરી કરી શકે છે.

8. ડેટા સંશોધન અને વિશ્લેષણ :- એ.આઈ ટેકનોલોજી દ્વારા એકત્રિત થયેલ ડેટા પરિસ્થિતિઓનું વિશ્લેષણ કરવામાં અને નવા ઉકેલ શોધવામાં મદદરૂપ થાય છે.

9. કનેક્ટિવિટી :- V2X (Vehicle-to-Everything) કનેક્ટિવિટી દ્વારા, સ્વસંચાલિત વાહનો અન્ય વાહનો અને ઈન્ફ્રાસ્ટ્રક્ચર સાથે સંવાદ કરી શકે છે, જે સલામતી અને કાર્યક્ષમતા વધારવામાં મદદ કરે છે.

10. ટ્રાન્સપોર્ટેશન સિસ્ટમમાં સુધારો :- સ્વસંચાલિત વાહનો પરિવહન સિસ્ટમમાં સુધારણા લાવી શકે છે, જેમ કે જાહેર પરિવહનને વધુ કાર્યક્ષમ બનાવવું.

આ ફાયદાઓ સાથે, સ્વસંચાલિત વાહનોના વિકાસ અને અમલમાં લાવવામાં આવતા એઆઈ ટેકનોલોજી જનતા માટે નવી તકનીકી સુવિધાઓ અને લાભો પ્રદાન કરે છે.

સંપૂર્ણ રીતે સ્વસંચાલિત વાહનો માટેની એ.આઈ.ની ભૂમિકા

- **ચાલકોના ઉન્નતિ માટેની તકનીક**: એ.આઈ. સ્વસંચાલિત વાહનોને વધારવાના અને પસંદગીઓના આધારે ઉત્તમ આયોજન માટે માર્ગદર્શન આપે છે.
- **ફ્યુચર અને ટ્રાંઝિશન**: એ.આઈ. મોટું ભવિષ્ય ધરાવતું છે, જેમાં નવું મોડેલ, વાસ્તવિક પ્રોજેક્ટ અને સંબંધિત બિઝનેસ સંકલ્પનો અને પારદર્શિતા માટે તૈયાર થશે

❖ **એ.આઈ સ્વસંચાલિત વાહનોમાં કેટલીક પડકારો**

એ.આઈ સ્વસંચાલિત વાહનોમાં કેટલીક પડકારો પણ સામેલ છે:

1. કાનૂની અને નિયમનકારી :- સ્વસંચાલિત વાહનોના ઉપયોગ માટે કાયદા અને નિયમો હજુ પણ વિકસીત થઈ રહ્યા છે, જે તેમના વ્યાપક સ્વીકૃતિને અવરોધિત કરી શકે છે.

2. ટેકનોલોજી પર આધાર :- ટેકનોલોજી પર વધુ આધાર રાખવાથી કોઈપણ બગ અથવા હેકિંગ હુમલાને કારણે મોટી સમસ્યા ઊભી થઈ શકે છે.

3. સામાજિક સ્વીકૃતિ :- લોકોનું માનસિકતા બદલવું અને સ્વસંચાલિત વાહનોના ઉપયોગ માટે સમજૂતી મેળવવી એક પડકાર બની શકે છે.

4.સુરક્ષા :- સ્વચાલિત વાહનોમાં સુરક્ષાના પડકારો છે, કારણ કે તેઓ જોખમોને ઓળખી શકતા નથી.

સ્વચાલિત વાહનોના વિકાસમાં આગળ વધવા માટેના પગલાં

1. ટેકનોલોજીનો વિકાસ: સ્વચાલિત વાહનોમાં ઉપયોગમાં લેવામાં આવતી ટેકનોલોજીનો વિકાસ કરવો.

2. કાયદાકીય ફેરફારો: સ્વચાલિત વાહનોને મંજૂરી આપવા માટે કાયદાકીય ફેરફારો કરવા.

3. જાહેર જાગૃતિ: લોકોને સ્વચાલિત વાહનોના ફાયદાઓ અને પડકારો વિશે જાગૃત કરવું.

એ.આઈ વિના સ્વસંચાલિત વાહનો કેવી રીતે સંભવ છે?

એ.આઈ વિના સ્વસંચાલિત વાહન કેવી રીતે કાર્ય કરશે? આ માટે કેટલાક વિકલ્પો છે

1. પ્રોગ્રામ્ડ એલ્ગોરિધમ્સ :- વાહન ચલાવવા માટે એ.આઈ ની જગ્યાએ, પ્રિ-પ્રોગ્રામ્ડ તર્કશક્તિ આધારિત સિસ્ટમ વાપરી શકાય. જેમાં નિશ્ચિત નિયમો અને સૂચનાઓ આપવામાં આવે.

2.GPS અને LOT ટેક્નોલોજી:- વાહન GPS અને ઈન્ટરનેટ ઓફ થિંગ્સનો ઉપયોગ કરીને માર્ગ અને ટ્રાફિકને અનુસરી શકે.

3.હ્યુમન-અસિસ્ટેડ ઓટોમેશન:- સંપૂર્ણ એ.આઈ ઉપર આધાર રાખવા કરતા સીમિત ઓટોમેશન અપનાવી શકાય, જ્યાં માનવી જરૂર પડે ત્યારે નિયંત્રણ લઈ શકે.

એ.આઈ ના મર્યાદાઓ અને પડકારો

એ.આઈ ને 100% વિશ્વસનીય માનવી મુશ્કેલ છે. તેના કેટલાક મુખ્ય પડકારો

- **ભવિષ્યવાણી અને નિર્ણયો :-** એ.આઈ માનવી જેવી બુદ્ધિ ધરાવતું નથી અને અનિશ્ચિત પરિસ્થિતિઓમાં ખોટા નિર્ણયો લઈ શકે.

- **હવામાન અને માર્ગની સમસ્યા:-** ખરાબ હવામાનમાં એ.આઈ-આધારિત સેન્સરો બરાબર કામ નથી કરતા.

- **સાઈબરસિક્યોરિટી જોખમ :-** એ.આઈ-આધારિત વાહનો હેકિંગ અને ડેટા ચોરીના જોખમમાં રહે.

- **ઉચ્ચ ખર્ચ:-** એ.આઈ ટેક્નોલોજી મોંઘી છે અને નાના શહેરો માટે તેને લાગુ કરવી મુશ્કેલ છે.

શું ભવિષ્યમાં એ.આઈ વિના ઓટોમેટેડ વાહનો શક્ય છે ?

જો,કે આજના સ્વસંચાલિત વાહનો એ.આઈ પર આધાર રાખે છે, પરંતુ ભવિષ્યમાં નવા વિકલ્પો આવી શકે છે. એ.આઈ વિના, GPS, પ્રોગ્રામ્ડ સિસ્ટમ અને LOT ટેક્નોલોજી દ્વારા પણ સ્વસંચાલિત વાહનો શક્ય બની શકે.

સ્વસંચાલિત વાહનોમાં એ.આઈ.ના ઉદાહરણ

સ્વસંચાલિત વાહનોમાં એ.આઈ. (Artificial Intelligence) પ્રગતિશીલ અને મહત્વપૂર્ણ ભૂમિકા ભજવે છે. એ.આઈ. એ સ્વસંચાલિત વાહનને આસપાસના પરિસ્થિતિઓને સમજવા, યોગ્ય નિર્ણય લેવાની ક્ષમતા આપે છે. એ.આઈ. વિવિધ ટેકનોલોજી અને અલ્ગોરિધમ્સનો ઉપયોગ કરે છે જેમ કે મશીન લર્નિંગ, ડીપ લર્નિંગ, અને ન્યૂરલ નેટવર્ક્સ, જે વાહનની ચોકસાઈ, સુરક્ષા અને કાર્યક્ષમતામાં વધારો કરે છે. અહીં કેટલીક એ.આઈ. દ્વારા સંચાલિત ટેકનોલોજી અને તેમના ઉદાહરણો પર ચર્ચા કરીએ છે

1.વાહન પરિસ્થિતિની ઓળખ - LiDAR અને કેમેરા ટેકનોલોજી

-ઉદાહરણ :- ટેસ્લા અને વેઝલા જેવી સ્વસંચાલિત વાહનોમાં LiDAR (Light Detection and Ranging) અને કેમેરા ટેકનોલોજીનો ઉપયોગ થાય છે. આ સેન્સર વાયરો અને કેમેરાઓ આસપાસના પરિસ્થિતિઓના ડેટાને પ્રોસેસ કરે છે અને એ.આઈ. આ માહિતી પર વિચાર કરીને, અન્ય વાહનો, પેડેસ્ટ્રિયન્સ, અને અવરોધો શોધી શકે છે.

- **ઉદાહરણ :-** ટેસ્લાના ઓટોપાઈલટ સિસ્ટમમાં આ LiDAR, કેમેરા અને સનંસર દ્વારા એકત્રિત માહિતીનું વિશ્લેષણ કરીને, વાહન પાર્કિંગ, લેન ચેન્જ, અને ટ્રાફિક લાઈટ્સ જેવા પરિસ્થિતિઓ પર નિર્ણય લે છે.

2. મશીન લર્નિંગ - સ્વચાલિત વાહનોના અંતર્ગત પરિસ્થિતિઓનો સંકેત આપવો

-**ઉદાહરણ:-** Waymo (Alphabet Inc.ની સ્વસંચાલિત કાર કંપની) મશીન લર્નિંગ અને ન્યૂરલ નેટવર્ક્સનો ઉપયોગ કરે છે, જે પણ એ.આઈ.ની મુખ્ય બાંધકામ પદ્ધતિ છે. સ્વસંચાલિત વાહનો મશીન લર્નિંગ મોડલ પર આધારિત હોય છે, જે એક દ્રશ્ય ડેટાને પ્રમાણભૂત પરિણામે અનુરૂપ કરે છે.

-**ઉદાહરણ:-** Waymoના સ્વસંચાલિત વાહનો વિવિધ પરિસ્થિતિઓમાં શીખીને, એક પાર્કિંગમાં પ્રવેશ, ટ્રાફિકમાંથી અને અટકેલા રસ્તાઓમાંથી નીકળવા જેવા કૌશલ્ય વિકસાવી છે. Waymo તેમના વાહનોને ઈન્ટરલિજન્ટ મશીન લર્નિંગ મોડલ પર તાલીમ આપે છે, જે સ્વચાલિત નિર્ણય લેવાનું અનુકૂળ બનાવે છે.

૩.સુરક્ષા માટેના સૂચનો - અડચણ અથવા ખતરો આવી શકે ત્યારે

-**ઉદાહરણ :-**સ્વસંચાલિત વાહનોમાં, આર્ટિફિશિયલ ઈન્ટેલિજન્સ જટિલ પરિસ્થિતિઓમાં ઝડપી અને યોગ્ય સંકેતો આપે છે. આ મકસદ એ છે કે, જ્યાં માનવીને અચાનક નિર્ણય લેવાની જરૂર પડે, ત્યાં આર્ટિફિશિયલ ઈન્ટેલિજન્સ તે અભ્યાસ અને મશીન લર્નિંગના આધારે તરત સહાય કરે છે.

-**ઉદાહરણ :-** Uberનો સ્વસંચાલિત વાહન 2018માં, Uberના સ્વસંચાલિત વાહન એ.આઈ. દ્વારા ચલાવવામાં આવી રહ્યું હતું, અને અચાનક એક પેડેસ્ટ્રિયન સામે આવી રહ્યો હતો. આર્ટિફિશિયલ ઈન્ટેલિજન્સ દ્વારા યોગ્ય રીતે અવરોધ શોધી અને ખતરાને ટાળવાનો પ્રયાસ કરવામાં આવ્યો, પરંતુ એઆઈ સિસ્ટમમાં ભૂલને કારણે અકસ્માત થયો.

4.સ્વસંચાલિત વાહનોમાં નેટવર્ક અને સંકલન - ટ્રાફિક અને સંકેતો

-**ઉદાહરણ :-** એ.આઈ.ના ઉપયોગથી સ્વસંચાલિત વાહનો ટ્રાફિક સિગ્નલ, માર્ગના અવરોધો, તેમજ અન્ય વાહનો અને લોકો સાથે સંકલન સાધી શકે છે. આનો મકસદ એ છે કે, ટ્રાફિકને મથકી અને વધુ કાર્યક્ષમ બનાવવું.

-**ઉદાહરણ :-** Cruise અને Lyft ની સ્વસંચાલિત કાર, જે સ્વચાલિત રીતે, ટ્રાફિક લાઈટ અને રસ્તાના અવરોધોને ડિટેક્ટ કરી, યોગ્ય રીતે આગળ વધતી છે. તેઓ ટ્રાફિક સિગ્નલ્સ અને પીડલચાલકોના દિશામાં આગળ વધીને, આરામદાયક અને સુરક્ષિત યાત્રા સુનિશ્ચિત કરે છે.

5. ભવિષ્યના સંકેતો - આત્મ-લર્નિંગ

-**ઉદાહરણ :-** ટેસ્લા અને Waymo સ્વસંચાલિત વાહનોમાં એ.આઈ મોડલનો ઉપયોગ કરે છે. આ મશીન લર્નિંગ આધારિત મોડલ તમારી ડ્રાઈવિંગ હેબિટ અને પરિસ્થિતિના આધારે, નિર્ણય લેવા માટે સારી કામગીરી કરે છે.

-**ઉદાહરણ :-** ટેસ્લાના ઓટોપાઈલટ સિસ્ટમમાં, આર્ટિફિશિયલ ઈન્ટેલિજન્સ વાહનને દૈનિક ટ્રાફિકની પરિસ્થિતિઓ પર શીખવે છે અને એથી આગળ નીકળવા માટે વિવિધ માર્ગો શોધી શકે છે, જેમાં આર્ટિફિશિયલ બુદ્ધિનો ઉપયોગ કરવામાં આવે છે.

6. એથિકલ દૃષ્ટિ - માનવ અને મશીન વચ્ચેની હદ

-**ઉદાહરણ :-** Moral Machine એ એક પ્રોજેક્ટ છે, જેમાં એ.આઈ.ને એથિકલ નિર્ણયો લેવામાં મદદ કરવાનું મુખ્ય હેતુ છે. આ એક પ્રકારનું આલ્ગોરિધમ છે, જેમાં સ્વસંચાલિત વાહન એવી પરિસ્થિતિમાં દૃષ્ટિ આપતું છે જ્યાં એક જ શક્યતા હોય કે તે માર્ગ પર પેડલચાલક અને અન્ય વાહનો વચ્ચે પસંદગીઓ આપી શકે.

-**ઉદાહરણ :-** Moral Machine દ્વારા તૈયાર કરવામાં આવેલા મોડલ દ્વારા, આર્ટિફિશિયલ ઈન્ટેલિજન્સ એ એવું નિર્ણય લેવામાં મદદ કરે છે કે કયા પ્રકારના પરિસ્થિતિમાં એ વાહન એથિકલ રીતે કાર્ય કરે

ઉપસંહાર

સ્વસંચાલિત વાહનોમાં એ.આઈ. (આર્ટિફિશિયલ ઈન્ટેલિજન્સ) મહત્વની ભૂમિકા ભજવે છે. એ.આઈ.ના ઉપયોગથી આ વાહનો સ્વતંત્ર રીતે માર્ગ પર જવા માટે જરૂરી નિર્ણય લેવાનું અને પરિસ્થિતિઓને સમજીને કામગીરી કરવા માટે સક્ષમ

બની જાય છે. એ.આઈ. વાહનના સેન્સરથી પ્રાપ્તિ કરવામાં આવેલ માહિતીના આધાર પર રસ્તાના અવરોધો, પથ્થર, ચાલક અને યાત્રીઓને ઓળખી શકાય છે, તેમજ પરિસ્થિતિની ગતિ અને માર્ગ પર વધતી જતા અવરોધોને અનુસરીને વધુ સુચિત, સલામત અને ઝડપી માર્ગે મુસાફરી કરી શકે છે.

આધુનિક સ્વસંચાલિત વાહનોમાં એ.આઈ.ના ઘણા પ્રકારના એલ્ગોરિધમ્સનો ઉપયોગ થાય છે જેમ કે મશીન લર્નિંગ, ચિલ્ન ઓળખ અને નૅચરલ લેંગ્વેજ પ્રોસેસિંગ, જે વાહનની કાર્યક્ષમતા અને સલામતી સુનિશ્ચિત કરે છે. આ સાથે, એ.આઈ. ટ્રાફિક નિયંત્રણ, વીજળીની ખર્ચને અનુકૂળ રીતે મેનેજ કરવાની પણ મદદ કરે છે.

સ્વસંચાલિત વાહનોમાં એ.આઈ.નો ઉપયોગ ક્રાંતિ લાવવાનું છે, કારણ કે તે સફરને વધુ સલામત, અસરકારક અને સુગમ બનાવે છે. એ.આઈ.ના વિકાસ સાથે, આ પ્રકારના વાહનો વધુ સ્માર્ટ અને સમજી શકાય તેવા બની રહ્યા છે, જે યાત્રીઓ અને પરિસ્થિતિઓ માટે વધુ શ્રેષ્ઠ અનુભવ પ્રદાન કરે છે.

સંદર્ભ સાહિત્ય

"Autonomous Vehicles: The Road to આર્ટિફિશિયલ ઈન્ટેલિજન્સ -Driven Transportation" (2019): આ પુસ્તક એ.આઈ.ના એન્ટરપ્રાઈઝ મોડલ અને સ્વસંચાલિત વાહનોની વિકાસ પ્રવૃત્તિઓને ચર્ચા કરે છે. પુસ્તક એ.આઈ.ના મશીન લર્નિંગ અને ન્યૂરલ નેટવર્કના ઉપયોગ અંગે માહિતી આપે છે.

"Artificial Intelligence in Autonomous Vehicles: Algorithms, Systems, and Applications" (2020): આ પુસ્તક એ.આઈ.ના વિવિધ એલ્ગોરિધમ્સને સમજાવે છે જે સ્વસંચાલિત વાહન ડ્રાઈવિંગ માટે ઉપયોગી છે.

"The Ethics of Autonomous Vehicles" (2018): આ લેખ એ.આઈ. માટેની ઍથિકલ અને નિયમનક મુદ્દાઓને પ્રકાશિત કરે છે, જેમાં સ્વસંચાલિત વાહનોના ઉપયોગથી સંબંધિત સમાજ પરનો સંભવિત પ્રભાવ રજૂ કરવામાં આવ્યો છે.

"આર્ટિફિશિયલ ઈન્ટેલિજન્સ -Powered Autonomous Vehicles: Challenges and Future Directions" (2021): આ પેપર એ.આઈ.નો ઉપયોગ કરતા સ્વસંચાલિત વાહનોના વિવિધ પડકારોને અને આવનારા દિશાઓને સાહિત્યના આધારે વિશ્લેષણ કરે છે

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प्रेमचंद के साहित्य पर आधारित फिल्में, हिंदी सिनेमा में योगदान: एक विश्लेषणात्मक अध्ययन, निष्कर्ष

मकवाणा जयेशकुमार दलपतराय
भक्त कवि नरसिंह महेता यूनिवर्सिटी - जूनागढ़

सारांश:
प्रेमचंद के साहित्य पर आधारित फिल्में हिंदी सिनेमा में एक महत्वपूर्ण योगदान है। उनके साहित्य में ग्रामीण भारत की पीड़ा, व्यक्तिगत, नारी विमर्श और मध्यवर्गीय समाज के अंतर्द्वंदों का जो यथार्थ चित्रण है, वह सिनेमा के लिए एक उत्कृष्ट आधार प्रस्तुत करता है।इस शोध पत्र में प्रेमचंद के साहित्य पर बनी प्रमुख फिल्मों का विश्लेषण किया गया है, जैसे कि शतरंज के खिलाड़ी, गबन, सद्गति, और मजदूर। इन फिल्मों ने हिंदी सिनेमा में यथार्थवाद की शुरुआत की, सामाजिक निजी को उजागर किया, पौराणिक कथाओं का आधार प्रदान किया, और लोकभाषा का समावेश किया। प्रेमचंद के साहित्य पर बनी फिल्में न केवल मनोरंजन तक सीमित हैं, बल्कि वह भारतीय समाज के सांस्कृतिक विकास का एक जीवंत फिल्मी इतिहास है।

मुख्य शब्द: प्रस्तावना,प्रेमचंद के साहित्य पर बनी प्रमुख फिल्में, फिल्मों का विस्तृत विवरण और सिनेमाई योगदान, हिंदी सिनेमा में योगदान का विश्लेषण,

1. प्रस्तावना

मुंशी प्रेमचंद, जिनमें 'कथा सम्राट' कहा जाता है, भारतीय जनमानस के सबसे बड़े रचनाकार हैं। उनके साहित्य में ग्रामीण भारत की पीड़ा, व्यक्तिगत, नारी विमर्श और मध्यवर्गीय समाज के अंतर्द्वंदों का जो यथार्थ चित्रण है, वह सिनेमा के लिए एक उत्कृष्ट आधार प्रस्तुत करता है। हिंदी सिनेमा के शैशव काल से लेकर आधुनिक युग तक, फिल्मकारों ने प्रेमचंद की कृतियों को बार-बार पर्दे पर उतारा है।

सिनेमा और साहित्य का रिश्ता प्रेमचंद के काल में ही शुरू हुआ था। उन्होंने खुद अजंता सिनेटोन के लिए स्क्रिप्ट राइटिंग (फिल्म 'मजदूर') का काम किया, हालांकि बिजनेस सिनेमा की सीमा के कारण उनका अनुभव बहुत सुखद नहीं रहा। फिर भी, प्रेमचंद का साहित्य हिंदी सिनेमा के लिए एक ऐसी 'नैतिक दिशा' बना, जिसने उन्हें मनोरंजन की वस्तु से सामाजिक परिवर्तन का माध्यम बनाया।

2. प्रेमचंद के साहित्य पर बनी प्रमुख फिल्में

प्रेमचंद की वेलेंटाइन पर आधारित कुछ मील का पत्थर साबित होने वाली फिल्में निम्नलिखित हैं:

फिल्म	वर्ष	निदेशक वैज्ञानिक आधार
श्रमिक	1934	मोहन भावना प्रेमचंद ने मूल पटकथा लिखी

सेवादन	1938	सुब्रमण्यम उपन्यास 'सेवासदन'
दो बैल	1944	राम दरियानी कहानी 'दो बैलों की कहानी'
रब	1959	कृष्ण चोपड़ा कहानी 'दो बैलों की कहानी'
गबन	1966	अधिकार मुखर्जी उपन्यास 'गबन'
शतरंज के खिलाड़ी	1977	सत्यजीत कहानी 'शतरंज के खिलाड़ी'
सद्गति	1981	सत्यजीत कहानी 'सद्गति'
ओका ऊरी कथा	1977	मृणाल सेन कहानी 'कफन'

3. फिल्मों का विस्तृत विवरण और सिनेमाई योगदान

क. शतरंज के खिलाड़ी (1977)

विश्व प्रसिद्ध निर्देशक सत्यजीत रे ने प्रेमचंद की इसी नाम की कहानी पर फिल्म बनाई। यह फिल्म अवध के पतन और ब्रिटिश हुकूमत के आगमन के बीच के विलासी और कर्तव्यविमुख समाज को खत्म कर देती है। सिनेमाई दृष्टि से अभिनय प्रेमचंद की अनैतिक शैली को अंतर्राष्ट्रीय स्तर पर पहचानना।

ख. गबन (1966)

ऋषभ मुखर्जी द्वारा निर्देशित यह फिल्म मध्यवर्गीय समाज में 'दिखावे' और 'आभूषणों के मोह' से होने वाले पतन को खत्म हो गई है। फिल्म ने सुनील दत्त के माध्यम से 'रामनाथ' के किरदार को अमर कर दिया और यह साबित कर दिया कि प्रेमचंद की कहानियां व्यावसायिक रूप से भी सफल हो सकती हैं।

जी. सद्गति (1981)

यह फ़िल्म भारतीय समाज की जातिवादी व्यवस्था और दलित शोषण पर ज़ोर डालती है। सत्यजीत रेजीट ने इसे दूरदर्शन के लिए बनाया था। 'दुखी चमार' की व्यथा के माध्यम से सिनेमा ने समाज के उस कुरूप चेहरे को प्रदर्शित किया, जिसमें मुख्यधारा की फिल्में बार-बार सामने आईं।

घ. मजदूर (1934)

यह ऐतिहासिक रूप से महत्वपूर्ण है क्योंकि इसमें प्रेम चंद ने स्वयं संवाद लिखा था और वे स्वयं एक दृश्य में श्रमिक नेता के रूप में दिखाई देते हैं। फिल्म में मिल अनबैत और स्ट्रेंथ के संघर्ष को दिखाया गया था, जिसके कारण ब्रिटिश सरकार ने इस पर प्रतिबंध लगा दिया था।

4. हिंदी सिनेमा में योगदान का विश्लेषण

यथार्थवाद की शुरुआत: प्रेमचंद के साहित्य ने सिनेमा को 'स्वप्निल दुनिया' से 'जमीनी हकीकत' से जोड़ा। 'हीरा-मोती' और 'गोदान' (1963) जैसी फिल्मों ने किसानों की समस्याओं को मुख्यधारा का विषय बनाया।

सामाजिक निजी: सेवा प्रथा (निर्मला), अनमेल विवाह, वैश्यावृत्ति (सदन) और बंदछूट (सद्गति) जैसे विषयों पर फिल्में बनाकर सिनेमा ने समाज सुधारक की भूमिका निभाई।

पौराणिक कथाओं का आधार: प्रेमचंद की कथा-शिल्प में जो दृश्य (विजुअल एलिमेंट्स) है, उन्होंने फिल्मकारों के लिए पटकथा लेखन को सरल बनाया। उनके पात्र सजीव और बहुसंख्यक होते हैं।

लोकभाषा का समावेश: प्रेमचंद के संवादों ने सिनेमा की भाषा को संस्कृतनिष्ठ हिंदी या आदिवासी अरबी से 'हिंदुस्तानी' बनाया, जो आम जनता के सीधे दिल तक जारी थी।

5. निष्कर्ष

निष्कर्षतः, प्रेमचंद का साहित्य हिंदी सिनेमा के लिए एक ऐसा अक्षय स्रोत आ रहा है जिसने उन्हें विज़न डिवेलपमेंट प्रदान किया है। जहां एक ओर मुख्यधारा का सिनेमा चमक-दमक में खोया था, वहीं प्रेमचंद की कहानियों पर आधारित फिल्में सिनेमा को समाज के प्रति कट्टर बनाती थीं। सत्यजीत रे, मृणाल सेन और विश्वनाथ मुखर्जी जैसे निर्देशकों ने प्रेमचंद के माध्यम से यह सिद्ध किया कि श्रेष्ठ साहित्य ही श्रेष्ठ सिनेमा की जननी है।

आज के डिजिटल युग में भी, जब हम ग्रामीण भारत या मानवीय संवेदनाओं को बढ़ावा देना चाहते हैं, तो प्रेमचंद के साहित्य पर बनी ये फिल्में एक 'दस्तावेज़' के रूप में सामने आती हैं। उनका योगदान केवल मनोरंजन तक सीमित नहीं है, बल्कि वह भारतीय समाज के सांस्कृतिक विकास का एक जीवंत फिल्मी इतिहास है।

6. उदाहरण सूची (संदर्भ)

अमृत राय , प्रेमचंद: कलम का सिपाही , हंस प्रकाशन, इलाहाबाद।

गोपाल राय , हिंदी उपन्यास का इतिहास , राजकमल प्रकाशन, नई दिल्ली।

सत्यजीत रे , निर्देशक फिल्म्स, डेयर फिल्म्स , ओरिएंटल ब्लैकस्वॉन (शतरंज के खिलाड़ी पर नोट्स)।

डॉ. सुरेश शर्मा , हिंदी सिनेमा और साहित्य का अंतर्संबंध , लोकभारती प्रकाशन।

भारतीय फिल्म जगत पत्रिका (आर्काइव) , 'प्रेमचंद और सिनेमा' विशेषांक।

राष्ट्रीय फिल्म संग्रहालय (एनएफएआई) , फिल्मों के मूल प्रिंट और विवरण।

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EFFECTS ON CARDIOVASCULAR ENDURANCE OF TRAINEES THROUGH YOGA TRAINING

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ABSTRACT :

The effectiveness of this study was to measure the effect of yoga training on the cardiovascular endurance for this study the selection of subject was done of 30 girls students of 1st Year and 2nd Year Polytechnic in Agriculture from the bharuch. For this study subjects were divided into 2 groups, 1 was of yoga training-group second one was controlled group. The criterion measure used for the measurement of cardiovascular endurance was 12 minutes Run/Walk. After Collection of data, the difference between both groups mean was measured by one way analysis of covariance test. The significant level was 0.05 significant effects of yoga training were seen in the training group with comparatively to controlled group.

INTRODUCTION:

Yogic activities and suryanamaskar too invaluable heritage Indian culture. As per the goal of yogic activity yoga is the achieves union with god for that yama, niyama, asana, pranayama, pratyahara, dharm, dhayana and Samadhi & eight steps are there. In this process of a yoga, accepting the body as a basic tool is essential for yoga sadhana to maintain a healthy state of mind and body without distraction. The body and mind are densely related to each other. The essential information in yoga is Asana and Pranayama are included in the physical education program. Yoga is the special type of science which takes together the object, life & consciences and a works like a bridge in valley between science and spirituality, yoga is the science of human & seriousness. It is the science of development of human's consciousness. That's the name of the scientific system. There are different ways of doing this, through which yoga can be practiced, that are karmayoga, hathyoga, rajyoga, tantrayoga etc.

A merder human must seek the protection of yoga and yoga-science in order to be free from disease. Without having sheler of yoga it's impossible to get rid of from diseases. Every creature in the world performs the task of attaining happiness to the divine father. Every creature dstrives to be happy. Wants to relieve suffering even if the mind comes to something called grief it becomes afraid of it. Happiness and grief both comes since the beginning of salvation. So, that the person is always away from misery. Therefore, it is very important to know about its form.

Every who wants to be tight, healthy and efficient needs exercise. Everyday work as professional work is not enough for physical ability or fitness XII round exercises helps to maintain and develop physical fitness. Vehicles these days have stopped the human's walking. People becames lazy and he doesn't his day to day business.

In the field of sports, new records are being created. We can inter from that there is invisible power within a human being. If we try whole heartedly, we will become "Superman" and not even one or two it will be infinite.

The American Alliance for health, physical education and dance provides consistent and active leadership in the long history of physical fitness. In 1959 Dr. Pulcancy Hare established the National Standards of the association for the hast physical education, recreation and dance youth fitness test and in 1961 AAHPERD test has gained importance as a major test in the physical fitness test since its releases in the youth fitness test manual.

OBJECTIVE OF STUDY:

Study of Effects on Cardiovascular Endurance of trainees through yoga training.

SELECTION OF SUBJECT:

For this research study 30 girls students of 1Year and 2 Year Polytechnic in Agriculture from the bharuch are selected for subject.15 for training group and 15 for control group, total 30 girls are selected.

CRITERION MEASURE :

Sr. No.	Variable	Test	Measurement
1	Cardiovascular Endurance	12 Minute Run/Walk	In meter

DESIGN OF THE STUDY:

30 girl students were selected and divided then into 2 groups. Training & control group. Training group was trained by yoga and control group was totally free. Before 8 week training program the pre-tests was conducted and after training post test collection was done.

STATISTICAL PROCEDURE:

For the One Way Analysis of Covariance test applied to know the difference between mean by heart significant difference post hock test with significant level. 0.05 for the study of effect of yoga training.

Result of the study:

Table

One Way Analysis of Covariance of Performance of 2 groups controlled & experimental

Test	One Way Analysis of Covariance						
	Yoga Training	Control	Sum of Square		Degree of Freedom	Mean (MSS)	*F*
Pre-Test Mean	2405.333	2434.333	B	219307.5	1	219307.5	1.631
			W	2425566.67	28	86627.381	
Post-Test Mean	2507.466	2424.666	B	599818.8	2	599818.8	8.677*
			W	2105241.07	28	75187.181	
Adjusted Mean	2432.725	2599.407	B	122248.595	1	122248.595	14.613*
			W	251702.528	27	9322.31584	

***Significant Level *'F'* = 0.05 (1,28) = 4.196 & (1,27) = 4.210**

In table-1 the 'F' ratio of Pre-test was 1.631 which was seen insignificant at 0.05 level. Where 'F' ratio of Post test of both groups was 8.677 which was seen significant at 0.05 level and 'F' ratio of improvised mean was 14.613 which was seen significant at 0.05 levels.

CONCLUSION:

Through 8 week yoga training the Cardiovascular Endurance of Training was seen significant than controlled group.

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ACADEMIC RESILIENCE AND ITS RELATIONSHIP WITH ACADEMIC PERFORMANCE

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ABSTRACT

In recent years, the concept of academic resilience has gained significant attention in the field of education due to increasing academic pressure, competition, and psychological challenges faced by students. Academic resilience refers to a student's ability to effectively cope with academic difficulties, stress, and setbacks while maintaining or improving academic performance. The present paper aims to conceptually examine academic resilience and explore its relationship with academic performance. The study is based on an extensive review of related literature and proposes a conceptual framework explaining how resilience-related factors such as motivation, self-efficacy, emotional regulation, and social support contribute to students' academic success. The paper highlights the need for integrating resilience-building strategies within educational institutions to enhance learners' academic outcomes. The findings of earlier studies suggest a positive and significant relationship between academic resilience and academic performance. This paper emphasizes the educational implications of academic resilience for teachers, students, and policymakers and proposes directions for future empirical research.

KEYWORDS: ACADEMIC RESILIENCE, ACADEMIC PERFORMANCE, COPING SKILLS, MOTIVATION, EDUCATIONAL OUTCOMES

1. INTRODUCTION

Education plays a vital role in shaping individuals' intellectual, emotional, and social development. Academic performance has traditionally been considered a key indicator of students' success and institutional effectiveness. However, students today face numerous academic challenges such as examination stress, heavy workloads, competitive environments, fear of failure, and emotional disturbances. These challenges often negatively affect academic performance and well-being.

In this context, the concept of academic resilience has emerged as a crucial psychological and educational construct. Academic resilience enables students to overcome academic adversities, persist in learning tasks, and achieve desired academic outcomes despite unfavorable circumstances. Resilient students demonstrate adaptability, perseverance, and positive coping strategies, which help them maintain consistent academic performance. Understanding the relationship between academic resilience and academic performance is essential for educators and institutions aiming to promote holistic student development. This paper attempts to explore this relationship through a conceptual and theoretical perspective, emphasizing the importance of resilience as a predictor of academic success.

2. CONCEPT OF ACADEMIC RESILIENCE

Academic resilience is a critical psychological and educational construct that refers to a student's capacity to effectively cope with, adapt to, and recover from academic challenges, stressors, and adversities, while maintaining or enhancing academic engagement and achievement. It emphasizes not only the presence of

difficulties but also the positive adaptation and continued academic functioning in the face of such challenges.

In educational contexts, students frequently encounter academic stressors such as examination pressure, academic failure, heavy workload, competitive environments, learning difficulties, and socio-economic constraints. Academic resilience enables learners to respond to these challenges constructively rather than being overwhelmed by them. Resilient students demonstrate persistence, optimism, emotional regulation, and effective problem-solving strategies that help them sustain academic motivation and performance.
Martin and Marsh (2006) conceptualized academic resilience as the ability of students to overcome acute or chronic adversities that pose a significant threat to their educational development. Similarly, Masten (2001) described resilience as a dynamic process involving positive adaptation within the context of significant adversity. Applied to education, academic resilience is not a fixed trait but a developable capacity influenced by both internal and external factors.

Academic resilience encompasses multiple interrelated dimensions, including motivational resilience (goal orientation, academic self-efficacy), emotional resilience (management of anxiety and frustration), behavioral resilience (persistence, effort, and engagement), and cognitive resilience (adaptive learning strategies and positive academic beliefs). Supportive teachers, peer relationships, family encouragement, and a positive institutional climate further strengthen students' resilience.

Empirical studies consistently indicate that academic resilience is associated with higher academic engagement, reduced academic burnout, improved coping strategies, and better academic outcomes. Therefore, academic resilience is considered a vital protective factor that supports students' academic success, especially in demanding and competitive educational environments.

Academic resilience is derived from the broader concept of psychological resilience. It refers specifically to students' capacity to successfully deal with academic setbacks, pressure, and stress. According to researchers, academically resilient students can maintain motivation, regulate emotions, and utilize effective learning strategies even in adverse academic situations.
Academic resilience includes several components such as:
Academic self-efficacy
Motivation and goal orientation
Emotional regulation
Problem-solving skills
Support from teachers, peers, and family
These components collectively help students respond positively to academic challenges rather than withdrawing or underperforming.

3. CONCEPT OF ACADEMIC PERFORMANCE

Academic performance refers to the degree to which a student has successfully attained educational objectives, as measured through formal and informal assessment procedures within an academic setting. It represents the observable and measurable outcomes of learning, reflecting students' mastery of knowledge, skills, and competencies over a specific period of time.

Traditionally, academic performance has been assessed using indicators such as examination scores, grades, Grade Point Average (GPA), class tests, assignments, projects, and teacher evaluations. These indicators provide a quantifiable representation of students' cognitive achievement and academic progress. However, contemporary educational research recognizes academic performance as a multidimensional construct, encompassing not only academic scores but also learning behaviors, classroom participation, and skill application.

According to York, Gibson, and Rankin (2015), academic performance includes academic achievement, skill development, persistence, and learning engagement, highlighting both outcome-based and process-oriented aspects of learning. Academic performance is influenced by a wide range of factors, including intellectual ability, study habits, motivation, teaching quality, learning environment, emotional well-being, and psychological characteristics.

Among these influencing factors, non-cognitive variables such as academic resilience, motivation, and emotional regulation have gained increasing attention in educational research. Students who are better able to manage academic stress, maintain consistent effort, and adapt to academic challenges tend to demonstrate superior academic performance over time.

Thus, academic performance is not merely a reflection of intellectual capacity but the result of a complex interaction between cognitive, emotional, behavioral, and environmental factors operating within the educational system.

Academic performance refers to the extent to which students achieve learning outcomes and educational goals. It is commonly measured through examination scores, grades, test results, and overall scholastic achievement. Academic performance is influenced by multiple factors including intelligence, study habits, teaching quality, learning environment, motivation, and psychological well-being.

In recent educational research, academic performance is no longer viewed merely as a cognitive outcome but as a multidimensional construct influenced by emotional and social factors, including resilience.

4. REVIEW OF RELATED LITERATURE

Numerous studies have explored the role of academic resilience in students' educational outcomes. Martin and Marsh (2006) found that resilient students exhibited higher levels of academic motivation, engagement, and achievement. Cassidy (2016) reported that academic resilience was significantly associated with students' ability to manage academic stress and perform effectively under pressure.

Studies conducted in the Indian context have also highlighted the importance of resilience in education. Research indicates that students with higher academic resilience demonstrate better academic performance, lower academic anxiety, and improved coping strategies. Moreover, supportive teacher-student relationships and positive school environments have been identified as key contributors to resilience development. Research on academic performance has consistently shown that non-cognitive factors such as motivation, self-regulation, and resilience significantly influence scholastic achievement. The literature suggests a strong positive relationship between academic resilience and academic performance, emphasizing the need for resilience-based interventions in educational institutions.

Several studies have examined the relationship between academic resilience and academic performance. Research findings consistently indicate that students with higher levels of academic resilience tend to demonstrate better academic performance. Studies have shown that resilient students manage stress effectively, remain engaged in learning activities, and show persistence in academic tasks. Emotional regulation and coping strategies associated with resilience help reduce anxiety and enhance concentration, thereby improving academic outcomes.

Some studies also highlight the mediating role of academic resilience between stress and academic performance, suggesting that resilience buffers the negative effects of stress on learning outcomes. However, despite growing interest, there is limited research focusing on academic resilience in diverse educational contexts, particularly in developing countries and teacher education institutions.

5. NEED AND RATIONALE OF THE STUDY

The increasing academic demands and psychological stress experienced by students necessitate a shift from purely performance-oriented education to resilience-oriented learning environments. Understanding the relationship between academic resilience and academic performance is essential for designing effective interventions that promote student success.

There is a need to emphasize resilience-building strategies in schools and higher education institutions to ensure sustainable academic achievement. This paper addresses this need by highlighting the conceptual linkage between resilience and academic performance and proposing a framework for future research and practice.

6. OBJECTIVES OF THE STUDY

The objectives of the present paper are:

To explain the concept of academic resilience in the educational context.

To examine the relationship between academic resilience and academic performance.

To propose a conceptual framework linking academic resilience with academic performance.

To highlight the educational implications of academic resilience for students and teachers.

7. RELATIONSHIP BETWEEN ACADEMIC RESILIENCE AND ACADEMIC PERFORMANCE

Academic resilience plays a significant role in enhancing academic performance. Resilient students view academic challenges as opportunities for growth rather than obstacles. They demonstrate higher levels of motivation, persistence, and engagement in learning activities.

The relationship between academic resilience and academic performance can be explained through the following aspects:

Motivation: Resilient students maintain intrinsic motivation even after failures.

Self-efficacy: Strong belief in one's abilities enhances academic engagement and achievement.

Emotional regulation: Resilience helps manage anxiety and examination stress.

Adaptive coping strategies: Problem-solving and help-seeking behaviors support learning outcomes.

Thus, academic resilience serves as a protective factor that positively influences academic performance.

8. PROPOSED CONCEPTUAL FRAMEWORK

The proposed conceptual framework suggests that academic resilience directly influences academic performance and indirectly affects it through psychological and motivational variables.

Key Components of the Framework:
Personal factors (self-efficacy, motivation)
Emotional factors (stress management, emotional regulation)
Social factors (teacher support, peer support)
Academic resilience as a central mediating construct
Academic performance as the outcome variable
This framework can guide future empirical studies and educational interventions aimed at improving student performance through resilience development.

9. PROPOSED METHODOLOGY (FOR FUTURE RESEARCH)

The proposed study may adopt a descriptive survey method.
Sample: Secondary school or college students
Tools: Academic Resilience Scale and Academic Performance records
Procedure: Collection of data through standardized questionnaires
Data Analysis: Correlation and regression analysis
This methodology will help empirically validate the relationship between academic resilience and academic performance.

10. EDUCATIONAL IMPLICATIONS

The findings of this paper have important implications:
Teachers can incorporate resilience-building strategies in classrooms.
Institutions can design counseling and mentoring programs.
Curriculum planners can integrate life skills and coping skills training.
Policymakers can emphasize mental health and resilience education.

11. LIMITATIONS

The present paper is conceptual in nature and does not include empirical data. Further experimental and longitudinal studies are required to validate the proposed framework across different educational settings.

12. CONCLUSION

Academic resilience is a crucial factor influencing academic performance in today's challenging educational environment. Students who demonstrate resilience are better equipped to handle academic stress, persist in learning tasks, and achieve higher academic outcomes. This paper highlights the positive relationship between academic resilience and academic performance and emphasizes the need for resilience-oriented educational practices. Future research should focus on empirical validation and intervention-based studies to strengthen the role of academic resilience in education.

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